AUSTRALIAN COMPETITION
& CONSUMER COMMISSION

Domestic Transmission Capacity Service

An ACCC Final Report on the review of the declaration for the Domestic Transmission Capacity Service

April 2019

Australian Competition and Consumer Commission
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List of abbreviations

ACCC	Australian Competition and Consumer Commission
CBD	Central business district
CCA	*Competition and Consumer Act 2010*
CSP	Carriage service provider
DCS	Data Carriage Service
DSLAM	Digital subscriber line access multiplexer
DTCS	Domestic transmission capacity service
ESA	Exchange service area
FAD	Final access determination
FTTB	Fibre to the building
FTTC	Fibre to the curb
FTTN	Fibre to the node
FTTP	Fibre to the premises
HFC	Hybrid fibre coaxial
Infrastructure RKR	Audit of Telecommunications Infrastructure Assets – Record Keeping Rules
LTIE	Long-term interests of end-users
Mbps	Megabits per second
MLL	Managed leased line
MNO	Mobile network operator
NBN	National Broadband Network
NBN Co	NBN Co Limited
POI	Point of interconnection
POP	Point of presence
RKR	Record keeping rules
RSP	Retail service provider
SAOs	Standard access obligations
SIOs	Services in operation
SSU	Structural separation undertaking

TC-1	NBN Co's highest priority traffic class. It is suitable for applications such as voice.
TC-2	An NBN traffic class that provides support for business type applications that require a committed information rate.
TC-3	An NBN traffic class designed to give priority to transactional data such as business applications.
TC-4	An NBN traffic class designed for residential broadband applications such as internet and web browsing. It is delivered in a range of peak speeds that are asymmetric.
TEBA	Telstra exchange building access
VoIP	Voice over internet protocol

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1. Executive summary

The Australian Competition and Consumer Commission (ACCC) has issued a final report to extend and vary the declaration of the Domestic Transmission Capacity Service (DTCS) for a further five years.

The DTCS is a high capacity transmission service that enables service providers to provide downstream wholesale and retail services to end-users. The DTCS was deemed to be a declared service in 1997 because it was recognised to be an essential input for other services. Over time, the ACCC has removed regulation in areas that have been found to be competitive, maintaining regulation of the DTCS in areas where there is no effective competition or where access to the DTCS is limited.

Transmission networks underlie nearly all other telecommunications services and are considered an essential input to the supply of downstream communications services. They are generally capital intensive and require large sunk investments, which in many cases makes it economically inefficient to duplicate network infrastructure.

Structural change

The market for transmission services has undergone significant structural change over the last five years and there are now four large, vertically-integrated transmission providers, of which Telstra remains the dominant supplier, particularly in regional and remote areas. In these conditions, ensuring that smaller operators can obtain access to wholesale transmission services is essential if they are to provide downstream services in different locations across Australia.

In addition, the National Broadband Network (NBN) rollout has progressed substantially since the last declaration review. There are now almost 4.8 million residential broadband services and 16,600 business services being sold over the NBN. The NBN is concentrating a substantial volume of residential broadband data traffic at its 121 points of interconnection (POIs) where the main operators are competing to provide transmission services. However, the rollout of residential NBN voice and broadband services is not complete and NBN business services are still in the early phase of their development and are only now starting to emerge on a significant scale.

Some NBN business services have characteristics that align with features of the DTCS and, as such, are likely to be both a complement to, and competitor with, existing DTCS services. However, the ACCC has concluded that NBN business services are not yet fully effective substitutes or alternatives to DTCS services. The ACCC considers that this will likely change over the course of the next regulatory period as the NBN rollout is completed.

Changes in the way the DTCS is acquired

The ACCC notes that the way some DTCS transmission services are sold has changed since the last declaration inquiry and that some changes to the DTCS service description are warranted to ensure that the regulated service remains relevant. For example, the DTCS is becoming increasingly segmented into distinct bandwidth categories and mobile backhaul is increasingly important as mobile networks extend coverage into regional or remote areas where the economic case for network extensions is more marginal. Further, transmission services are now commonly acquired with additional service features, such as online ordering and service monitoring.

In addition, access seekers are increasingly acquiring DTCS services from multiple providers. The ability to connect with third party transmission providers within existing

interconnection hubs is important to ensure that access seekers can, where it is technically feasible and efficient to do so, obtain access from different providers on a competitive basis.

The DTCS Final Report

This Final Report does three things. First, it extends the declaration for the DTCS for a further period of five years. Second, it varies the DTCS declaration by amending the DTCS service description to:

- provide a separate service classification for transmission between mobile base stations and the nearest available point on an access seeker's network
- provide a separate service classification for transmission services according to commonly acquired speed tiers
- include online ordering and fault monitoring as basic service features of the DTCS, and
- clarify the meaning of the term 'point of interconnection'.

Third, having applied the revised competition criteria we determine the extent of regulation.

Extension of the DTCS declaration

The ACCC considers that extending the declaration of the DTCS for a further five years would promote the long-term interests of end-users (LTIE). In reaching this view, it has taken into account submissions received during the inquiry which supported the continued declaration of the DTCS.

Changes to the service description

The ACCC considers that varying the DTCS service description to identify a separate service category for mobile backhaul reflects the unique supply and demand characteristics of mobile backhaul (particularly in regional and remote areas). The varied service description will allow for the separate pricing of mobile backhaul in the next DTCS final access determination (DTCS FAD).

Identifying distinct bandwidth markets recognises that transmission services are sold across a range of capacities for differing purposes. It acknowledges that services between 2Mbps and 10Mbps still account for a significant proportion of all DTCS services. It also recognises that higher capacities have a distinct market segment, including the provision of transmission from NBN POIs. Having separate classifications will assist in identifying service classes by common bandwidths and will facilitate separate pricing in the next DTCS FAD.

Including online ordering and fault monitoring as basic service features (where they are offered by the transmission provider) will enhance the basic regulated service and bring it in line with the way most services are currently acquired on a commercial basis.

Clarifying the definition of point of interconnection will make it clear that access seekers can acquire access to a DTCS service from more than one transmission provider and connect that service into another service provider's network. This would facilitate an access seeker's ability to acquire the DTCS from a third-party transmission provider for part of a service, where the service can be provided at a lower cost and where it is technically efficient to do so.

A revised competition assessment methodology

The ACCC assesses the extent of competition for the DTCS by applying the competition criteria to each route and ESA. The ACCC has reviewed the criteria to better reflect and

account for changes in industry structure since the last declaration inquiry. By applying the revised competition assessment criteria, the ACCC has assessed the state of competition in both metropolitan and regional areas (this included a reassessment of both regulated and de-regulated routes). After applying the revised criteria, the ACCC decided to deregulate a further 137 metropolitan and 27 regional areas where the ACCC found there is effective competition.

Transitional period before the new service description takes effect

The ACCC has decided that the new service description will come into effect nine months from the date of this final report to give industry time to adjust to the varied service description and align it with the commencement of the next DTCS FAD. That is, the existing DTCS service description will remain in place until 31 December 2019. The varied service description will apply from 1 January 2020. The ACCC considers that this transition will allow stakeholders sufficient time to make any necessary adjustments to their commercial arrangements.

2. About this review

2.1. Purpose

Pursuant to section 152ALA of the *Competition and Consumer Act 2010* (CCA) and Part 25 of the *Telecommunications Act 1997*, the ACCC is required to conduct a public inquiry into the declaration of the DTCS in the 18-month period prior to the expiry of a declaration. The existing declaration of the DTCS is due to expire on 31 March 2019.

The purpose of this inquiry has been to determine whether the declaration of the DTCS should be extended, revoked, varied, allowed to expire or extended and then allowed to expire.[1] In this Final Report, the ACCC sets out its views after considering submissions from stakeholders, on whether taking any of the above actions would promote the LTIE.

2.2. The ACCC's approach

The ACCC may declare a service if it is satisfied that declaration will promote the LTIE. In order to determine whether the LTIE is satisfied, the ACCC must have regard to the extent to which extending, varying or revoking the existing declaration is likely to result in the achievement of the following objectives:

- the promotion of competition in markets for listed services
- any-to-any connectivity in relation to carriage services that involve communication between end-users, and
- the economically efficient use of, and the economically efficient investment in, the infrastructure by which telecommunications services are supplied and any other infrastructure by which telecommunications services are, or are likely to become, capable of being supplied.[2]

These three objectives and the legislative background are discussed further in Appendix 1 to this Final Report.

2.3. Consultation

In March 2018, the ACCC published *An ACCC Discussion Paper reviewing the declaration for the Domestic Transmission Capacity Service* (the Discussion Paper) seeking comment from interested parties. Since the release of the Discussion Paper, the ACCC also:

- conducted a number of meetings with key stakeholders
- consulted on changes proposed by stakeholders to update the DTCS service description in August 2018[3]
- sought views from interested parties on the criteria for assessing competition in DTCS markets in September 2018, and

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1 Section 152ALA(7) of the *Competition and Consumer Act 2010* (CCA)

2 Section 152AB of the CCA

3 The ACCC published *ACCC further consultation paper on updating the DTCS service description* on its website on 28 August 2018 and invited submission to the proposed changes by 10 September 2018.

- published a Draft Report in December 2018 seeking final comments from stakeholders.

All public submissions provided throughout the consultation process are available from the ACCC's website at www.accc.gov.au. A list of the submissions received by the ACCC throughout this inquiry is at Appendix 2 to this Final Report.

2.4. Structure of this Final Report

This report is structured as follows:

- Section 3 provides a background to the declared DTCS and identifies key changes to the industry since the previous declaration inquiry
- Section 4 provides the ACCC's final views on the relevant DTCS markets
- Section 5 sets out submissions and the ACCC's final views on the revised DTCS service description
- Section 6 outlines submissions and the ACCC's final views of the revised competition criteria used to assess the state of competition in the DTCS market
- Section 7 sets out submissions and the ACCC's final views on why the continued declaration of the DTCS is in the LTIE
- Section 8 considers the length of the DTCS declaration
- Appendix 1 provides more detailed information on the legislative framework for declaration and the ACCC's general assessment approach
- Appendix 2 provides a list of submissions received by the ACCC in this inquiry
- Appendix 3 sets out the existing DTCS service description
- Appendix 4 sets out the varied DTCS service description
- Appendix 5 sets out the methodology used in the competition criteria, and
- Appendix 6 sets out the applied competition criteria and list of ESAs to be deregulated.

3. Background

Key points

- **Transmission services are integral to the delivery of telecommunications services.**
- **The DTCS has specific characteristics that differentiate it from other types of transmission services.**
- **Regulation of the DTCS has previously been maintained where competition for transmission services is not effective or access is limited.**
- **Industry consolidation and the continued rollout of the NBN are transforming the market for transmission services.**
- **The business services market on the NBN is only just developing.**

The ACCC's approach to regulating the DTCS seeks to ensure that regulation remains appropriate for the Australian communications sector, now and in the future. This section examines the background to the regulation of the DTCS and identifies structural changes in the industry since the previous declaration inquiry.

3.1. Transmission services

Transmission services underlie almost every telecommunications activity. They are a wholesale input into mobile, residential broadband and Government and corporate communications.

The term 'transmission' refers to high-capacity data links that are used to carry large volumes of communications traffic, sometimes over long distances. Transmission networks can carry a range of traffic-types, including voice, data and video. There are both regulated and commercial (unregulated) domestic transmission services.

Transmission network owners supply transmission services to access seekers, enabling traffic to be conveyed between two locations. These wholesale services allow access seekers to connect their core networks with points of service delivery (such as exchanges or customer premises) in areas where they do not have their own transmission infrastructure. Access seekers are then able to supply downstream wholesale and retail telecommunications services to end-users.

Transmission services may be acquired from access providers, selling it over their own transmission infrastructure, or from wholesale providers re-selling transmission services acquired from another operator.

3.2. The declared DTCS

The DTCS is a declared service under subsection 152AL(3) of the CCA. Only specific types of transmission services are classified as a DTCS.

The current DTCS Service Description, set out in Appendix 3, differentiates the DTCS from other transmission services on the basis that it is:

- symmetric i.e. having the same data rate in both directions

- uncontended – which means that the capacity of the service is dedicated to one access seeker and not shared amongst others
- a point-to-point service, being provided from one transmission point directly to another transmission point
- a high capacity service, acquired at data rates above 2 megabits per second (Mbps), and
- a wholesale input into the provision of other services, and not a retail service. In other words, the DTCS service must be used in combination with an access seeker's own infrastructure to provide other services.

The DTCS is supplied in a number of distinct markets which have been identified on the basis of broad geographic route types and categories.

3.3. Why regulate the DTCS?

Issues of access in telecommunications markets generally arise when one or more operators control upstream facilities that provide a service or other input that is necessary for the provision of downstream services. Operators seeking to enter the downstream market must either purchase the upstream input from an operator who provides the good or service or produce the upstream input themselves, in order to be able to offer wholesale or retail services.

The transmission market has very high barriers to entry and network deployment is capital intensive. Facilities-based competitors can face considerable challenges when seeking to compete against an incumbent operator with a ubiquitous network. Requiring a network operator to provide access to bottleneck infrastructure could, by reducing barriers to entry and cost disadvantages for other firms, increase competition and promote the economically efficient investment in, and use of, infrastructure and thereby promote the LTIE.

The DTCS was deemed to be a declared service in 1997 because it was recognised to be an essential input for other services. Access regulation is appropriate in industries with natural monopoly characteristics. Declaration seeks to address the potential for a service provider to exercise market power by preventing or hindering access by, for example, restricting throughput, charging monopoly prices or lowering service quality.

The DTCS is considered to have natural monopoly characteristics in some areas because:

- transmission networks are generally capital intensive and require large sunk investments. This makes it economically inefficient for competitors to duplicate existing transmission network infrastructure in certain geographic markets
- competition is limited, and
- Telstra remains the dominant supplier of transmission services, particularly in regional areas.

Therefore, it is critical to ensure that access seekers can achieve end-to-end connectivity to provide downstream services in different locations. The DTCS is an essential input for the supply of almost all other downstream retail and wholesale telecommunications services, particularly on geographic routes which are considered to have natural monopoly characteristics or are otherwise considered uncompetitive.

Transmission services are necessary to support the delivery of other services, such as fixed line, mobile and NBN services. Accordingly, access to the DTCS on uncompetitive routes is critical to ensure that access seekers can provide end-users with downstream wholesale and retail services at reasonable prices.

While the ACCC has removed regulation in areas that it has found to be competitive, it has maintained regulation of the DTCS where it is not satisfied that there is effective competition or where access to the DTCS is limited.

3.4. Changes to the industry

Prior to 1991, the Australian telecommunications landscape was characterised by Telstra as the sole access provider of all telecommunications services including transmission. In 1991, a second network operator was granted a carrier licence. In 1997, the sector was opened to full competition, and new entrants invested in their own equipment to supply end-users with data, voice and broadband services. This has included the construction of competing transmission infrastructure.

Infrastructure-based competition in transmission services commenced in the inter-capital segment including routes between the cities of Brisbane, Sydney, Canberra, Melbourne, Adelaide and Perth. As a consequence, these routes were removed from regulation.

Since then, a number of competing fibre providers such as Optus, AAPT, Nextgen, Pipe Networks and Vocus have entered the long haul and metropolitan (short haul) transmission markets.

The rollout of transmission infrastructure has continued since the ACCC's last declaration inquiry in 2014. Significant investments in transmission infrastructure have been made:

- to mobile sites - TPG has entered into a commercial agreement to roll out dark fibre to 3000 mobile sites owned by VHA
- at NBN POIs – Vocus, TPG and Optus now have direct connections to almost all of the NBN POIs (and resell capacity acquired from other providers where they do not have a direct connection), and
- within metropolitan areas where relatively short fibre links have been made by smaller transmission providers in metropolitan areas (mainly linking major data centre locations).

3.4.1. Changing technologies

The DTCS service description is technology-neutral. That is, the service description does not specify a particular underlying technology for the provision of regulated transmission services.

Transmission services may be provided over optic fibre, microwave, satellite and copper technologies. Optical fibre is the preferred technology used for transmission services due to its ability to carry large volumes of traffic. It also does not have some of the operational constraints that face other technologies (such as line of sight difficulties and low capacity). In some cases, the existing copper network is still used to connect end customer premises to a local exchange normally in conjunction with a fibre or other service. However, most of these copper links will be replaced as the NBN is rolled out.

Bandwidth capabilities of optical fibre continue to expand significantly with the ongoing development of multiplexing techniques. Ethernet has also become more common in transmission networks, particularly with the expansion of fibre networks.

3.4.2. Changing types of transmission services

The rapid increase in mobile and fixed applications and capabilities has resulted in an increased demand for higher capacity transmission services. This is largely due to:

- increases in the amount of data acquired over the NBN
- an increase in capacity required for backhaul (particularly mobile backhaul), and
- a significant increase in data traffic from business services.

In response to changes in demand, transmission service products offered in the market have also changed over the past five years with the increasing availability of higher capacity services (1Gbps and above) between high traffic locations (points of presence, data centres and NBN POIs).

The future deployment of 5G mobile services will also have impacts on the transmission market as 5G sites will require high capacity backhaul links to a very large number of locations.

3.4.3. Industry consolidation

Since the last declaration inquiry in 2013-14, the telecommunications industry has continued to consolidate. Over time, smaller independent transmission suppliers have been acquired by larger vertically-integrated providers. In particular:

- there has been continued consolidation by TPG, which purchased Pipe Networks in 2009 and AAPT in 2013 and also acquired retail service provider, iiNet in 2015 (which included Internode), and
- the Vocus group acquired Amcom in 2015 and Nextgen Networks in 2016, having merged with M2 Group earlier in that year.[4]

As a result, there are now four large vertically-integrated transmission providers (Telstra, Optus, TPG and Vocus). There remain a number of smaller independent wholesale transmission providers, who have relatively small networks (mainly in in CBD and metropolitan areas) and/or resell transmission capacity acquired from the four vertically-integrated providers outlined above. There are also a number of utility providers (electricity and rail) that supply transmission services in certain areas in conjunction with their core electricity transmission and rail networks.

3.4.4. Rollout of the National Broadband Network

The NBN is a wholesale-only open-access broadband network. It has now passed the half-way stage of its roll-out, which is expected to be completed by 2020 (although completion of the full migration process, including business services, will be some time after that)

NBN Co provides RSPs with an access service. This service is supplied by a mix of technologies: fibre to the premises (FTTP), fibre to the building (FTTB), fibre to the node (FTTN), fibre to the curb (FTTC), hybrid fibre coaxial (HFC), fixed wireless and satellite.

Transmission services are necessary to support the delivery of the NBN services. RSPs acquire an NBN access service between an end-user and one of the NBN POIs.[5] RSPs then require a transmission service to connect from the NBN POI to their point of presence (POP), usually located in a data centre in a capital city. This 'backhaul' link can be provided

[4] Pipe Networks Pty Limited (Pipe Networks), iiNet Limited (iiNet) and M2 Group Limited (M2).

[5] An NBN POI is the inter-network location where end-user traffic is handed over from the NBN to the RSP.

by their own network infrastructure or through transmission services purchased from other access providers, or a combination of these.[6]

Migration of DTCS services on Telstra's copper network

Telstra has been progressively migrating voice and broadband services from its copper and HFC networks to the NBN as it is rolled out across Australia, including business services with similar characteristics to the DTCS.

Telstra has advised that it intends to cease providing wholesale transmission services supplied over copper on a national basis, with disconnection starting at the end of May 2019. [7]

Availability of transmission products on the NBN

NBN Co provides Layer 2 bitstream services between an end-user premise and the NBN POI on three different types of traffic classes: TC-1, TC-2 and TC-4. While NBN services are not regulated under the DTCS declaration[8], they are in some cases equivalent to a DTCS service, and could be an alternative for a DTCS service. As such, they may be taken into account in an assessment of the state of competition in an area.

Traffic Class 1

The TC-1 service is used for VoIP and data services. It is a symmetric and uncontended service. It is offered at capacities up to 5Mbps. It is also offered on all NBN access technologies. The ACCC considers it possible that a TC-1 service on its own or combined with a TC-4 service could be used as an alternative to services provided using the DTCS as a wholesale input, in particular for small size business.

Traffic Class 2

TC-2 services were first released in May 2014 by NBN Co. A TC-2 service is designed to provide for business-grade applications such as video conferencing, virtual private networks and similar business connectivity solutions. The targeted market is small to medium sized businesses.

The TC-2 service is symmetrical and uncontended. It is offered on FTTP, FTTB, FTTN and FTTC technologies. While the TC-2 service appears to meet some of the criteria set out in the current DTCS service description, there are a number of limitations to the way it is currently offered. For example, the TC-2 service is not offered:

- at capacities higher than 20Mbps for services on FTTB/N/C access technologies
- at capacities higher than 100Mbps for services on the FTTP access technology
- on the HFC access technology (although NBN Co has plans to introduce TC-2 services over HFC), or
- on fixed wireless and satellite technologies.

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6 In some cases RSPs will buy wholesale aggregation services from an aggregation provider that bundles together NBN access services and transmission services.

7 Telstra Required Measure 5E - Process for disconnection of direct special services and special service inputs – wholesale transmission, 17 February 2017, p.2. Also at Telstra Required Measure 5E Notice, accessed 2 November 2017.

8 Subsection 152AL(3A) of the CCA.

Traffic Class 4

The TC-4 service is used for residential broadband. It is a contended and asymmetric service which is available at different speed combinations on all NBN access technologies.[9]

In the 2014 DTCS declaration inquiry[10] the ACCC did not consider the TC-4 service as a full substitute to the DTCS on the basis that it did not have a committed information rate and involved a contended component. The ACCC found that while the TC-4 service could be offered at high capacities, it might not be able to provide the same quality of service as the DTCS at peak congestion periods. The ACCC acknowledges that TC-4 services may be used as an alternative to the DTCS in some instances. However, it does not consider it a substitute for the DTCS as it is a highly contended service.

Other services

NBN Co has released, or is in the process of developing additional products for businesses which are capable of delivering traffic on a symmetric and committed speed basis.[11] These products include Fixed Wireless Business Grade services, Business Satellite services, TC-3 and Enterprise Ethernet services. NBN Co has also developed a network-to-network interface (NNI) link product to open new wholesale options for RSPs wanting to connect to the NBN. This product is considered to be a potential complement to transmission services supplied to NBN POIs by other service providers.

ACCC view

As at 31 December 2018, RSPs were acquiring a total of 4,794,389 NBN residential broadband access services (TC-4) and 13,613 business type access services (TC-2). [12]

When assessing the impact of the NBN on DTCS markets and state of competition, the ACCC has considered the:

- substitutability of NBN services
- new telecommunications network architecture under the NBN
- migration of DTCS services from Telstra's existing network
- availability of transmission products on the NBN, and
- demand and supply of transmission services on NBN POI backhaul routes to support the delivery of voice and data services over the NBN.

The ACCC considers that NBN services are not yet fully substitutable for DTCS services as the NBN rollout is not yet complete. The ACCC considers that while some NBN business services are available over the NBN they are not available everywhere. The ACCC notes that backhaul transmission from the NBN POIs has developed considerably and that this will complement the provision of NBN business services.

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9 NBN Co, http://www.nbnco.com.au/get-an-nbn-connection/wholesale-speeds.html, accessed 17 May 2013.

10 ACCC, DTCS declaration final report, 2014, pp.29-30.

11 NBN Co, Integrated Product Roadmap (as at August 2018), accessed 21 November 2018.

12 ACCC, NBN Wholesale Market Indicators Report, December Quarter 2018.

4. Identifying DTCS markets

Key points

- **DTCS is used to supply a broad range of downstream markets.**
- **It is appropriate to identify mobile backhaul services separately.**
- **It is appropriate to delineate the DTCS by commonly acquired bandwidth capacities.**
- **DTCS routes can be characterised as either inter-capital, regional, inter-exchange (metro or regional) or tail-end route types.**
- **The DTCS can broadly be considered as either a metropolitan or regional route type.**

In its Discussion Paper, the ACCC sought views from stakeholders on whether there had been changes to the relevant markets that had been defined in the 2014 DTCS Declaration. Defining the relevant markets for transmission services allows the ACCC to meaningfully analyse the effectiveness of competition, and determine whether declaration will be in the LTIE.

4.1. Downstream markets

In the 2014 DTCS declaration, the ACCC identified the relevant downstream markets for the DTCS as the range of wholesale and retail services that can be supplied using transmission services delivered (at least in part) over optical fibre. These included the markets for data services such as business grade services, residential broadband, local, national and international fixed-voice services and mobile services (including voice and data).

In the Discussion Paper, stakeholders were asked whether these downstream markets had changed since the previous 2014 DTCS declaration.

Stakeholders generally agreed that the existing downstream markets for the DTCS remained the same and are still relevant.

Telstra agreed that the product market should be defined as the market for data transmission services. However, it considered it unnecessary to define all relevant markets with absolute precision because the necessity of transmission as an input to the supply of a range of downstream services is well established.[13]

VHA submitted that the relevant downstream markets for the DTCS identified in 2014 continue to be relevant downstream markets for which the DTCS constitutes an input.[14]

Optus agreed with the characteristics of the different markets, noting that they are generally consistent with the manner in which it acquires and supplies wholesale transmission products. However, it recognised that some or all of these markets have unique characteristics that result in some types of transmission products being substitutable and others that are not.[15]

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[13] Telstra 2018a, p. 11.

[14] VHA 2018a, Appendix A, p.1

[15] Optus 2018a, p. 6.

In the Draft Report the ACCC's view was that the exiting downstream markets for the DTCS, that is, the markets for data services such as business grade services, residential broadband, local, national and international fixed-voice services and mobile services (including voice and data) remain the relevant markets.

Stakeholders did not provide further specific views on the relevant downstream markets.

ACCC's decision

The ACCC is of the view that the range of wholesale and retail services that can be supplied using transmission services as an input remain the relevant downstream markets.

4.2. Geographic markets

The DTCS is supplied in a number of distinct markets, which have been identified as a combination of particular geographic areas and route-type categories. These include:

- inter-capital routes – routes from an exchange service area (ESA) within the boundary of a capital city to an ESA within the boundary of another capital city.[16]
- regional routes – routes where either or both the beginning (A-end) and end of a route (B-end) are outside the boundary of a capital city
- metropolitan routes – routes where both the A-end and B-end are within the boundary of a capital city
- regional tail-end route – a route wholly within a single ESA outside the boundary of a capital city, and
- metropolitan tail-end route – a route wholly within a single ESA inside the boundary of a capital city

The NBN is impacting upon the structure of the geographic market for the DTCS by:

- concentrating traffic at the location of NBN POIs, and
- encouraging competing providers to locate at or near the NBN POIs.

This has resulted in increased volumes of DTCS traffic being generated on major routes to NBN POIs and on NBN backhaul routes.

Submissions to the Discussion Paper agreed that the geographic markets and routes identified in the DTCS service description were still appropriate.[17]

Telstra supported the retention of the current geographic market definitions until the completion of the NBN rollout. It considered that making changes in the short term whilst the industry was transitioning, would risk unintended consequences.[18]

Draft Report

In its Draft Report the ACCC proposed that the geographic market for the DTCS remained a combination of particular geographic areas and particular route category types. In particular:

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[16] Capital cities include Melbourne, Sydney, Perth, Brisbane, Adelaide and Canberra, but not Darwin or Hobart. Boundaries to the capital cities are set out in Table 3 of the Service Description.

[17] Telstra 2018a, p. 9; VHA 2018a, Appendix, p. 1.

[18] Telstra 2018a, p.9.

- the main DTCS route types are clearly distinguishable and well recognised within the industry. For example, capital-regional routes are distinct from the other types of routes namely inter-capital, metro and regional inter-exchange, and local tail-ends.
- the appropriate geographic boundaries can be considered broadly as either metropolitan or regional.

Stakeholders did not provide further views in response to the Draft Report.

ACCC's decision

The ACCC maintains the view that the geographic markets set out in the service description remain relevant and that while the NBN is likely to have an impact on a future geographic definition of DTCS markets, the extent of this impact will only be measurable once the NBN is fully rolled out.

4.3. Substitutes and potential substitutes to the DTCS

During the inquiry, the ACCC sought views on the availability of substitutes to the DTCS. In particular whether there were any NBN services, either planned or currently available, that may be equivalent to the DTCS.

A number of stakeholders were of the view that some NBN access products were *potential* substitutes for the DTCS in certain use cases.[19]

Telstra noted that some access seekers are replacing traditional transmission services with IP-based access services (as a trade-off between cost and reliability), recognising however that they are not direct substitutes to the DTCS.[20]

It also submitted that competition downstream of the POIs is intensified by the availability of NBN access products that are substitutable for certain DTCS services. It pointed to the NBN TC-2 business service as an appropriate substitute for many short-haul services, while the NBN Enterprise Ethernet product, capable of symmetric 1Gbps speeds, would be an effective substitute for a broader range of fibre transmission services when available.[21]

Telstra also observed that, in September 2016, NBN Co released its Cell Site Access Services (CSAS) product which is designed for mobile service providers to connect cell towers to NBN POIs.[22]

VHA was also of the view that there were commercial transmission services offered by various providers that are substitutes to the DTCS. However, it noted that in regional and rural parts of Australia where competition is not effective, there are a limited number of providers of these services.[23] VHA also noted that access seekers cannot acquire an end-to-end transmission service on the NBN, as typically required, having still to acquire transmission services from a third-party in order to utilise transmission over the NBN (such as the CSAS).[24]

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19 Telstra 2018a, p. 13; VHA 2018a, p. 5.

20 Telstra 2018a, p. 12.

21 Telstra 2018a, p. 13.

22 Telstra 2018a, pp. 13-14.

23 VHA 2018a, Appendix A, p. 3.

24 VHA 2018a, Appendix A, p. 5.

Commpete considered there to be no effective substitutes to the DTCS.[25]

Optus noted that the TC-2 business service could be a potential substitute for some low bandwidth access products, but it noted that TC-2 does not fall within the definition of the DTCS.[26]

Draft Report

In the Draft Report the ACCC noted that while non-fibre technologies may be used to provide the DTCS, alternative technologies do not present a competitive constraint and are therefore not an effective substitute to fibre. This is due to limitations in terms of capacity, quality and latency of many alternative technologies in comparison to fibre.

The ACCC also noted in the Draft Report that while the NBN is starting to provide a number of TC-2 and Enterprise Ethernet services, their availability is still limited by the extent of the NBN rollout. However, more recently there have been signs of increasing take-up of both NBN TC-2 and enterprise services. *Submissions to the Draft Report*

VHA submitted that the impact the NBN may have on the structure of DTCS markets should be assessed after the rollout is complete. VHA therefore supported the ACCC's proposal to wait until the NBN is fully rolled out before making any changes to the DTCS.[27]

ACCC's decision

The DTCS is technology neutral. While optical fibre remains the dominant technology for the provision of transmission services, the ACCC accepts that there are a number of technologies such as wireless and satellite which may be used to provide a DTCS service in certain circumstances and markets. However, the ACCC maintains the view that wireless and other non-fibre technologies are alternatives to the DTCS in some cases but are subject to capacity, quality and service limitations compared to optic fibre products.

The ACCC also considers that at the time of this final decision, NBN Co's TC-2 and Enterprise Ethernet services have either limited functionality due to technology constraints or are not yet widely available to represent a fully effective substitute to DTCS services.

4.4. Identifying and accounting for specific markets separately

Over the course of the Inquiry the ACCC sought industry views on whether specific sub-markets should be examined or accounted for separately in the DTCS Service Description, in particular:

- the market for transmission services to mobile sites, mainly in regional and remote areas
- key bandwidth markets in which the DTCS is currently being provided, and
- the market for transmission services to NBN POIs.

4.4.1. Mobile backhaul

As noted in the Discussion Paper, mobile backhaul in regional and remote areas represents a significant cost in extending mobile networks. In many cases mobile towers are located on

[25] Commpete 2018, p. 7.

[26] Optus 2018a, p. 7.

[27] VHA 2019, p.1

difficult to access sites and away from the main population centres (for example, coverage along highways). In many regional areas, low population density and the high costs of infrastructure mean that the economic returns on extending mobile networks may be low.

Transmission is required from a mobile base station to the MNO's network. In some cases, this will require a separate link or tail-end between locations. Where an MNO seeks to co-locate on another MNO's tower, it will still require a transmission link from the shared facility back to its own network.

Many transmission routes in regional areas, including those in which regional or remote base stations are located, are in regulated areas and subject to regulated prices. However, even if current regulated prices are applied to the transmission link, in whole or in part, they may not appropriately reflect the actual transmission costs given the distinctive supply and demand characteristics of transmission to mobile base stations.

In the Draft Report the ACCC recognised that mobile backhaul has unique supply and demand characteristics and that supply in regional and remote areas is likely to be limited. It recognised the unique characteristics of the mobile backhaul market, in particular that:

- the demand for mobile backhaul will only come from other MNOs without their own transmission infrastructure
- on the supply-side, access to mobile backhaul can be hampered by the remoteness of mobile tower sites, difficulty in accessing those sites (particularly where located on a hill or high ground) and a lack of practical transmission alternatives (there may be only one provider of mobile backhaul to many mobile sites), and
- the costs of deploying and maintaining mobile backhaul transmission in remote areas or in cases of links built in rugged terrain areas may be higher than the cost of mobile infrastructure in metropolitan areas.

The ACCC's preliminary conclusion was that the market for mobile services should be identified separately in the service description, both to provide clarity and to enable specific regulated prices to be considered in a future access determination.

Submissions to the Draft Report

Telstra reiterated its views in its first submission[28] that a separate classification for mobile backhaul is unnecessary as it already provides transmission services to mobile sites on commercially negotiated terms and at competitive prices. Telstra also stressed the risk that the changes to the DTCS service description may result in different regulated pricing points applying to the same service.[29]

Vocus acknowledged the difficulties in obtaining and supplying mobile backhaul in remote areas or difficult sites, but did not support the introduction of a separate category as it doubted that pricing mobile backhaul separately could overcome those difficulties. Further, Vocus considered that if mobile backhaul was identified as a separate category, its price should recognise the risks and economic challenges of supplying the service in challenging circumstances.[30]

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[28] Telstra 2018a, pp. 7, 9-12.

[29] Telstra 2019, p.3

[30] Vocus 2019, pp.1-2

Optus recognised that there is a distinctive sub-market for Ethernet backhaul to base stations with unique characteristics of bandwidth and distance. However, Optus did not express a position on the inclusion of a separate category in the DTCS service description.[31]

VHA reiterated its support for the addition of mobile backhaul as a separate route category. VHA claimed that Telstra had created a new category of mobile backhaul services to connect to mobile MBSP in order to evade Part XIC and charge higher prices than what it charges for connectivity to commercial sites.[32]

ACCC's decision

The ACCC notes that majority of submitters recognised that the sub-market of transmission services connecting base stations has distinctive characteristics and that the supply of mobile backhaul in remote or difficult locations presents unique challenges.

Identifying mobile backhaul separately recognises the different supply and demand characteristics of mobile backhaul (particularly in regional and remote areas). The ACCC's view is that the market for mobile services should be, at least, identified separately in the service description to provide clarity and enable regulated prices to be assessed in a future access determination.

Under the current FAD pricing model, mobile backhaul is not priced separately from other transmission services. That is, it is grouped with all other transmission services and priced with reference to the DTCS regression model. The ACCC has decided that identifying a separate category for mobile backhaul services will allow the ACCC to explore separate pricing options for this type of services in the course of the next FAD inquiry, noting that it remains open to access seekers to enter into commercial negotiations in relation to such services.

Mobile backhaul is classified as a separate service category in the amended service description at Appendix 4.

4.4.2. Defined bandwidth markets

The DTCS is currently defined as a general transmission service, covering dedicated transmission links greater than 2.048Mbps. It encompasses all capacities of data transmission (from 2Mbps local lines to 100^{+}Gbps inter-capital links) within a single declared wholesale service.

In the 2016 DTCS FAD, the ACCC acknowledged the variety of different transmission products delineated by bandwidth capacity. Further, in the 2016 DTCS FAD, the ACCC separately accounted for low capacity (under 2.5Mbps) and short distance services from all other services through the use of a dummy variable in the regression model.[33]

During the course of this inquiry the ACCC sought views on whether low capacity and short distance services were a DTCS market that should be accounted for separately in the DTCS Service Description. There were a range of views, with Optus strongly supporting the ACCC's proposal and Telstra arguing that it would introduce unnecessary complexity into the service description.

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31 Optus 2019, p.6

32 VHA 2019, p.2

33 ACCC, DTCS access determination final report, April 2016, p. 57.

In the Draft Report the ACCC considered that the DTCS is increasingly being segmented into key bandwidths. This recognises the different bandwidth clusters in which DTCS type services are sold. For example, very high capacity bandwidth services above 1Gbps are used for carrier grade services and high volume traffic routes to NBN POIs while 2Mbps services are typically used to service the voice and data requirements of small to medium sized businesses.

The ACCC considered that creating a category for bandwidth markets in the service description would assist identifying service classes by capacity in a similar way to the way DTCS defines geographic routes. This would also clearly identify the various categories of DTCS services that would be priced in the next FAD.

The ACCC proposed in the Draft Report to amend the service description to reflect the fact that the DTCS is supplied at low, mid-range and very high capacities.

Submissions to the Draft Report

Telstra submitted that introducing a separate classification to delineate commonly acquired speed tiers is unnecessary and is a departure from a well understood approach that reflects that underlying transmission services have the same characteristics regardless of the end-use case for which they are an input. Telstra considered that the proposed changes would risk pricing differently, services that are essentially similar.[34]

Optus supports a separate service classification by commonly acquired tiers for low, mid-range and high capacity services. Optus considers that declaring multiple transmission services would give the ACCC more flexibility to set different price terms for DTCS services, as this would address many of the pricing concerns raised in previous FAD inquiries.[35]

ACCC's decision

The ACCC acknowledges that the DTCS is increasingly being aggregated into key bandwidth segments, which constitute sub-markets of the DTCS. Further, the ACCC notes that each of these segments generally provides an input to different wholesale and downstream services.

The ACCC considers that the establishment of separate bandwidth categories in the DTCS service description will assist in classifying service classes by bandwidth capacity in a similar manner to the way in which geographic routes are defined. This would clearly identify various categories of DTCS services that could be priced separately in a future access determination.

The ACCC considers that changing the service description to identify DTCS services by distinct bandwidth categories would enhance the long-term interests of end-users by:

- promoting competition in downstream markets by enabling wholesale inputs to better reflect the true cost of supply
- encouraging efficient use of, and investment in, infrastructure through setting more efficient price signals, and
- encouraging more appropriate build-buy consideration.

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[34] Telstra 2019, p.3

[35] Optus 2019, p.6

The new categories of the DTCS by bandwidth are described in the amended service description at Appendix 4.

4.4.3. NBN POI backhaul as a separate market

Transmission services are necessary to support the delivery of NBN services. RSPs providing end-users with voice and data services require transmission services to carry traffic between NBN POIs and their POP, usually located in a data centre in a capital city. RSPs either use their own transmission network infrastructure to carry NBN traffic or purchase transmission services from other providers, or a combination of these.

During the ACCC's Communications Sector Market Study, a number of service providers cited concerns about access to NBN POI backhaul services.[36] In particular, the cost of transmission services to some NBN POIs, the limited choice of active suppliers and the limited choice of transmission services, were cited.

In recognition of these concerns and the increasing importance of NBN POI backhaul to the delivery of broadband services to end-users, the ACCC sought stakeholders' views on whether there should be a separate route category for transmission services to NBN POIs.

Stakeholders submitted that investment in backhaul infrastructure was already advancing at good pace, solely driven by commercial incentives. Telstra, VHA and Optus agreed that it was unnecessary for the ACCC to assess NBN POI backhaul routes separately.

Draft Report

In consideration of stakeholders' submissions, the ACCC reached the preliminary view that it is not necessary to separately identify and price backhaul services from NBN POIs.

NBN traffic is concentrated at 121 NBN POIs which are characterised by very high levels of demand. The ACCC notes that the four major transmission providers (Telstra, TPG, Optus and Vocus) all provide wholesale transmission services to all 121 POIs.

Data from the most recent NBN Market Indicators Report shows that there are at least six access seeker groups acquiring NBN services directly from NBN Co at all 121 POIs and that there are at least seven access seekers groups acquiring NBN services at 120 of the NBN POIs. These NBN access seekers either have their own backhaul or acquire it from another supplier. The ACCC is aware of a number of other transmission providers who provide backhaul from a number of NBN POIs on a localised basis (that is, at some but not all of the NBN POIs).

Stakeholders did not provide further comments on this matter in response to the Draft Report.

ACCC's decision

The ACCC maintains its preliminary view that identifying backhaul to NBN POIs as a separate service in the DTCS service description is not warranted.

NBN traffic is concentrated at 121 NBN POIs, the vast majority of which are already served by four major transmission providers (Telstra, TPG, Optus and Vocus). In addition, other transmission providers supply backhaul from some of the NBN POIs.

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[36] ACCC, *Communications Market Study Final Report*, April 2018.

The ACCC considers that there has been sufficient investment in backhaul transmission at NBN POIs and that there is a reasonable level of competition in this sub-market for transmission services. Further, once the new DTCS declaration is in place, 112 of the 121 POI routes will be located in deregulated areas. The ACCC therefore considers that the introduction of specific routes from NBN POIs in the service description is not warranted.

5. The DTCS Service Description

Key points

- **The DTCS service description has been amended for the DTCS to include additional service features commonly acquired in commercial products.**
- **The new service description clarifies the definition of 'point-of-interconnection' to ensure it encompasses interconnection to 3rd party providers.**
- **Mobile backhaul is identified as a separate route category to account for special characteristics of this sub-market.**
- **The amended service description also identifies separately established bandwidth clusters.**

During the inquiry, the ACCC sought views on whether the DTCS service description should be updated or clarified and whether it continues to adequately reflect the way in which the DTCS is currently sold and purchased in the market. The current DTCS service description is set out in Appendix 3.

Through the Further Consultation Paper, the ACCC sought views on specific changes to the service description including:

- adding additional features to the DTCS similar to those commonly available in commercial products offered in the market
- specifically identifying key bandwidth clusters to reflect the different capacities and market segments in which the DTCS is sought
- identifying mobile backhaul markets as a distinct route type in light of the unique demand, supply and cost characteristics inherent in the delivery of mobile backhaul services (particularly in regional areas), and
- clarifying the definition of point of interconnection to:
  - specify that a point of interconnection is the '… nearest practical physical point of interconnection with an access seekers network', and
  - denote that the point of interconnection may also be a point on a network owned by a third carrier or carriage service provider where that third party also supplies a transmission service that directly connects to the access seeker's network.

The first two changes sought to update the service description to align it more closely to the way the DTCS is currently being supplied in the market. The third suggested change recognised the difficulties of supplying and obtaining mobile backhaul, particularly in regional areas and remote or difficult sites.

The fourth change sought to clarify connections to an access seeker's network by using a third party provider's network, but only where that network is used as an extension of the access seeker's network. This would allow an access seeker to acquire its main transmission link from one network provider and use another transmission provider to connect to a DTCS tail-end service. This would promote competition by allowing service providers to supply the DTCS where they have infrastructure only on part of a transmission route.

The current DTCS service description is set out in Appendix 3.

5.1. Review of the DTCS service description

5.1.1. Defining geographic boundaries in the DTCS service description

The DTCS service description sets out the geographic boundaries of the deregulated metropolitan areas, regional centres and each capital city using ESAs. An ESA is defined in the service description as the area served from a traditional Telstra local exchange building. ESAs are based on the existing copper network which identifies telecommunications regions by those areas served from a local telephone exchange. In contrast, the NBN distribution areas are identified on the basis of its network design.

In the inquiry, the ACCC sought stakeholder views on retaining references to ESAs in the DTCS service description as the unit to identify the geographic boundary of telecommunications networks.

Most stakeholders considered that ESAs remained an appropriate geographic unit of the network until the NBN rollout is concluded.[37] Telstra was of the view that to make any changes in the short term, while the industry is undertaking a significant transformation, would risk unintended consequences. It recognised that a definition based on Telstra's legacy network architecture is of diminishing relevance in the market, but saw benefit in certainty during the period of industry transition to next generation networks.[38]

VHA did not consider there to be an appropriate alternative method to identify the geographic boundaries of transmission networks at this point in time.[39]

In contrast, Commpete submitted that it would be more effective to link to the 121 POIs as the relevant geographic areas.[40]

Draft Report

In its Draft Report, the ACCC acknowledged that the NBN will increasingly have an impact on the structure of the geographic market for the DTCS, but considered that this market is still evolving and that references to ESAs should be retained in the service description until the NBN is rolled-out.

Stakeholders did not provide further views in response to the Draft Report.

ACCC's decision

The ACCC considers that references to Telstra's ESAs is still common practice in commercial negotiations for access to transmission services. The ACCC also notes that the market for transmission services is still in transition to the NBN and this transition will continue during the next regulatory period.

In these circumstances the ACCC considers that describing DTCS markets in relation to NBN POIs before the rollout is completed would not be practical.

The ACCC's decision is therefore to retain route categories based on ESAs for the next regulatory period.

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[37] Telstra 2018a, p 9; VHA 2018a, Appendix A, p. 4.

[38] Telstra 2018a, p. 9.

[39] VHA 2018a, Appendix A, p. 3.

[40] Commpete 2018, p. 5.

5.1.2. Minimum capacity

The DTCS is currently being acquired by access seekers at a range of capacities above 2Mbps. In the inquiry, the ACCC sought stakeholder views as to whether it was still appropriate to use 2Mbps as the minimum capacity at which the DTCS is acquired.

Stakeholders generally supported the proposal.[41]

Draft Report

The ACCC's preliminary view was to retain 2Mbps as the minimum capacity for the DTCS. Stakeholders did not provide further views on this point in response to the Draft Report.

ACCC's decision

The ACCC's decision is to retain 2Mbps as the minimum capacity for the DTCS service description.

5.1.3. Symmetric and uncontended

The declared DTCS service is defined as being symmetric and uncontended, because it provides the same data rate in both directions, and the capacity of the service is dedicated to one access seeker, rather than being shared amongst others. The ACCC sought comment on whether it was still appropriate to describe the DTCS in these terms.

Most stakeholders agreed that the DTCS should continue to be defined as 'symmetric' and 'uncontended' as they capture the main features of the DTCS and distinguishes it from other bandwidth services (i.e. asymmetrical and/or contended) that characterise other markets.[42]

Telstra considered that these terms are appropriate core defining terms for a transmission service, and their omission could result in the unintended regulation of services that serve quite different markets.[43]

Optus saw the terms as capturing the fundamental features of transmission products, believing that the dedicated symmetrical and non-shared aspects of the DTCS are key features that distinguish the service from other bandwidth services. It was of the view that uncontended (dedicated and not shared) should be maintained to ensure a distinction with SBAS and other bandwidth declared services.[44]

Draft Report

No further comments were received in response to the Draft Report.

ACCC's decision

The ACCC will continue to define the DTCS as a symmetric and uncontended transmission service, as these characteristics define a specific type of wholesale input.

5.1.4. Definition for protected DTCS services

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41 Telstra 2018a, p. 13; VHA 2018a, Appendix 3, p. 4.

42 Telstra 2018a, p. 13; Optus 2018a, p.21; VHA 2018a, Appendix 3, p. 4.

43 Telstra 2018a, p. 13.

44 Optus 2018a, p. 20.

Protection refers to the existence of a back-up or redundancy service that is used in the event of a service interruption. Although the declared DTCS includes both protected and unprotected DTCS services, the DTCS service description does not define the features of a protected DTCS service.

In the Inquiry the ACCC sought stakeholders' views as to whether the service description should be updated to include a definition for protected DTCS services, and what that appropriate form of protection should be.

Submitters expressed conflicting views on this matter.

VHA considered that path protection and equipment protection should both be defined in the service description, as protected transmission services are commercially available in areas where competition is effective.[45]

Telstra disagreed, noting that given the wide range of mechanisms utilised to provide protection it would be overly restrictive to define protection in the service description. It considered that retaining protection, in its different alternatives, subject to commercial negotiation would best encourage ongoing investment in high quality network design.[46]

Draft Report

In its Draft Report the ACCC decided not to define protection in the DTCS service description, as it observed that:

- service 'protection' is best acquired on a service by service basis, both in terms of 'path' protection and 'equipment' protection, and
- protection is acquired in many different forms, by many different methods and from multiple providers.

Stakeholders did not provide further views on this matter in response to the Draft Report.

ACCC's decision

The ACCC has concluded that service protection involves a range of options including 'path' protection and 'equipment' protection. Each of them can be applied selectively to the inter-exchange segment of the service and, depending on how critical a service is, can be also acquired to secure the last mile link to an end-user's premises. Alternatively, an access seeker may build their own protection by acquiring redundant services with a geographically diverse or operator-diverse path.

Further, the ACCC observed through its assessment of access agreements that different levels of protection are successfully negotiated on a commercial basis. In addition, statistical analysis of contract data in the 2016 DTCS FAD inquiry showed that protection was not a significant driver of price for transmission services.

Finally, the ACCC has also considered the risk that defining a particular type and level of protection in the DTCS service description may restrict access seekers' choice and impact efficient investment in infrastructure.

For the above reasons, the ACCC has decided to maintain its preliminary view not to define the features of a protected service in the service description.

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[45] VHA 2018a, Appendix A, p. 4.

[46] Telstra 2018a, p. 9.

5.1.5. Tail-end services

The DTCS service description defines a tail-end DTCS as a transmission service provided within an ESA between a customer location and a POI on the access seeker's network.

In the 2013-14 DTCS declaration inquiry, the ACCC maintained regulation of tail-end DTCS services (including in CBD ESAs and other deregulated ESAs). Tail-end services bundled with a metropolitan, regional or inter-capital component were also regulated. That is, where a bundled product contained a deregulated route and a regulated tail-end, the service was regulated.

In the Inquiry, the ACCC sought stakeholder views on maintaining regulation on tail-end services.

Stakeholders, with the exception of Telstra, concurred with the view that tail-ends should remain regulated.[47] Telstra considered that regulation of tail-end services is becoming less relevant as the NBN roll-out progresses, arguing that various NBN access products are now substitutable for tail-end and this justifies a dynamic rollback of regulation.[48]

In contrast, Commpete considered that tail-end DTCS remains a crucial service for the supply of retail services to business customers even where the NBN has been rolled out, as NBN services are not yet an adequate substitute.[49]

VHA believed it appropriate to maintain regulation of tail-end services, both directly and as part of a bundle as regulation of tail-ends prevents access providers to exercise market power in areas where competition is not effective. [50]

Optus supported the regulation of tail-ends, on the basis that Telstra, as the incumbent, still enjoys a significant first-mover advantage over other carriers in accessing buildings. It viewed the high cost of building access fibre infrastructure to be a significant barrier to entry in tail-end transmission capacity.[51]

Draft Report

The ACCC's preliminary view in its Draft Report was that no further changes are required to the way tail-end services are defined in the DTCS service description.

Stakeholders did not provide additional views on this matter in response to the Draft Report.

ACCC's decision

The ACCC concludes that there is merit in maintaining regulation of tail-end services both as standalone and as bundled products. The ACCC considers at the time of this final decision, the suitability of NBN access products as a substitute for DTCS tail-ends remains limited due to the incomplete rollout of the NBN. For this reason the ACCC's final decision is to maintain regulation of tail-end services over the next regulatory period.

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47 VHA, 2018a, p. 7; Commpete 2018, p. 9; Optus, 2018a, p. 11.

48 Telstra, 2018a, p. 15.

49 Commpete 2018, p. 9.

50 VHA, 2018a, Appendix A, pp. 7-8.

51 Optus, 2018a, p. 11

5.2. Clarifying the definition of point of interconnection

The current DTCS service description provides that the DTCS is provided from one transmission point to another transmission point, excluding transmission between:

- one customer transmission point directly to another customer transmission point, and
- one access seeker network location directly to another access seeker network location.

The effect of this in practice is that the service description limits the DTCS to only that part of a service that extends an access seeker's own physical network.

As noted in the Discussion paper, it is common for access seekers to use multiple transmission providers to extend their networks both in terms of connecting to end customers and reaching exchanges located far away from its core network. However, there may be circumstances where a third-party carrier or carriage service provider has the capability to supply transmission services over competing infrastructure for part of a transmission route.

For example, a third-party transmission provider may be able to provide a transmission service that links a tail-end service with the access seeker's network.

Stakeholders had raised a range of issues regarding stand-alone tail-end links in the 2013-14 DTCS declaration inquiry. The ACCC issued a Further Consultation Paper during the current inquiry, to seek comment from stakeholders on whether competitive supply of transmission services, particularly along inter-exchange routes, would be facilitated if the definition of 'point of interconnection' was broadened to:

> the nearest practical physical point on a network including where that network is owned by a third-party carrier or carriage service provider, and where that third-party supplies a transmission service that directly connects to the access seeker's network.

The nearest physical point of interconnection could be, for example, in TEBA space in a Telstra exchange.

To facilitate this proposal, the ACCC suggested amendments to the definition of point of interconnection in the DTCS service description as follows:

> a **point of interconnection** is the nearest practical ~~a~~ physical point of interconnection in Australia between a network operated by a ~~carrier or carriage service provider~~ transmission service provider and another network operated by ~~a service provider~~ an access seeker (this includes a third-party carrier or carriage service provider where the third-party supplies a transmission service directly to the access seeker).

Optus saw merit in the proposed change to the definition of point of interconnection, believing that it could increase competition by allowing access providers to combine multiple transmission segments acquired from different access providers. However, it acknowledged that the use of an additional provider in the supply chain would increase costs and introduce additional complexity.[52]

[52] Optus 2018b, p. 4.

Optus also noted that the existing interconnection problem arises due to the technical limitations of the TEBA product, which could have the effect of preventing an access seeker connecting non-Telstra wholesale transmission with Telstra wholesale transmission links.[53]

Telstra argued that it already allows an access seeker to cross-connect a tail-end service to a third party's backhaul link within the TEBA area at Telstra exchanges, and therefore considers that the proposed amendment is unnecessary.[54] Telstra acknowledges however, that the use of third party backhaul services for TEBA customers is subject to some restrictions.[55]

Draft Report

The ACCC proposed in the Draft Report to update the definition of point of interconnection to facilitate the competitive supply of transmission services. The amendment clarifies that a point of interconnection:

- is the 'nearest designated' physical point of interconnection
- between a network operated by a transmission service provider and another network operated by an access seeker, and
- which can include a third-party carrier or carriage service provider where the third-party supplies a transmission service directly to the access seeker.

The change would ensure that a point of interconnection is a well-established 'designated' space that enables interconnection between two networks (such as Telstra's TEBA space) and ensures that an access seeker is not precluded from access to declared DTCS services when interconnecting by means of a third-party supplier.

Submissions to the Draft Report

Telstra considers that the amendment to the definition of point of interconnection is unnecessary as it has not received any feedback from access seekers indicating that the point of interconnection was a barrier to acquiring transmission products from multiple providers. Telstra maintains that it normally negotiates interconnection within the TEBA area for (an access seeker's) acquisition of DTCS from multiple providers.[56]

Optus supports updating the service description to clarify that the definition of point of interconnection does not preclude an access seeker from using a third party supplier where the third party's network is used as an extension of the access seeker's network.[57]

VHA also supports the ACCC preliminary decision to clarify the definition of a POI. VHA believes that the new definition has the potential to increase competition by allowing access seekers to combine multiple transmission segments acquired from different providers.[58]

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53 Optus 2018b, p. 4.

54 Telstra 2018b, p. 8.

55 Telstra email response to the ACCC, 13/11/2018

56 Telstra 2019, p.7

57 Optus 2019, p.7

58 VHA 2019, p.2

ACCC's decision

Access seekers should be able to create an end-to-end network in the most efficient and cost-effective way, including by acquiring transmission services from more than one provider.

The ACCC considers that the clarification to the definition of point of interconnection will facilitate an access seeker's ability to acquire the different sections comprising an end-to-end service from alternative access providers.

The amendment makes clear that the supply of the DTCS cannot be conditional on the acquisition of the full length of an end-to-end service from a single access provider when other options are available to an access seeker.

The change ensures that a point of interconnection is a well-established 'designated' space (such as TEBA space) that enables interconnection between the two networks. The change also clarifies that access to declared DTCS services is not precluded by an access seeker using a third-party supplier. This would allow an access seeker to use transmission services provided by a third-party transmission for part of a service, such as where the third party transmission provider can provide the service at a lower cost.

The Final Report amends the definition of point of interconnection as set out below:

> A *Point of Interconnection* is the nearest designated ~~a~~ physical point of interconnection in Australia between a network operated by a ~~carrier or carriage service provider~~ transmission service provider and another network operated by ~~a service provider~~ an access seeker (this includes a third-party carrier or carriage service provider where the third-party supplies a transmission service directly to the access seeker).

The ACCC considers that this amendment to the service description will clarify both the location of a point of interconnection and the manner in which interconnection to regulated services can be achieved through third party transmission providers.

5.3. Additional service features

The ACCC has generally maintained the view that the DTCS declared service should be defined in terms of its basic capabilities, rather than specific features. However, in the Discussion Paper the ACCC acknowledged that some additional services, not included in the regulated service, have over time become common features of commercially negotiated transmission services. The inquiry has considered whether the DTCS should be updated to include these additional features.

Stakeholders provided different views on the suitability of the current service description. VHA, Vocus and Commpete supported changes being made to the service description to align it more closely with the way that services are widely offered in the market.

In contrast, Telstra and Optus considered the current service description to be adequate.[59]

Draft Report

The ACCC considered the views of stakeholders and adopted the preliminary view that an online ordering capability and enhanced service monitoring of faults are basic features that

[59] Telstra 2018a, p.8; Optus 2018a, p.21.

are commercially offered by most service providers and should be included in the service description for the regulation of the DTCS to remain relevant and effective.

Submissions to the Draft Report

Telstra considered that the inclusion of online ordering and monitoring of faults was not necessary, but conceded that these features are sufficiently generic and flexible as to not impede provider differentiation. Telstra noted that it is unclear how the ACCC proposes to define appropriate pricing benchmarks for these features, but noted that the cost of incorporating these features into the regulated product should be considered in the FAD inquiry.[60]

Optus submitted that as a general principle it supports a service description that is as generic as possible to enable the services to continue to apply to changing commercial products. Optus reiterated that the addition of service features is not necessary.[61]

Vocus agreed with the ACCC proposal to broaden the DTCS service description to better align with current commercial products. Vocus considers that the inclusion of additional features is necessary to ensure that the intent of the DTCS declaration is not undermined by providers developing similar products with features not included in the DTCS.[62]

VHA supported the ACCC's preliminary decision to include additional features commonly acquired in commercial products. Further, in its submission VHA encouraged the ACCC to adopt a dynamic approach (to updating the service description) to prevent Telstra from evolving commercial services with small changes to differentiate from the DTCS.[63]

ACCC's decision

The ACCC has decided to include the following features in the DTCS service description:

- an online ordering capability, and
- enhanced service monitoring of faults

The ACCC considers that the availability of these enhanced service features will ensure that the regulated DTCS product is equivalent to the basic service provided under commercial negotiations. These additional service features, once incorporated in the DTCS service description, will be then priced in the relevant DTCS FAD.

The new service features are set out in the varied service description at Appendix 4.

The ACCC has decided not to include head-end aggregation and specified quality of service requirements in the DTCS service description, even though these features are often acquired by service providers.

The ACCC has concluded that a service configuration including head-end aggregation is likely not to meet the 'dedicated' (that is, uncontended) nature of the DTCS service and also that demand for this feature does not represent the majority of transmission services acquired, as it only applies to a small number of commercial services.

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60 Telstra 2019, p. 4.

61 Optus 2019, p. 6.

62 Vocus 2019, p. 1.

63 VHA 2019, p. 2.

The ACCC has also reached the conclusion that quality of service varies significantly between transmission providers based on a number of factors, with its pricing defined in a variety of contractual terms. For this reason, the ACCC considers that the regulation of a specified level of quality of service is not warranted.

5.4. Services to Australian external territories

In response to the Discussion Paper, Vocus submitted that it would provide a transmission service (the *Vocus service*) between Perth and Christmas Island via a cable spur from its submarine cable between Australia and Singapore. Vocus claimed that the Vocus service should be excluded from the DTCS on the basis that:

- the underlying infrastructure is an international network and as such not subject to regulation under Part XIC of the CCA
- there is sufficient competition in the supply of communications services to the island from two satellite RSPs, and
- declaration imposes a regulatory risk to Vocus as current regulated prices for the DTCS do not take into account the high costs of the link to Christmas Island.

Vocus argued that current regulated rates for the DTCS would materially affect its' legitimate commercial interests and incentives for further investment. [64]

Draft Report

The ACCC considered in the Draft Report that the Vocus service is captured by the current DTCS service description and, as such, is subject to standard access obligations (SAOs) and its price terms as set out in the current DTCS FAD.

Further, the ACCC considered that regulation of the Vocus service would likely promote competition in related downstream markets, promote any-to-any connectivity and encourage the economically efficient use of infrastructure.

Promotion of competition

Regulated access to the Vocus service under the DTCS would ensure that service providers are able to access transmission capacity in order to provide business and retail services on Christmas Island in competition with each other. To that extent, regulation of the Vocus service promotes competition in downstream markets.

In the absence of regulation, Vocus would have an incentive to exclude other operators from access to its wholesale transmission services. Further, as a vertically-integrated operator, Vocus would also be in a favourable position to determine price and other conditions for the supply of retail services to government agencies and other end-users in the island.

The ACCC's view is that regulation of the Vocus service would likely promote competition in related downstream markets.

[64] Vocus 2018b, p. 2.

Any-to-any connectivity

Any-to-any connectivity would likely by enhanced by regulation. Regulation of the Vocus service would enable other operators to access other networks transmission networks in Australia.

Encouraging the economically efficient use of, and economically efficient investment in, infrastructure

In assessing whether to declare a service the ACCC must consider whether regulation is likely to encourage the economically efficient use of, and economically efficient investment in infrastructure by which listed services are supplied, or are likely to become, capable of being supplied.

In considering the economically efficient 'investment in' infrastructure, the ACCC notes that Vocus has largely completed the Australian Singapore Cable and has begun offering some international services (Perth to Singapore) over the cable. The Christmas Island spur is complete with Vocus intending to supply commercial services in early 2019. As such, the ACCC gives less weight to this limb of the statutory criteria as the investment has largely been undertaken. The ACCC notes however that it would still take into account future investment to maintain the cable or extend/expand its capacity if the need arose

In considering the economically efficient 'use of' infrastructure the ACCC notes that existing transmission type services to Christmas Island (via satellite technology) are not a fully effective substitute for high capacity transmission services delivered over fibre optic cables. The ACCC also considers that due to the relatively low levels of demand on Christmas Island the construction of alternative transmission capacity (via another undersea cable system) is unlikely.

As such, regulated access to the Vocus service may encourage the efficient use of that infrastructure through access at regulated prices.

In summary, the ACCC's view is that regulation of the Vocus service would likely promote competition in related downstream markets, promote any- to- any connectivity and encourage the economically efficient use of infrastructure.

No submissions were received on this matter in response to the Draft Report

ACCC's decision

The ACCC maintains the view that the Vocus service is a DTCS service subject to standard access obligations (SAOs) and that exclusion of the Vocus Service from the DTCS is not warranted, as declaration of the Vocus service is in the LTIE.

However, the ACCC acknowledged that current FAD prices are likely not to represent the costs involved in providing the Vocus Service. For this reason, on 19 December 2018 the ACCC made binding rules of conduct setting interim terms of access to the service and commenced a public inquiry to determine terms for access for a longer term.

5.5. Other issues

5.5.1. Commercially negotiated transmission products

Many DTCS equivalent products are acquired by access seekers on commercially negotiated terms. For example, Telstra offers the Managed Leased Line (MLL) product under its suite of wholesale transmission products. The MLL is a transmission service which allows the acquirer to purchase additional managed features such as proactive service monitoring and other service level features such as head-end aggregation. The MLL product is priced by commercial negotiation and access seekers enter into a Telstra wholesale agreement to acquire the service at commercially agreed prices.

Telstra also offers the Data Carriage Service (DCS) product which is the regulated DTCS service available from Telstra. The DCS is a basic transmission service and is priced according to the regulated prices as set out in the DTCS FAD. Both products fall under the definition of the DTCS as set out in the DTCS service description.

In their submissions to the Discussion Paper VHA and Commpete[65] raised concerns with Telstra's practice of only offering the MLL or the DCS on a mutually exclusive basis. That is, Telstra only offers the DCS (the regulated DTCS product supplied by Telstra) on the basis that the access seeker acquire all its transmission services from Telstra at DCS rates. Likewise, Telstra only offers MLL on the basis that an access seeker acquire all its transmission services at MLL rates.

The ACCC notes that Telstra uses a different pricing construct for the MLL compared to the regulated DTCS FAD prices available with the DCS.[66]

VHA reiterated in its submission that access providers can prevent access to the DTCS and circumvent the objectives of Part XIC of the CCA by precluding access seekers from acquiring the regulated DTCS on one route and commercially negotiated products (for example, Telstra's MLL product) on another.[67]

Draft Report

The ACCC clarified in the Draft Report that both the Telstra DCS and Telstra MLL products fall under the DTCS service description and that transmission providers are required to supply transmission services in accordance with the relevant SAOs under s152AR of the CCA.

The ACCC however, noted that where an access agreement for the provision of transmission services (such as Telstra's MLL or other commercial products) is in place, the access seeker is subject to the general terms of that agreement. If an access seeker prefers to acquire regulated transmission services on the terms and conditions set out in an access determination, they would have to terminate or allow to expire any existing access agreements. They could then acquire the DTCS on regulated terms.

As discussed above, the Draft Report proposed changes to the service description to include additional service features that are commonly found in commercial products as basic features of the DTCS (specifically online ordering and service monitoring of faults). This will

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65 VHA 2018a, p. 2, Commpete 2018a, para 4.3.

66 Telstra 2018a, p. 9

67 VHA 2018a, p. 2.

bring the regulated service more in line with commercial products available in the market (such as Telstra's MLL).

No further submissions were received on this matter.

ACCC's decision

As discussed above, the ACCC has decided to update the DTCS service description to include online ordering and enhanced monitoring as part of the regulated service, where available.

The ACCC considers that the change will better align the DTCS to commercial products currently demanded in the market.

6. State of Competition and the Competition Criteria

Key points

- **While the market for DTCS services has become more concentrated there remain four major providers of transmission services.**
- **The competition criteria has been revised to reflect structural industry change.**
- **The ACCC will deregulate an additional 137 metro and 27 regional ESAs that satisfied the assessment criteria.**
- **There is significant competition in the provision of transmission services to most NBN POIs. 12 of the 121 NBN POIs will remain in regulated areas.**

6.1. State of Competition in DTCS Markets

As part of the inquiry the ACCC sought submissions on changes to the structure of the DTCS market, including the impact of the NBN, and whether these changes were having an impact on the state of competition.

Telstra considered that the market for the supply of transmission services is characterised by increasing dynamism and competitiveness[68] and that the consolidation of four large access providers and the rollout of the NBN have had the effect of intensifying competition.[69] It also believed that regional utilities providers were providing further competitive tension.[70]

Telstra submitted that both the rollout of the NBN and the consolidation of four large access providers have intensified competition in DTCS markets and that it was likely that additional routes and ESAs satisfied the competition criteria and could be deregulated.

Optus also noted that the industry was now dominated by four vertically-integrated transmission providers.[71]

VHA stated that it was not aware of any significant changes to the DTCS market structure that had a major impact on the state of competition.[72].

Commpete argued that competition in the provision of DTCS services had, if anything, declined since the previous declaration. Commpete considered that greater vertical integration had reduced genuine wholesale competition as providers tended to favour their own retail operations rather than providing transmission services on reasonable terms to potential retail competitors. Commpete submitted that effective wholesale transmission markets have failed to emerge in many deregulated areas and that acquiring transmission to the NBN POIs was problematic for RSPs.

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[68] Telstra 2018a, p. 11.

[69] Telstra 2018a, p. 14.

[70] Telstra 2018a, p. 5.

[71] Optus 2018b, p. 5.

[72] VHA 2018a, p.2 and Appendix A, p. 6.

ACCAN agreed with the findings in the ACCC's Communications Services Market Study that, while competition in the supply of transmission services continues to develop, there still exists regional transmission routes without adequate competition and this may be negatively affecting competition in the supply of downstream services such as voice and broadband.[73]

Impact of the NBN

Telstra considered the NBN to be causing a fundamental shift in Australia's underlying network architecture, by driving a concentration of data traffic through NBN POIs and providing a substitute for tail-end services..[74]

ACCAN submitted that the NBN had not yet had a significant effect on the dynamic of the DTCS and that access seekers still preferred traditional transmission providers.[75]

In VHA's views, it will be unclear how DTCS markets will be affected until after the NBN rollout is complete and market participants (including NBN Co) have had sufficient time to adjust.[76] VHA stated that it had not observed the NBN to have caused any material impacts on transmission markets.[77]

ACCC's decision

The ACCC maintains the view, expressed in the Draft Report, that the high sunk costs of investment continue to represent a significant barrier to entry, making it economically inefficient to duplicate existing network infrastructure, particularly in areas where there is low demand.

The ACCC also maintains the view that the market for transmission services has become more concentrated both at an industry and geographical level as there are now four large vertically-integrated transmission providers (Telstra, Optus, TPG and Vocus) and traffic is becoming more concentrated at the NBN POIs.

Finally, the ACCC considers that the rollout of the NBN may impact the structure of the geographic market for the DTCS as increased volumes of DTCS traffic will be generated on major routes to NBN POIs. However, this is likely to occur towards the end of the next regulatory period.

6.2. Competition on backhaul routes to NBN POIs

As part of the inquiry, the ACCC sought stakeholder comment on whether the NBN is impacting the state of competition in DTCS markets.

Telstra and Optus submitted that backhaul routes to NBN POIs were competitive while VHA noted that there was a choice of active suppliers of transmission services at all of the NBN POIs.[78]

Optus supported the continuation of the current approach to NBN POI routes within the DTCS declaration. It considered both the markets for wholesale transmission from NBN

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[73] ACCAN 2018, p. 6.

[74] Telstra 2018a, p. 3.

[75] ACCAN 2018, p. 6.

[76] VHA 2018a, p. 3.

[77] VHA 2018a, p. 3.

[78] VHA 2018a, Appendix A, p. 6.

POIs and for national aggregation of NBN POI traffic to be competitive, with multiple providers competing to offer services to other RSPs. Optus argued that the competitiveness of these markets demonstrated that there was no justification for further intervention.[79]

Similarly, Telstra argued that there was a case to roll back regulation at all NBN POIs. It observed that the NBN had lowered barriers to entry in the supply of transmission services by concentrating traffic through the 121 NBN POIs. Competition had intensified as increasingly access providers were finding it economically efficient to build infrastructure for direct connection to the NBN POIs (or to otherwise establish points of presence close to the NBN POIs). In particular, it noted that each of Optus, Vocus and TPG had direct transmission connection to the vast majority of the NBN POIs.[80]

In contrast, Commpete argued that the market for re-sale of NBN services was not well developed and that access providers did not allow operators to differentiate their offering or compete effectively with the offering provided by vertically-integrated operators.[81]

Commpete cautioned that services to the POIs should remain declared unless it can be unequivocally demonstrated that an effective wholesale market for such services existed.[82]

Draft Report

In the Draft Report the ACCC considered that it is likely that competition for NBN backhaul will develop further at or near the NBN POIs as the rollout continues. The ACCC also considered that the NBN will continue to impact the way DTCS is supplied due to the increasing concentration of demand at the 121 NBN POIs. The Draft Report expressed the view that the concentration of demand around POIs provides an incentive for carriers to continue investing and competing for wholesale customers.

The ACCC reached the preliminary view that there is no need to identify NBN POI backhaul services separately from other transmission services as the four major transmission providers supply wholesale transmission services to all the 121 POIs.

The Draft Report also noted that when the ACCC applied its revised competition assessment methodology the assessment resulted in 109 of the 121 NBN POIs being located in deregulated ESAs and 12 remaining in regulated areas.

Stakeholders did not provide further views in response to the Draft Report.

ACCC's decision

The ACCC has decided that a separate classification for NBN POI backhaul services is not warranted as the four major providers supply wholesale services at all of the POIs, providing both point–to-point backhaul services and national aggregation. The ACCC also notes that as a result of the further deregulation of ESAs, 109 of the 121 POIs will be located in deregulated areas, while services to the other 12 POIs will remain regulated.

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79 Optus, 2018a, p. 19.

80 Telstra, 2018a, p. 5.

81 Commpete 2018, p. 4.

82 Commpete 2018, p. 7.

6.3. Competition assessment methodology

6.3.1. A criteria-based approach

In the 2013-14 declaration inquiry, the ACCC adopted a criteria-based approach to systematically assess ESAs and DTCS routes to determine whether there was sufficient evidence of competition as to warrant deregulation.

In this inquiry the ACCC sought submissions on whether the 2014 competition criteria remained appropriate to assess current levels of competition on declared inter-capital, metropolitan and regional routes.

Stakeholders generally supported the continued use of a criteria-based approach to identify areas where regulation of the DTCS should be maintained or removed.[83]

ACCC's decision

Considering submissions to the Discussion Paper, the ACCC decided to continue with a criteria-based approach to determine whether deregulation of particular routes and ESAs is appropriate, recognising that there is scope to review the criteria based on developments in the market since the previous declaration inquiry.

6.3.2. Competition assessment criteria

The 2014 competition assessment methodology required that ESAs that had met the infrastructure requirements would also be subject to a quantitative assessment of the level of demand as an indicator (in conjunction with other criteria) that competition for transmission services was likely to develop. The assessment utilised indicators of retail activity to measure indirectly, the extent of demand for the relevant transmission services.

Further conditions in the 2014 methodology included qualitative criterion to gauge the level of price competition and the stipulation that at least one provider, other than Telstra, was providing active services to consider an ESA suitable for deregulation.

Specifically, the ACCC identified ESAs or routes for deregulation on the basis of there being a minimum of three fibre providers (that is, Telstra plus two other transmission providers) present at, or within close proximity to, a Telstra exchange. Once this initial threshold was met, the ACCC subsequently applied a suite of additional quantitative and qualitative criteria to those routes and ESAs.

The ACCC sought submissions on whether the competition criteria remained appropriate to assess current levels of competition on declared inter-capital, metropolitan and regional routes.

VHA considered that the existing suite of competition criteria remains appropriate.[84]

Optus submitted that the number of transmission providers on a given route is not the determining factor when assessing the level of competition, as there is no guarantee that the

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[83] Telstra 2018a, p. 6; VHA 2018a, p. 2; NBN Co 2018, p. 4; Compete 2018, p. 5; Telstra 2018b, p. 9.

[84] VHA 2018a, p. 7.

mere presence of vertically-integrated suppliers would result in competitive wholesale transmission prices.[85]

Telstra supported the review of the competition criteria to reflect current market dynamics. In relation to the methodology Telstra considered that:

- non-traditional providers should be included in the assessment
- the requirement of a provider's close proximity to an exchange should be replaced by the provider's presence anywhere in the ESA
- connectivity to a capital city CBD should remain as a condition only if regional transmission providers are included in the assessment
- an assessment of the level of demand based on the number of SIOs and DSLAMs is increasingly irrelevant with the rollout of the NBN and an alternative measure for demand is not required, and
- the competition assessment should include leased capacity.[86]

Commpete submitted that given the current dominance of vertically-integrated providers, clear evidence of current competitive wholesale supply of transmission services is required in order to conclude that competition exists.[87]

NBN Co noted the potential for connection costs to be a barrier to the supply of transmission services at a Telstra exchange. In this context, it queried whether 'proximity to a Telstra exchange' may overstate the competitive tensions at an exchange.[88]

Draft Report

The ACCC reached the preliminary view that population density, the number of fixed-line SIOs and DSLAMs at an exchange had become less reliable indicators of demand, as many services had been migrated to the NBN or were in transition from local exchanges to the NBN POIs.

However, the Draft Report proposed to maintain the key elements of the 2014 competition assessment methodology, that is:

- presence of at least three competing fibre providers
- providers need to be located at, or in a close proximity to, a Telstra exchange
- providers' fibre needs to be connected to a capital city CBD
- at least one non-Telstra provider supplying (or having supplied) services at the ESA, and/or
- other qualitative assessments that the provision of transmissions is likely to occur. This includes evidence of the potential for price based competition.

Submissions to the Draft Report

In its submission to the Draft Report, Telstra:

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85 Optus 2018b, p. 6.

86 Telstra 2018b, p. 9.

87 Commpete 2018, p. 9.

88 NBN Co. 2018, p. 4.

- supported the ACCC's retention of a criteria-based approach, the simplification of the competition assessment methodology and the proposed deregulation of further 137 metro ESAs and 27 regional ESAs
- accepted the rational for the ACCC to retain the CBD connectivity requirement, but considered that non-traditional providers (such as electricity or rail companies) should be considered in the competition assessment
- noted that there were new and impending fibre infrastructure developments in Queensland (that is, Nexium's 10Gbps Cairns-Brisbane backbone and the Queensland Government's "FibreCo QLD" project) which should be considered as part of the competition assessment, and
- considered that the ACCC should make the details of its competition assessment available to all the parties concerned.[89]

Optus does not agree with a competition criteria based on the number of competing service providers serving a particular route. Optus argues that market consolidation implies that a number of small providers have been integrated into one of the big four vertically-integrated operators and therefore the existence of three or more providers does not ensure that there is enough competitive tension.

Further, Optus considered that given the proposed changes to the service description, it would not be in the LTIE to increase the number of exempt exchanges. Optus considers that deregulation would be further complicated by the fact that services are in transition to the NBN.

Finally, Optus submitted that as industry consolidation has weakened competition in the market for wholesale transmission services, there is a case for the re-regulation of all routes, or at least for maintaining the current level of deregulation to ensure continuity and industry certainty.[90]

ACCC's decision

The ACCC remains of the view that population density, number of SIOs and the number of DSLAMs at an exchange have become less reliable indicators of demand for transmission services, as services are being migrated from local exchanges to NBN POIs.

The ACCC has also decided to retain the key requirements of the 2014 competition assessment methodology, that is:

- at least three competing fibre providers
- providers need to be located at, or in a close proximity to, a Telstra exchange
- the provider's fibre needs to be connected to a capital city CBD
- at least one non-Telstra provider must be supplying (or must have supplied) services at the ESA, and/or
- other qualitative assessments that the provision of transmissions is likely to occur. This includes evidence of existing commercial activity and the potential for price based competition.

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89 Telstra 2019, pp.5-6

90 Optus 2019, p.7

The ACCC notes that the competition methodology does not distinguish between 'established' and 'non-traditional' providers. As such, the ACCC sees no merit in identifying 'classes' of providers subject to differentiated requirements in terms of connectivity to a capital city CBD, or any other of the requisites set out in the methodology.

The ACCC also notes that the infrastructure-based assessment relies on information available from the latest Infrastructure Record Keeping Rules reports.[91] The ACCC acknowledges that given the reports are compiled on a yearly basis, a number of infrastructure projects may be under development since the last reports were provided. However, the ACCC is of the view that the extent of recent or developing infrastructure is likely not to be material and would not change the outcome of the competition assessment.

Finally, the ACCC is not convinced by Optus' argument that market consolidation lessens the value of the 'three or more' provider criterion in the competition assessment, on the basis that they are likely to be vertically-integrated and as such have incentives to exclude potential competitors in downstream markets. The ACCC acknowledges that many providers on a particular route may be vertically-integrated. However, the ACCC does not have evidence of exclusionary behaviour by those carriers. On the contrary, a vast amount of contract data obtained by the ACCC shows significant commercial activity in areas served by three or more of the main transmission providers. The data supports the ACCC's premise that the competitive threat posed by at least two other transmission providers substantially limits an access provider's ability to exert 'exclusionary behaviour' on access seekers.

After considering submissions, the ACCC has decided to maintain the revised methodology as proposed in the Draft Report. An outline of this methodology is provided at Appendix 5.

6.3.3. Applying the revised competition methodology

In the Draft Report the ACCC applied a revised methodology to ESAs to determine whether an ESA should be deregulated. This methodology is outlined in the table below:

Table 2: The 2018 competition assessment methodology

Step	Criterion	Description
Step 1:	Count of Fibre providers:	Minimum of Telstra plus two other independent providers at an ESA.
Step 2:	Point of interconnection:	Providers need to be located at, or in a close proximity to, a Telstra exchange.
Step 3:	Connectivity to a CBD:	The providers' fibre needs to be connected to a Capital City CBD
Step 4:	Evidence of non-Telstra transmission services:	At least one non-Telstra provider supplying services at the ESA
Step 5:	Any other relevant consideration for deregulation.	This includes consideration of the level of urban development, the geographic terrain or the existence of a major transmission route within the ESA.

[91] The assessment is based on the 2018 Infrastructure RKR reports. The 2019 reports will be due concurrently with the finalisation of this declaration review and as such, they cannot be used to inform of the ACCC's final decision.

In applying the proposed competition assessment to currently deregulated ESAs, the ACCC found that all deregulated ESAs meet the requirements in the proposed test. The ACCC's preliminary view was that those routes should remain excluded from the scope of regulation.

The Draft Report also noted that when the ACCC applied the proposed methodology to currently regulated areas, the ACCC identified:

- 137 additional metropolitan ESAs satisfying the criteria in the proposed competition methodology (listed in Table 3 below).
- 27 additional regional ESAs satisfying the requirements in the proposed competition assessment (listed in Table 4 below).

The Draft Report therefore proposed the deregulation of those additional 137 metro and 27 regional ESAs that satisfied the assessment criteria.

No submissions were received in relation to the additional metropolitan and regional areas proposed for deregulation.

ACCC's decision

The ACCC maintains the view that the ESAs identified in Table 3 and Table 4 below meet all the criteria set out in the competition assessment and should be deregulated. **Appendix 6** lists the ESAs that meet the competition criteria and will be regulated from 1 January 2020.

Table 3: New deregulated metropolitan ESAs in each capital city from 1 January 2020

Deregulated Metropolitan Areas	ESA names
Sydney	Avalon Beach, Blakehurst, Five Dock, Horsley Park, Kellyville, Lindfield, Matraville, Menai, Mona Vale, Narellan, Northbridge, Orchard Hills, Rooty Hill, Sefton, South Strathfield, Sylvania, Terrey Hills, Vaucluse, Windsor
Brisbane	Ascot, Ashgrove, Aspley, Bald Hills, Brisbane Airport, Camp Hill, Darra, Jamboree Heights, Kallangur, Lytton, Newmarket, Nudgee, Pinkenba, Redcliffe, Sandgate, Sherwood, Strathpine, Wacol
Melbourne	Balaclava, Bayswater, Box Hill, Broadmeadows, Bulleen, Campbellfield, Clayton, Cranbourne, Cranbourne North, Dandenong North, Dandenong South, Deer Park, Doncaster, Fawkner, Glenroy, Hallam, Hartwell, Heatherton, Ivanhoe, Jordanville, Karingal, Kew, Keysborough, Lilydale, Lyndhurst, Lysterfield, Maidstone, Mount Eliza, Newport, Reservoir, Scoresby, Somerton, South Morang, Springvale, St Albans, Tarneit, Werribee, West Essendon, Williamstown
Perth	Applecross, Armadale, Ascot, Attadale, Balcatta, Ballajura, Bassendean, Canning Vale, Freemantle, Hamersley, Jandakot, Jandakot South, Joondalup, Kelmscott, Kewdale, Kingsley, Landsdale, Maddington, Manning, Midland, Morley, Mount Hawthorn, Mullaloo, Munster, Nedlands, Palmyra, Riverton, Scarborough, South Coogee, Spearwood, Tuart Hill, Wanneroo, Wembley
Adelaide	Blackwood, Brooklyn Park, Coromandel Valley, Edwardstown,

	Elizabeth, Glenelg, Glenunga, Hampstead, Henley Beach, Lonsdale, Modbury, North Adelaide, Osborne, Paradise, Port Adelaide, Prospect, Reynella, Semaphore, Woodville
Canberra	Barton, Belconnen, Deakin, Fyshwick, Manuka, Mawson, Melba, Queanbeyan, Scullin

Table 4: New deregulated regional ESAs in each state

State	**Deregulated Regional Areas/Routes**	**ESAs included**
New South Wales	Beaudesert	Tweed Heads
	Newcastle	Maitland,
	Gosford	Berkeley Vale, Erina, Wyong
	Wauchope	Port Macquarie
Victoria	Ballarat	Horsham, Mount Clear
	Geelong	Belmont
	Wangaratta	Wangaratta
	Warragul	Pakenham
Queensland	Beaudesert	Burleigh Heights, Currumbin
	Brisbane	Bundamba, Caboolture, Ormeau, Springfield, Waterford
	Caboolture	Wurtulla
	Nambour	Nambour
	Townsville	Gulliver
South Australia	Adelaide	Seaford
	Gawler	Gawler
Western Australia	Pinjarra	Baldivis, Medina, Pinjarra, Rockingham

6.4. Access to facilities for the DTCS

Carriers must be able to connect their network and equipment with other carrier networks and equipment so that they are able to provide telecommunications services to end-users. Accordingly, efficient and unhindered access to facilities, such as interconnecting cables in the TEBA space, is necessary for service providers to interconnect their equipment and access the DTCS.

In addition, to access the NBN service, access seekers may need to interconnect their existing transmission infrastructure from the TEBA space to the NBN co-allocated exchange space. With 111 of the 121 NBN POIs located in Telstra exchanges, access to transmission capacity should not be hindered due to the location of these services in a Telstra exchange.

Some stakeholders identified potential issues in relation to access to TEBA space when inter-connecting to third party transmission networks. In particular, Optus noted that the problem of interconnecting between unregulated transmission links and regulated tail-ends arises due to the mix of exempt and non-exempt routes and technical limitations of Telstra's TEBA product which prevents an access seeker connecting non-Telstra wholesale transmission with Telstra wholesale transmission links.[92]

ACCC view

The ACCC is of the view that competition is promoted in markets for the DTCS where access to the relevant facilities is enabled in a timely and cost-effective manner.

The ACCC considers that the issue of interconnection at TEBA space has been addressed by the clarification of the definition of 'point-of-interconnect' in the DTCS service description.

The ACCC will continue to monitor the market for any barrier to access to facilities that may hinder the supply of the DTCS.

[92] Optus 2018b, p. 4.

7. Assessment against the LTIE

Key points

- **Retaining regulation on routes that do not meet the competition criteria and removing regulation where competitive conditions are appropriate will promote competition in the relevant markets.**
- **Regulation of DTCS routes which lack competition and deregulation of competitive routes will not impede the achievement of any-to-any connectivity between end-users.**
- **Deregulation of routes where there is effective competition will likely provide incentives for other transmission providers to invest in their own infrastructure.**
- **Continued regulation of less competitive routes will encourage competition in downstream markets and the efficient use of infrastructure.**

The ACCC may declare a service if it is satisfied that declaration would promote the LTIE. In order to determine whether the LTIE is promoted, the ACCC has regard to the extent to which extending, varying or revoking the existing declaration is likely to result in the achievement of the objectives of:

- the promotion of competition in markets for listed services
- achieving any-to-any connectivity in relation to carriage services that involve communication between end-users, and
- the economically efficient use of, and the economically efficient investment in, the infrastructure by which carriage services are supplied and any other infrastructure by which carriage services are, or are likely to become, capable of being supplied.[93]

The legislative background to this regulatory test is contained in Appendix 1 to this Report.[94]

7.1. Promoting competition

When conducting a declaration inquiry, the ACCC is required under subsection 152AB(2) of the CCA to consider whether declaration of a service is likely to promote competition in relevant markets. The ACCC's approach to market definition in the context of this declaration inquiry has been discussed in Section 4 of this Final Report.

In assessing the state of competition, the ACCC considers dynamic factors such as the potential for sustainable competition to emerge and the extent to which the threat of entry (or expansion by existing suppliers) constrains pricing and output decisions. The state of competition in relevant markets has been discussed in Section 6 of this Report.

To determine whether the LTIE will be better promoted with or without declaration, the ACCC is required to consider the effects of regulated access to particular services in each

[93] See section 152AB of the CCA.

[94] For further guidance about the declaration process and the ACCC's general approach to declaration decisions, see ACCC, 'A guideline to the declaration provisions for telecommunications services under Part XIC of the *Competition and Consumer Act 2010*', Canberra, 2016.

relevant market, as well as make an overall assessment of the benefits expected to flow to end-users from declaration.

As part of the inquiry, the ACCC consulted with stakeholders on the extent to which regulation of DTCS promoted the LTIE.

Telstra considered that the LTIE would be best served if the DTCS was retained in substantially the same terms, at least until the end of the NBN rollout, as the current settings have promoted supply competition.[95] ACCAN noted that continued regulation of the DTCS would promote competition in mobile markets.[96] Commpete noted that in the absence of declaration of the DTCS, competition in downstream markets would be reduced.[97] Optus noted that declaring multiple transmission services would promote the LTIE through promoting competition in downstream markets by enabling wholesale inputs to better reflect the true cost of supply.[98] VHA noted that the availability of the DTCS remains critical to downstream competition in relevant markets. [99]

Stakeholders did not make further submissions in response to the Draft Report.

ACCC's view

The ACCC considers that deregulation in areas/routes where infrastructure-based competition is developing or has the potential to develop, creates incentives for new providers to enter the market further promoting the emergence of competition. The new service description set out at Appendix 4 contains a list of the areas identified as a result of applying the revised competition criteria

7.2. Achieving any-to-any connectivity

Any-to-any connectivity is achieved only if each end-user is able to communicate with other end-users supplied with the same service or a similar service, whether or not the end-users are connected to the same telecommunication network.[100]

In determining whether to remake, vary or extend the current declaration, the ACCC has made an assessment as to whether this is likely to achieve any-to-any connectivity in relation to carriage services that involve communication between end-users.

Some stakeholders submitted views on the relevance of declaration of the DTCS for the achievement of any-to-any connectivity.

VHA considered the DTCS an essential input into a range of communications services.[101] ACCAN considered the DTCS important for mobile connectivity in regional, rural and remote Australia.[102] Commpete noted that in the absence of declaration of the DTCS retails service providers would be unable to offer a full range of services to existing customers in certain areas, potentially limiting any-to-any connectivity. [103]

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95 Telstra 2018a, p. 2.
96 ACCAN 2018, p. 5
97 Commpete 2018, p. 1.
98 Optus 2018a, p. 3.
99 VHA 2108a, p. 2.
100 CCA, s.152AB(8).
101 VHA 2018a, p. 2.
102 ACCAN 2018, p. 5.
103 Commpete 2018, p. 1.

ACCC's views

The ACCC considers that regulation of DTCS routes where competition is not effective will ensure continued any-to-any connectivity between services. Conversely, the ACCC is convinced that deregulation of competitive routes would not impede the achievement of any-to-any connectivity between end-users.

The ACCC also notes that in order to achieve the objective of any-to-any connectivity in relation to the DTCS, access seekers need to access network facilities such as Telstra's TEBA space, as without this access, carriers may be limited in their ability to interconnect their network with other carrier networks to provide services.

7.3. Encouraging the economically efficient use of, and economically efficient investment in, infrastructure

In assessing whether to extend, vary or allow the current declaration to expire the ACCC has considered whether any of those actions is likely to encourage the economically efficient use of, and economically efficient investment in:

- infrastructure by which listed services are supplied, and
- any other infrastructure by which listed services are, or are likely to become, capable of being supplied.[104]

In considering this objective, the ACCC must have regard to the following matters:

- the technical feasibility of supplying and charging for the eligible service
- the legitimate commercial interests of the access provider
- incentives for investment in infrastructure to supply eligible services, and
- incentives for investment in infrastructure which could be used to supply the eligible service and the risks involved in making the investment.[105]

The key matter is whether deregulating would create an environment whereby the participants have increased incentives to undertake efficient use of, and efficient investment in, infrastructure.

In submissions to the Discussion Paper, Telstra considered that the LTIE would be best served if the DTCS was retained in substantially the same terms, at least until the end of the NBN rollout, as the current settings have promoted investment and innovation to deliver market provision.[106] VHA noted that there is still a critical need for regulation of the DTCS, particularly in regional and remote locations where investment in infrastructure for the provision of DTCS services has been in decline.[107] ACCAN noted that regulation of the DTCS would likely encourage investment in mobile backhaul.[108] Optus considered that declaring the DTCS would encourage both the efficient use of, and investment in, infrastructure through setting more efficient price signals that better reflect build-buy

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[104] Sub-section 152AB(2)(e) of the CCA.

[105] Sub-section 152AB(6) of the CCA.

[106] Telstra 2018a, p. 3.

[107] VHA 2018a, p. 1.

[108] ACCAN 2018, p. 5.

decisions.[109]Commpete noted that in the absence of declaration the economically efficient use of, and investment in, infrastructure would be undermined as the full potential of the NBN to foster retail competition would not be realised and incentives for inefficient duplication of infrastructure may be created.[110]

ACCC's view

The ACCC is of the view that incentives for efficient investment in existing and new infrastructure are predominantly driven by demand for transmission services and the potential return on investment from providing those services.

The ACCC considers that the removal of regulation is likely to provide the incentive for new access providers to invest in infrastructure to capture part of the market and for access seekers to seek out alternative suppliers. The ACCC is cognisant of the risks of undertaking new investment but considers that this risk is reduced where fibre providers are already located within very close proximity to an exchange.

While the ACCC recognises that there has been some investment in transmission infrastructure since the last declaration review of the DTCS, some areas of Australia continue to remain underserved by alternative DTCS providers, and will likely continue to be supplied only by the incumbent or one other provider. Maintaining regulation in these areas, where investment in new transmission services is less likely, will enable access to DTCS services on terms of access that approach commercially negotiated terms in competitive areas.

The ACCC is convinced that retaining regulation of the DTCS in those areas which do not meet the competition assessment thresholds, encourages the efficient use of existing infrastructure (i.e. the incumbent's network).

The ACCC notes that the NBN has the potential to change the market dynamics in a way that will promote further investment, by increasing the volume of traffic that will be carried on transmission networks, facilitating prospective entrants' development of economies of scale.

The ACCC notes that 109 NBN POIs will be located in deregulated areas once the new declaration is in place. The ACCC anticipates that additional investment will be encouraged by the increasing aggregation of demand around POIs. The ACCC will be able to assess whether this will lead to a further winding-up of regulation once the migration of services to the NBN is completed.

8. Length of the declaration

Key points

- **The declaration of the DTCS will be extended for five years.**
- **A transitional period will apply before the varied service description takes effect.**
- **The varied service description is to take effect from 1 January 2020 (that is, from the day after the current DTCS FAD expires).**

[109] Optus 2018a, p. 3.

[110] Commpete 2018, p. 1.

The Telecommunications Access Regime in the CCA establishes the general principle that the length of a declaration should be for a period of three to five years, commencing from the time that the declaration was first made. However, where circumstances warrant, the legislation permits there to be a shorter or longer duration.[111] This is intended to enable the ACCC to provide longer-term regulatory certainty, where appropriate, in order to promote competition and investment.[112]

Stakeholders' views on the length of the declaration were mixed.

VHA[113] NBN Co[114] and Commpete[115] stated that the declaration should be for five years.

Telstra considered that, if the DTCS was re-declared, the regulatory period should only be for three years, as a shorter term would enable reconsideration of the requirement for DTCS regulation once the NBN has been rolled out.[116]

ACCC view

Length of declaration

The ACCC recognises that the telecommunications industry is likely to experience considerable transformation in the medium term, particularly as the NBN rollout is finalised and the industry adjusts to new technology and business models.

In this context, the ACCC considers that the length of the DTCS declaration should strike an appropriate balance between providing stakeholders with regulatory certainty and enabling the regulatory regime to respond flexibly to industry changes.

The ACCC's view is that this balance can be effectively achieved through a further five-year declaration period, during which, an inquiry to amend the declaration could be commenced at any time if circumstances change.

In consequence, the ACCC has decided to extend the DTCS declaration for a further five-year period.

Transitional arrangements

To provide stakeholders with sufficient time to accommodate to changes to the scope of regulation as a result of this final decision, the ACCC has decided that:

- the existing service description (as set out at Appendix 3) be maintained for a transitional period of nine months up until 31 December 2019, and
- the varied DTCS service description (as set out in Appendix 4) take effect from 1 January 2020.

The ACCC will commence an inquiry into the new DTCS FAD in 2019, with a new access determination to commence concurrently with the new declaration on 1 January 2020.

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111 Section 152ALA(2)

112 Explanatory Memorandum to the *Telecommunications Legislation Amendment (Competition and Consumer Safeguards) Act 2010*, p.167.

113 VHA 2018a, p. 9 and VHA 2019, p.1

114 NBN Co 2018, p. 5.

115 Commpete 2018, p. 10.

116 Telstra 2018a, p. 16.

Appendix 1 - Legislative framework and the LTIE

Part XIC of the CCA sets out a telecommunications access regime. The access regime aims to promote the LTIE of telecommunications services by promoting competition through connectivity of any user to any other user no matter whose infrastructure is utilised for that purpose. The ACCC may declare an eligible service, making it subject to regulation under the Part XIC access regime.

An eligible service is a carriage service or a service that facilitates the supply of a carriage service.[117] A carriage service is defined in the *Telecommunications Act 1997* as a service for carrying communications by means of guided and/or unguided electromagnetic energy.[118] This includes communications services, such as telephone and internet services, that are provided using fixed-lines, satellite-based facilities, mobile towers and certain radio communications links. The unconditioned local loop service is an example of a carriage service, while services providing access to facilities (such as ducts and exchange space) are examples of services that facilitate the supply of carriage services.

Once a service is declared, an access provider (typically an infrastructure operator) that supplies the declared service to itself or others must also supply the service, upon request, to service providers (or access seekers) in accordance with the standard access obligations set out in section 152AR of the CCA. The ACCC must also commence a public inquiry into making an access determination for that service. The access determination may include a broad range of terms and conditions but must specify price or a method of ascertaining price.[119]

Declaration inquiries

Section 152AL(3) allows the ACCC to declare a specified eligible service if it:

- holds a public inquiry about its proposal to make a declaration
- prepares a report about the inquiry
- publishes that report within a 180 day period before any declaration is made, and
- is satisfied that the making of the declaration will promote the LTIE of carriage services or of services provided by means of carriage services.

Prior to commencing a public inquiry about a proposal to declare a service that is not already declared, the ACCC must consider whether to hold a public inquiry for an equivalent service that is supplied or capable of being supplied by a specified NBN corporation.[120]

Where a service is already declared, under section 152ALA(7), the ACCC must commence an inquiry during the 18 months prior to the expiry of the declaration and determine whether to:

- extend, revoke or vary the declaration
- allow the declaration to expire without making a new declaration

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[117] Where the service is supplied, or capable of being supplied, by a carrier or carriage service provider (whether to itself or other persons). CCA, subsection 152AL(1).

[118] *Telecommunications Act 1997*, section 7.

[119] CCA, subsections 152BC(3) and 152BC(8).

[120] CCA, subsections 152AL(3B) and 152AL(8A).

- allow the declaration to expire and then make a new declaration under section 152AL, or
- extend the declaration by a period of not more than 12 months and allow the declaration to expire without making a new declaration.

The ACCC can combine two or more public inquiries about proposals to declare services.[121]

Declaration ensures service providers have access to the inputs they need to supply competitive communications services to end-users on terms and conditions that promote the LTIE.

In deciding whether declaring the service would promote the LTIE, under section 152 AB(2), the ACCC must have regard to the extent to which declaration is likely to result in the achievement of the following three objectives:

- promoting competition in markets for listed services (which includes carriage services and services supplied by means of carriage services)
- achieving any-to-any connectivity (the ability of end-users on a particular network to communicate with end-users on any other network), and
- encouraging the efficient use of and investment in infrastructure by which the service is supplied, or are capable of being supplied.[122]

Once a service is declared:

- an access provider supplying the declared service to itself or another person must also supply the service, upon request, to service providers in accordance with the standard access obligations set out in section 152AR, and
- the ACCC must commence a public inquiry within 30 days regarding making an access determination for that service.[123] Access determinations can cover a broad range of terms and conditions but must specify price or a method of ascertaining price.[124]

The ACCC's approach to the LTIE test

The test under subsection 152AL(3) of the CCA is that the ACCC is satisfied that the making of the declaration will promote the LTIE. The subsection does not require the ACCC to be satisfied to a particular standard or require there to be an overwhelming case for declaration.

Consistent with previous declaration decisions, in deciding whether declaring the service would promote the LTIE, the ACCC will have regard to:

- the promotion of competition
- achieving any-to-any connectivity, and
- encouraging efficient use of, and investment in, infrastructure.

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121 CCA, section 152AN.

122 CCA, subsection 152AB(2). In determining the extent to which a particular thing is likely to result the achievement of promoting competition and encouraging the economically efficient use of, and the economically efficient investment in, the infrastructure, and achieving any-to-any connectivity, regard must be had to other matters listed in subsections 152AB(4), (6) and (7) CCA.

123 CCA, subsection 152BCI(1).

124 CCA, subsections 152BC(3) and 152BC(8).

Promoting competition

Competition is the process of rivalry between firms, where each firm is constrained in its price and output decisions by the activity of other firms. Competition benefits consumers (the end-users) through lower prices, the level of service quality preferred by end-users, and a greater choice of services.

Competition may be inhibited where the structure of the market gives rise to market power. Market power is the ability of a firm or firms to constrain or manipulate the supply of products from the levels and quality that would be observed in a competitive market for a significant period of time.

An access regime such as Part XIC addresses the structure of a market, limiting or reducing the sources of market power, by allowing third parties to negotiate access to certain services on reasonable terms and conditions. Competition is promoted when market structures are altered such that the exercise of market power becomes more difficult. For example, barriers to entry may have been lowered (permitting more efficient competitors to enter a market and thereby constraining the pricing behaviour of the incumbents) or because the ability of firms to raise rivals' costs is restricted.

Subsection 152AB(4) of the CCA provides that, in determining the extent to which declaration is likely to result in the objective of 'promoting competition', regard must be had (but is not limited) to the extent to which declaration will remove obstacles to end-users of listed services gaining access to listed services.

Denying service providers access to necessary wholesale services on reasonable terms is a significant obstacle to end-users gaining access to services. Declaration can remove such obstacles by facilitating the entry of service providers, which promotes competition in markets supplying end-users.

When conducting a declaration inquiry, the ACCC is required under subsection 152AB(2) of the CCA to consider whether declaration of a service is likely to promote competition in relevant markets. The ACCC's approach to assessing this objective involves defining the relevant markets and assessing the level of competition in those markets. These concepts are explained below.

Identifying relevant markets

Section 4E of the CCA provides that the term "market" means a market in Australia for the goods or services under consideration, as well as any other goods or services that are substitutable for, or otherwise competitive with, those goods or services. The ACCC's approach to market definition is discussed in the ACCC's 2008 merger guidelines.[125]

Accordingly, substitution is key to market definition. The ACCC's approach to market definition in the 2008 merger guidelines focuses on two dimensions of substitution – the product dimension and the geographic dimension.[126]

Substitution involves switching from one product to another in response to a change in the relative price, service or quality of the product that is the subject of the inquiry. There are two types of substitution:

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[125] ACCC, *Merger guidelines*, November 2008 (as amended in November 2017).

[126] ibid, pp. 15–19.

- demand-side substitution, which involves customer switching, and
- supply-side substitution, which involves supplier switching.

There may be associated switching costs or difficulties which, if significant, can impede the substitutability of products.

When considering whether a product is substitutable, the ACCC may consider customer attitudes, the function or end use of the technology, past behaviours of buyers, relative price levels, and physical and technical characteristics of a product.[127]

Delineation of the relevant geographic markets involves the identification of the area or areas over which a carrier or carriage service provider (CSP) and its rivals currently supply, or could supply, the relevant product.

Part XIC of the CCA does not require the ACCC to precisely define the scope of the relevant markets in a declaration inquiry. The ACCC considers that it is sufficient to broadly identify the scope of the relevant market(s) likely to be affected by the declaration. Accordingly, a market definition analysis under Part XIC should be seen in the context of shedding light on how declaration would or would not promote competition and the LTIE in those markets.

Assessing the state of competition

Once the relevant markets have been defined, the next step in the analysis is to assess the state of competition in relevant markets. If competition is determined to be effective, then declaration of the eligible services is generally not likely to have an effect in terms of promoting further competition or the LTIE. In assessing the state of competition, the ACCC considers dynamic factors such as the potential for sustainable competition to emerge and the extent to which the threat of entry (or expansion by existing suppliers) constrains pricing and output decisions.

At the theoretical level, the concept of 'perfect competition' describes a market structure in which no producer or consumer has the market power to influence prices. Economic theory suggests that perfectly competitive markets have a large number of buyers and sellers, goods or services are perfect substitutes, all firms and consumers have complete knowledge about the pricing/output decisions of others and all firms can freely enter and exit the relevant market. In reality, these conditions are rarely found in any market or industry, even those where competition between rival firms is relatively intense.

The concept of 'effective competition' recognises the practical limitations of the theory of perfect competition, especially when applied to telecommunications markets. Some characteristics of effective competition are that it:

- is more than the mere threat of competition – it requires that competitors are active in the market, holding a reasonably sustainable market position[128]
- requires that, over the long run, prices are determined by underlying costs rather than the existence of market power
- requires that barriers to entry are sufficiently low and that the use of market power will be competed away in the long run, so that any degree of market power is only transitory

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[127] A useful list of information the ACCC may consider when identifying close substitutes to the relevant product is contained in the 2008 Merger Guidelines, pp. 16-17.

[128] Olivier Boylaud and Biuseppe Nicoletti, *Regulation, market structure and performance in telecommunications*, OECD Economics Studies, no. 32, 2001/1.

- requires that there be 'independent rivalry in all dimensions of the price/product/service [package]',[129] and
- does not preclude one party from holding a degree of market power from time to time but that power should 'pose no significant risk to present and future competition'.[130][131]

These five factors are indicators of the extent to which competition constrains market participants to supply products and services of a given quality at prices that are based on efficient costs.

When assessing whether effective competition exists in a relevant market, the ACCC examines certain structural and behavioural factors in the market, including but not limited to:

- structural factors, including the level of concentration in the market
- the potential for the development of competition in the market including planned entry, the size of the market and the existence and height of barriers to entry, expansion or exit in the relevant market
- the dynamic characteristics of the market, including growth, innovation and product differentiation as well as changes in costs and prices over time, and
- the nature and extent of vertical integration in the market.

Our assessment of the current state of competition during this review will be used to assist us in determining whether declaration would promote the LTIE.

Assessing the impact of the declaration on relevant markets

The next step is to assess the likely effect of the proposed declaration on competition in each relevant market. As noted above, subsection 152AB(4) requires regard to be had to the extent to which a particular thing will remove obstacles to end-users gaining access to listed services.

The ACCC generally considers it helpful to apply the future with and without test as one way to determine whether the LTIE will be promoted by declaration. The test will compare the likely future situation if the service was declared and the likely future situation without the service declaration before deciding which situation will promote the LTIE.

Any-to-any connectivity

The objective of any-to-any connectivity is achieved when each end-user is able to communicate with other end-users, whether or not they are connected to the same telecommunications network.[132]

The any-to-any connectivity requirement is particularly relevant when considering services that require interconnection between different networks. When considering services which do not require user-to-user connections (such as carriage services that are inputs to an end-

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129 Re Queensland Co-operative Milling Association Ltd and Defiance Holding Ltd (1976) *25 FLR 169*.

130 This is not intended to be an exhaustive list of the characteristics of effective competition.

131 ACCC Superfast Broadband Access Service declaration inquiry: Discussion paper May 2015 Available at https://www.accc.gov.au/regulated-infrastructure/communications/superfast-broadband-accessservice-declaration-inquiry/discussion-paper

132 CCA, subsection 152AB(8).

to-end service or distribution services, such as the carriage of pay television), this criterion is generally less of an issue.

Efficient use of and investment in infrastructure

In determining the extent to which declaration is likely to encourage the economically efficient use of, and investment in, infrastructure, subsections 152AB(6) and (7) of the CCA provide that regard must be had (but is not limited) to the technical feasibility of providing and charging for the services, the legitimate commercial interests of the supplier(s) of the services, and the incentives for investment in infrastructure.

Economic efficiency has three components:

- *Productive efficiency* refers to the efficient use of resources within each firm to produce goods and services using the least cost combination of inputs.
- *Allocative efficiency* is the efficient allocation of resources across the economy to produce goods and services that are most valued by consumers.
- *Dynamic efficiency* refers to efficiencies flowing from innovation leading to the development of new services or improvements in production techniques. It also refers to the efficient deployment of resources between present and future uses so that the welfare of society is maximised over time.

Facilitating access plays an important role in ensuring that existing infrastructure is used efficiently where it is inefficient to duplicate the existing networks or network elements. An access regime must not discourage investment in networks or network elements where such investment is efficient.

Paragraph 152AB(6)(a) requires the ACCC to have regard to a number of specific matters in examining whether declaration is likely to lead to achievement of the objective in paragraph 152AB(2)(e).

Technical feasibility

In assessing the technical feasibility of supplying and charging for a service, the ACCC considers:

- the technology that is in use, available or likely to become available
- whether the costs that would be involved are reasonable or likely to become reasonable, and
- the effects or likely effects of supplying and charging for the service on the operation or performance of telecommunications networks.

The ACCC assesses the technical feasibility of supplying the relevant service by examining the access provider's ability to provide the service and considering experiences in other jurisdictions. The ACCC will look to an access provider to assess whether it is technically feasible to supply the relevant service, and will also consider experiences in other jurisdictions.

The legitimate commercial interests of the supplier

An infrastructure operator's legitimate commercial interests relate to its obligations to the owners of the firm, including the need to recover the costs of providing services and to earn a normal commercial return on the investment in infrastructure. Allowing for a normal commercial return on investment provides an appropriate incentive for the access provider to maintain, improve and invest in the efficient provision of the service.

Paragraph 152AB(6)(b) of the CCA also requires the ACCC to have regard to whether providing access may affect the infrastructure operator's ability to exploit economies of scale and scope. Economies of scale arise from a production process in which the average (or per unit) cost of production decreases as the firm's output increases. Economies of scope arise where it is less costly for one firm to produce two (or more) products than it is for two (or more) firms to each separately produce the relevant products.

Declaration may be more likely to impact on an infrastructure operator's ability to exploit economies of scope than economies of scale. A limit in the capacity available to the owner may constrain the number of services that the owner is able to provide using the infrastructure and thus prevent the realisation of economies of scope associated with the production of multiple services. In contrast, economies of scale derive from the use of the capacity of the network and can be realised regardless of whether that capacity is being used by the owner or by other carriers or carriage service providers. The ACCC assesses the effects on an infrastructure operator's ability to exploit both economies of scale and scope on a case-by-case basis.

Incentives for investment

Infrastructure operators should have the incentive to invest efficiently in the infrastructure by which the services are supplied (or are capable, or likely to become capable, of being supplied). In determining incentives for investment, regard must be had (but is not limited) to the risks involved in making the investment.[133]

Access regulation may promote efficient investment in infrastructure by avoiding the need for access seekers to duplicate existing infrastructure where duplication would be inefficient. It reduces the barriers to entry for competing providers of services to end-users and promotes efficient investments by these service providers in related equipment required to provide services to end-users.

Firms should have the incentive to invest efficiently in the infrastructure by which the services are supplied (or are capable, or are likely to become capable, of being supplied).

[133] CCA, subsections 152AB(7A) and (7B).

Appendix 2 - List of Submissions

Submissions to the ACCC DTCS declaration Discussion Paper

ACCAN, *DTCS – Submission by the Australian Communications Consumer Action Network to the ACCC*, April 2018.

Commpete, *DTCS ACCC Discussion Paper – March 2018 – Submission by Commpete*, May 2018.

Launtel, *Submission to ACCC DTCS 2018 consultation*, April 2018.

NBN Co, *Submission to ACCC – Review of Domestic Transmission Capacity Service Declaration – Discussion Paper*, April 2018.

Optus, *Submission in response to ACCC Discussion Paper – Declaration for the DTCS* (public version), April 2018a.

Optus, *Submission in response to ACCC Discussion Paper – Declaration for the DTCS* (confidential version), April 2018.

Telstra, *Review of the declaration for the DTCS – Telstra's response to the ACCC's discussion paper* (public version), April 2018a.

Telstra, *Review of the declaration for the DTCS – Telstra's response to the ACCC's discussion paper* (confidential version), April 2018.

VHA, *Declaration of the DTCS – Submission to the ACCC* (public submission), April 2018a.

VHA, *Declaration of the DTCS – Submission to the ACCC* (confidential version), April 2018.

Vocus, *Submission on the ACCC's discussion paper* (public version), April 2018a.

Vocus, *Submission on the ACCC's discussion paper* (confidential version), April 2018.

Submissions to the ACCC further consultation paper on updating the DTCS service description

Optus, *Submission in response to ACCC further consultation- Domestic Transmission Capacity (DTCS) service description*, September 2018b.

VHA, *ACCC further consultation on updating the DTCS service description*, September 2018b.

Vocus, *Submission on the ACCC's further discussion paper*, September 2018b.

Telstra, *Review of the declaration for the DTCS – Telstra's response to the ACCC's further discussion paper* (public version), September 2018b.

Telstra, *Review of the declaration for the DTCS – Telstra's response to the ACCC's further discussion paper* (confidential version), September 2018.

Submissions to the ACCC DTCS Declaration review – Draft Report

VHA, ACCC Draft Report on the DTCS Declaration Review, February 2019c.

Vocus, ACCC Draft Report on the review of the Declaration for the Domestic Transmission Capacity Service, February 2019c.

Optus, Submission in response to the ACCC Declaration Draft Report – Domestic Transmission Capacity Service, Public version, February 2019c.

Telstra, Review of the Declaration of the Domestic Transmission Capacity Service, Telstra's response to the ACCC's Draft Report, February 2019c.

Appendix 3 - Current DTCS service description

The domestic transmission capacity service is a service for the carriage of certain communications from one transmission point to another transmission point via symmetric network interfaces on a permanent uncontended basis by means of guided and/or unguided electromagnetic energy, including services provided on or over:

- inter-capital routes
- regional routes
- metropolitan routes, and
- tail-end routes

except communications between:

(a) one customer transmission point directly to another customer transmission point

(b) one access seeker network location directly to another access seeker network location

(c) in the case of inter-capital routes, a transmission point located at an exchange in a deregulated ESA within one capital city boundary to a transmission point located at an exchange in a deregulated ESA within another capital city boundary

Note: Refer to Table 1 for the exchange serving areas (ESAs) which are deregulated in each capital city and Table 3 for the boundaries of each capital city.

(d) in the case of regional routes, a transmission point located at an exchange in a deregulated regional ESA to a transmission point located at an exchange in a deregulated ESA in Sydney, Melbourne, Brisbane or Adelaide

Note: Refer to Table 1 for the ESAs which are deregulated in Sydney, Melbourne, Brisbane and Adelaide. Refer to Table 2 for the list of deregulated regional ESAs.

or

(e) in the case of metropolitan routes, transmission points located at an exchange between:

(1) any of the deregulated metropolitan ESAs in Sydney

(2) any of the deregulated metropolitan ESAs in Brisbane

(3) any of the deregulated metropolitan ESAs in Melbourne

(4) any of the deregulated metropolitan ESAs in Perth, or

(5) any of the deregulated metropolitan ESAs in Adelaide.

Note: Refer to Table 1 for the ESAs which are deregulated in each capital city.

The exceptions in paragraphs (c), (d) and (e) do not apply to any service that is comprised of an inter-capital, regional or metropolitan route that is bundled with or incorporates a tail-end route.

Definitions

Where words or phrases used in this Annexure are defined in the *Competition and Consumer Act 2010* or the *Telecommunications Act 1997*, they have the meaning given in those Acts.

an **access seeker network location** is a point in a network operated by a service provider that is not a point of interconnection or a customer transmission point

a **customer transmission point** is a point at which a service provider delivers a service to its own customers (either wholesale or retail). For the avoidance of doubt, a customer in this context may be another service provider

exchange means a telecommunications exchange and includes the land, buildings and facilities (within the meaning of section 7 of the *Telecommunications Act 1997* (Cth)) that comprise or form part of the exchange

exchange serving area or **ESA** means the area served from a traditional local exchange building

inter-capital route means a route from a transmission point within one capital city boundary to a transmission point within another capital city boundary in Adelaide, Brisbane, Canberra, Melbourne, Perth or Sydney. Capital city boundaries are listed in Table 3

metropolitan route means a route where both the transmission points for the beginning and end of the route are within the same capital city boundary. Capital city boundaries are listed in Table 3

network interfaces include, but are not limited to, Ethernet, Plesiochronous Digital Hierarchy (PDH) and Synchronous Digital Hierarchy (SDH) network interfaces used to provide a transmission rate of 2.048 Megabits per second or above which an access provider provides to itself or others

a **point of interconnection** is a physical point of interconnection in Australia between a network operated by a carrier or a carriage service provider and another network operated by a service provider

regional route means a route where either one or both of the transmission points for the beginning and end of the route are outside a capital city boundary. Capital city boundaries are listed in Table 3

tail-end route means a route where both the transmission points for the beginning and end of the route are within the same ESA

a **transmission point** is any of the following:

a) a point of interconnection

b) a customer transmission point

c) an access seeker network location

uncontended means dedicated and not shared

Table 1: Deregulated ESAs in each capital city

Deregulated Metropolitan Areas	ESA names
Sydney	Ashfield, Balgowlah, Balmain, Bankstown, Baulkham Hills, Blacktown, Bondi, Botany, Burwood, Campbelltown, Campsie, Carlingford, Carramar, Castle Hill, Chatswood, City South, Coogee, Concord, Cremorne, Cronulla, Dalley, Dee Why, Drummoyne, East, Eastwood, Edensor Park, Edgecliff, Engadine, Epping, Erskine Park, Frenchs Forest, Glebe, Granville, Guildford, Harbord, Haymarket, Homebush, Hornsby, Hunters Hill, Hurstville, Ingleburn, Kensington, Kent, Killara, Kingsgrove, Kogarah, Lakemba, Lane Cove, Lidcombe, Liverpool, Manly, Maroubra, Mascot, Miller, Minto, Miranda, Mosman, Newtown, North Parramatta, Penrith, North Ryde, North Sydney, Parramatta, Peakhurst, Pendle Hill, Pennant Hills, Petersham, Pitt, Pymble, Randwick, Redfern, Revesby, Rockdale, Rose Bay, Rydalmere, Ryde, Seven Hills, Silverwater, Sutherland, St Leonards, St Marys, Undercliffe, Wahroonga, Waverley, Wetherill Park, Willoughby
Brisbane	Acacia Ridge, Albion, Alexandra Hills, Bulimba, Browns Plains, Charlotte, Chermside, Chapel Hill, Capalaba, Coorparoo, Edison, Eight Mile Plains, Everton Park, Goodna, Inala, Lutwyche, Mitchelton, Mount Gravatt, Nundah, New Farm, Paddington, Petrie, Salisbury, Slacks Creek, South Brisbane, Spring Hill, Sunnybank, Tingalpa, Toowong, Valley, Woolloongabba, Wynnum, Yeronga, Zillmere
Melbourne	Ascot, Batman, Berwick, Blackburn, Brooklyn, Brunswick, Bundoora, Burwood, Camberwell, Canterbury, Carlton, Caulfield, Cheltenham, Coburg, Collingwood, Croydon, Dandenong, Deepdene, East Kew, Elsternwick, Epping, Exhibition, Flemington, Footscray, Glen Iris, Hawthorn, Heidelberg, Highett, Kooyong, Lonsdale, Malvern, Mitcham, Moreland, North Balwyn, Northcote, North Essendon, North Melbourne, Oakleigh, Port Melbourne, Preston, Richmond, Ringwood, South Melbourne, St Kilda, Sunshine, South Yarra, Tally Ho, Thomastown, Thornbury, Toorak, Tullamarine, Wheelers Hill, Windsor, Wantirna
Perth	Bateman, Bulwer, Cannington, Cottesloe, Doubleview, Hilton, Maylands, Pier, South Perth, Subiaco, Victoria Park, Wellington
Adelaide	Brighton, Croydon, Gepps Cross, Flinders, Golden Grove, Norwood, Salisbury, Stirling, St Peters, Unley, Waymouth, West Adelaide, St Marys
Canberra	Civic

Table 2: Deregulated Regional ESAs

State	Deregulated Regional Areas/Routes	ESAs included
New South Wales	Albury	Albury, Lavington
	Bathurst	Bathurst
	Lismore	Lismore
	Newcastle	Mayfield, Hamilton, Wolfe, New Lambton, Charlestown
	Grafton	Grafton
	Wollongong	Wollongong, Unanderra, Corrimal, Dapto
	Taree	Taree
	Dubbo	Dubbo
	Gosford	Gosford
	Coffs Harbour	Coffs Harbour
	Goulburn	Goulburn
	Orange	Orange
	Wagga Wagga	Wagga Wagga
Victoria	Ballarat	Ballarat
	Bendigo	Bendigo
	Geelong	Geelong, North Geelong
	Shepparton	Shepparton
Queensland	Ipswich	Ipswich
	Toowoomba	Toowoomba
	Gold Coast	Southport, Nerang, Merrimac, Arundel, Bundall, Surfers Paradise, Robina, Mudgeeraba, Oxenford
	Moreton Bay	Rothwell, Narangba
	Logan	Beenleigh, Loganholme
	Sunshine Coast	Caloundra, Mooloolaba, Maroochydore
	Townsville	Townsville
South Australia	Murray Bridge	Murray Bridge
	Port Augusta	Port Augusta
	Smithfield	Smithfield

Table 3: Capital City Boundaries

Adelaide	A 25 km radius from the Waymouth ESA including the ESAs of: Balhannah, Blackwood, Brighton, Brooklyn Park, Chain of Ponds, Clarendon, Coromandel Valley, Croydon, Edwardstown, Elizabeth, Flinders, Gepps Cross, Glenelg, Glenunga, Golden Grove, Greenwith, Hahndorf, Hampstead, Henley Beach, Inglewood, Lenswood, Lonsdale, Modbury, Montacute, Morphett Vale East, Mylor, North Adelaide, Norwood, Osborne, Paradise, Port Adelaide, Prospect, Reynella, Salisbury, Scott Creek, Semaphore, St Marys, St Peters, Stirling, Summertown, Unley, Waterloo Corner, Waymouth, West Adelaide, Woodville
Brisbane	A 25 km radius from the Edison ESA including the ESAs of: Acacia Ridge, Albany Creek, Albion, Alexandra Hills, Ascot, Ashgrove, Aspley, Bald Hills, Brisbane Airport, Brookfield, Browns Plains, Bulimba, Camp Hill, Capalaba, Cashmere, Chapel Hill, Charlotte, Chermside, Closeburn, Coorparoo, Darra, Edison, Eight Mile Plains, Everton Park, Ferny Hills, Goodna, Highvale, Inala, Jamboree Heights, Kallangur, Karalee, Lutwyche, Lytton, Mitchelton, Moggill, Mount Crosby, Mount Gravatt, Mount Nebo, New Farm, Newmarket, Nudgee, Nundah, Paddington, Petrie, Pinkenba, Redcliffe, Salisbury, Samford, Sandgate, Sherwood, Slacks Creek, South Brisbane, Spring Hill, Strathpine, Sunnybank, The Gap, Thornlands, Tingalpa, Toowong, Valley, Wacol, Warner, Wellington Point, Woolloongabba, Wynnum, Yeronga, Zillmere
Canberra	A 15 km radius from the Barton ESA including the ESAs of: Barton, Belconnen, Civic, Crace, Deakin, Fyshwick, Jerrabomberra, Kambah, Manuka, Mawson, Melba, Monash, Queanbeyan, Scullin, Tralee, Tuggeranong, Weston Creek
Darwin	A 10 km radius from the Nightcliff ESA including the ESAs of: Berrimah, Casuarina, Darwin, Nightcliff
Hobart	A 6 km radius from the Bathurst ESA including the ESAs of: Bathurst, Davey, Glenorchy, New Town, Sandy Bay
Melbourne	A 45 km radius from the Kooyong ESA including the ESAs of: Altona, Arthurs Creek, Ascot, Balaclava, Batman, Baxter, Bayswater, Bayswater North, Beaconsfield Upper, Beaumaris, Belgrave, Bentleigh, Berwick, Berwick South, Blackburn, Boronia, Box Hill, Brighton, Broadmeadows, Brooklyn, Brunswick, Bulla, Bulleen, Bundoora, Camberwell, Campbellfield, Canterbury, Carlton, Carrum Downs, Caulfield, Chelsea, Cheltenham, Clayton, Clyde, Coburg, Cockatoo, Coldstream, Collingwood, Craigieburn, Cranbourne, Cranbourne North, Croydon, Dandenong, Dandenong North, Dandenong South, Deepdene, Deer Park, Derrimut, Devon Meadows, Diamond Creek, Diggers Rest, Dixons Creek, Doncaster, Doncaster East, East Kew, Eden Park, Elsternwick, Eltham, Elwood, Emerald, Endeavour Hills, Epping, Exhibition, Fawkner, Ferntree Gully, Ferny Creek, Flemington, Footscray, Frankston, Gardenvale, Glen Iris, Glenroy, Greensborough, Greenvale, Gruyere, Hallam, Hartwell, Hawthorn, Heatherton, Heidelberg, Highett, Hurstbridge, Ivanhoe, Jordanville, Kalkallo, Kangaroo Ground, Karingal, Keilor, Kew, Keysborough, Kings Park, Kooyong, Laverton, Laverton South, Lilydale, Lonsdale, Lyndhurst, Lysterfield, Maidstone, Malvern, Melton, Mernda, Mitcham, Monbulk, Montrose, Mooroolbark, Mordialloc, Moreland, Mornington, Mount

	Cottrell, Mount Eliza, Mount Evelyn, Narre Warren, Narre Warren North, Newport, North Balwyn, North Essendon, North Melbourne, Northcote, Oakleigh, Officer, Olinda, Ormond, Pakenham Upper, Panton Hill, Pearcedale, Point Cook, Port Melbourne, Preston, Research, Reservoir, Richmond, Ringwood, Rockbank, Rowville, Sandringham, Scoresby, Seaford, Seaford North, Silvan, Somerton, Somerville, South Melbourne, South Morang, South Oakleigh, South Yarra, Springvale, St Albans, St Andrews, St Kilda, Sunbury, Sunshine, Sydenham, Tally Ho, Tarneit, Templestowe, Thomastown, Thornbury, Toorak, Tullamarine, Wandin, Wantirna, Warrandyte, Warranwood, Werribee, Werribee South, West Essendon, Wheelers Hill, Whittlesea, Williamstown, Windsor, Wollert, Wonga Park, Woori Yallock, Yarra Glen, Yarrambat, Yellingbo
Perth	A 30 km radius from the Wellington ESA including the ESAs of: Applecross, Armadale, Ascot, Attadale, Balcatta, Ballajura, Bassendean, Bateman, Beechboro, Bulwer, Burns, Canning Vale, Cannington, Carmel, City Beach, Cottesloe, Currambine, Darlington, Doubleview, Ellenbrook, Forrestdale, Forrestfield, Fremantle, Girrawheen, Glen Forrest, Gosnells, Greenmount, Hamersley, Herne Hill, Hilton, Jandakot, Jandakot South, Joondalup, Kalamunda, Kelmscott, Kewdale, Kingsley, Landsdale, Lesmurdie, Maddington, Maida Vale, Manning, Maylands, Midland, Morley, Mount Hawthorn, Mullaloo, Munster, Nedlands, Ocean Reef, Palmyra, Parkerville, Pickering Brook, Pier, Pinjar, Riverton, Roleystone, Scarborough, South Coogee, South Perth, Spearwood, Subiaco, Tuart Hill, Victoria Park, Wanneroo, Wellington, Wembley
Sydney	A 50 km radius from the City South ESA including the ESAs of: Ashfield, Austral, Avalon Beach, Avoca Beach, Balgowlah, Balmain, Bankstown, Baulkham Hills, Berkshire Park, Berowra, Berrilee, Blacktown, Blakehurst, Bondi, Botany, Bringelly, Brooklyn, Campbelltown, Campbelltown South, Campsie, Canoelands, Carlingford, Carramar, Castle Hill, Cattai, Chatswood, City South, Como, Concord, Coogee, Cranebrook, Cremorne, Cronulla, Dalley, Dee Why, Drummoyne, Dural, East, Eastwood, Ebenezer, Edensor Park, Edgecliff, Elderslie, Engadine, Epping, Erskine Park, Fiddletown, Five Dock, Frenchs Forest, Galston, Glebe, Glenorie, Granville, Guildford, Gunderman, Harbord, Haymarket, Helensburgh, Holsworthy, Homebush, Hornsby, Horsley Park, Hunters Hill, Hurstville, Ingleburn, Kariong, Kellyville, Kemps Creek, Kensington, Kent, Kenthurst, Kenthurst North, Killara, Kincumber, Kingsgrove, Kogarah, Kurnell, Lakemba, Lane Cove, Leppington, Lidcombe, Lindfield, Liverpool, Llandilo, Luddenham, Manly, Maraylya, Maroota South, Maroubra, Mascot, Matraville, Menai, Miller, Minto, Miranda, Mona Vale, Mooney Mooney, Mosman, Mount Kuring-gai, Mount White, Narellan, Narrabeen, Newtown, North Parramatta, North Ryde, North Sydney, Northbridge, Orchard Hills, Palm Beach, Parramatta, Patonga Beach, Peakhurst, Pendle Hill, Pennant Hills, Penrith, Petersham, Pitt, Pitt Town, Pymble, Quakers Hill, Ramsgate, Randwick, Redfern, Revesby, Riverstone, Rockdale, Rooty Hill, Rose Bay, Rouse Hill, Rydalmere, Ryde, Saratoga, Sefton, Seven Hills, Shalvey, Silverwater, South Strathfield, Spencer, St Helens Park, St Leonards, St Marys, Sutherland, Sylvania, Terrey Hills, Undercliffe, Vaucluse, Wagstaff Point, Wahroonga, Waverley, Wetherill Park, Wilberforce, Willoughby, Windsor, Woy Woy

Appendix 4 - Varied DTCS service description

The domestic transmission capacity service (DTCS) is a service for the carriage of certain communications from one transmission point to another transmission point via symmetric network interfaces on a permanent uncontended basis by means of guided and/or unguided electromagnetic energy.

The DTCS may be provided via an online ordering tool and with enhanced service monitoring where these services are available.

The DTCS is supplied at low, mid-range and high capacities on or over:

- inter-capital routes
- regional routes
- metropolitan routes
- tail-end routes, and
- routes to mobile base stations

except communications between:

(a) one customer transmission point directly to another customer transmission point

(b) one access seeker network location directly to another access seeker network location

(c) in the case of inter-capital routes, a transmission point located at an exchange in a deregulated ESA within one capital city boundary to a transmission point located at an exchange in a deregulated ESA within another capital city boundary

Note: Refer to Table 1 for the exchange serving areas (ESAs) which are deregulated in each capital city and Table 3 for the boundaries of each capital city.

(d) in the case of regional routes, a transmission point located at an exchange in a deregulated regional ESA to a transmission point located at an exchange in a deregulated ESA in Sydney, Melbourne, Brisbane or Adelaide

Note: Refer to Table 1 for the ESAs which are deregulated in Sydney, Melbourne, Brisbane and Adelaide. Refer to Table 2 for the list of deregulated regional ESAs.

or

(e) in the case of metropolitan routes, transmission points located at an exchange between:

1. any of the deregulated metropolitan ESAs in Sydney
2. any of the deregulated metropolitan ESAs in Brisbane
3. any of the deregulated metropolitan ESAs in Melbourne
4. any of the deregulated metropolitan ESAs in Perth, or
5. any of the deregulated metropolitan ESAs in Adelaide.

Note: Refer to Table 1 for the ESAs which are deregulated in each capital city.

The exceptions in paragraphs (c), (d) and (e) do not apply to any service that is comprised of an inter-capital, regional or metropolitan route that is bundled with or incorporates a tail-end route.

Definitions

Where words or phrases used in this Annexure are defined in the *Competition and Consumer Act 2010* or the *Telecommunications Act 1997*, they have the meaning given in those Acts.

an **access seeker network location** is a point in a network operated by a service provider that is not a point of interconnection or a customer transmission point

a **customer transmission point** is a point at which a service provider delivers a service to its own customers (either wholesale or retail). For the avoidance of doubt, a customer in this context may be another service provider

exchange means a telecommunications exchange and includes the land, buildings and facilities (within the meaning of section 7 of the *Telecommunications Act 1997* (Cth)) that comprise or form part of the exchange

exchange serving area or **ESA** means the area served from a traditional local exchange building

high capacity is a transmission rate of 1 Gigabit per second (Gbps) and above

inter-capital route means a route from a transmission point within one capital city boundary to a transmission point within another capital city boundary in Adelaide, Brisbane, Canberra, Melbourne, Perth or Sydney. Capital city boundaries are listed in Table 3

low capacity is a transmission rate of and between 2 Megabits per second (Mbps) and 10Mbps

mid-range capacity is a transmission rate between, but not including, 10Mbps and 1Gbps

metropolitan route means a route where both the transmission points for the beginning and end of the route are within the same capital city boundary. Capital city boundaries are listed in Table 3

Mobile base station means a mobile phone radiocommunications transmitter and its associated infrastructure including any antennas, housings and other equipment

network interfaces include, but are not limited to, Ethernet, Plesiochronous Digital Hierarchy (PDH) and Synchronous Digital Hierarchy (SDH) network interfaces used to provide a transmission rate of 2.048Mbps or above which an access provider provides to itself or others

ongoing technical support means support by an expert technical team

a **point of interconnection** is the nearest designated physical point of interconnection in Australia between a network operated by a transmission service provider and another network operated by an access seeker (this includes a third carrier or carriage service provider where the third party supplies a transmission service directly to the access seeker)

regional route means a route where either one or both of the transmission points for the beginning and end of the route are outside a capital city boundary. Capital city boundaries are listed in Table 3

service monitoring means the monitoring of faults by an access provider

tail-end route means a route where both the transmission points for the beginning and end of the route are within the same ESA

a **transmission point** is any of the following:

a) a point of interconnection

b) a customer transmission point

c) an access seeker network location

uncontended means dedicated and not shared

Table 1: Deregulated ESAs in each capital city

Deregulated Metropolitan Areas	ESA names
Sydney	Ashfield, Avalon Beach, Balgowlah, Balmain, Bankstown, Baulkham Hills, Blacktown, Blakehurst, Bondi, Botany, Burwood, Campbelltown, Campsie, Carlingford, Carramar, Castle Hill, Chatswood, City South, Coogee, Concord, Cremorne, Cronulla, Dalley, Dee Why, Drummoyne, East, Eastwood, Edensor Park, Edgecliff, Engadine, Epping, Erskine Park, Five Dock, Frenchs Forest, Glebe, Granville, Guildford, Harbord, Haymarket, Homebush, Hornsby, Horsley Park, Hunters Hill, Hurstville, Ingleburn, Kellyville, Kensington, Kent, Killara, Kingsgrove, Kogarah, Lakemba, Lane Cove, Lidcombe, Lindfield, Liverpool, Manly, Maroubra, Mascot, Matraville, Menai, Miller, Minto, Miranda, Mona Vale, Mosman, Narellan, Newtown, Northbridge, North Parramatta, Penrith, North Ryde, North Sydney, Orchard Hills, Parramatta, Peakhurst, Pendle Hill, Pennant Hills, Petersham, Pitt, Pymble, Randwick, Redfern, Revesby, Rockdale, Rooty Hill, Rose Bay, Rydalmere, Ryde, Sefton, Seven Hills, Silverwater, South Strathfield, Sutherland, St Leonards, St Marys, Sylvania, Terrey Hills, Undercliffe, Vaucluse, Wahroonga, Waverley, Wetherill Park, Willoughby, Windsor
Brisbane	Acacia Ridge, Albion, Alexandra Hills, Ascot, Ashgrove, Aspley, Bald Hills, Brisbane Airport, Bulimba, Browns Plains, Camp Hill, Charlotte, Chermside, Chapel Hill, Capalaba, Coorparoo, Darra, Edison, Eight Mile Plains, Everton Park, Goodna, Inala, Jamboree Heights, Kallangur, Lutwyche, Lytton, Mitchelton, Mount Gravatt, Nundah, New Farm, Newmarket, Nudgee, Paddington, Petrie, Pinkenba, Redcliffe, Salisbury, Sandgate, Sherwood, Slacks Creek, South Brisbane, Spring Hill, Strathpine, Sunnybank, Tingalpa, Toowong, Valley, Wacol, Woolloongabba, Wynnum, Yeronga, Zillmere
Melbourne	Ascot, Balaclava, Batman, Bayswater, Berwick, Blackburn, Box Hill, Broadmeadows, Brooklyn, Brunswick, Bulleen, Bundoora, Burwood, Campbellfield, Camberwell, Canterbury, Carlton, Caulfield, Cheltenham, Clayton, Coburg, Collingwood, Cranbourne, Cranbourne North, Croydon, Dandenong, Dandenong North, Dandenong South, Deepdene, Deer Park, Doncaster, East Kew, Elsternwick, Epping, Exhibition, Fawkner, Flemington, Footscray, Glen Iris, Glenroy, Hallam, Hartwell, Hawthorn, Heatherton, Heidelberg, Highett, Ivanhoe, Jordanville, Karingal, Kew, Keysborough, Kooyong, Lilydale, Lyndhurst, Lysterfield, Lonsdale, Maidstone, Malvern, Mitcham, Moreland, Mount Eliza, Newport, North Balwyn, Northcote, North

	Essendon, North Melbourne, Oakleigh, Port Melbourne, Preston, Reservoir, Richmond, Ringwood, Scoresby, Somerton, South Melbourne, South Morang, Springvale, St Albans, St Kilda, Sunshine, South Yarra, Tally Ho, Tarneit, Thomastown, Thornbury, Toorak, Tullamarine, Wheelers Hill, Werribee, West Essendon, Williamstown, Windsor, Wantirna
Perth	Applecross, Armadale, Ascot, Attadale, Balcatta, Ballajura, Bassendean, Bateman, Bulwer, Canning Vale, Cannington, Cottesloe, Doubleview, Freemantle, Hamersley, Hilton, Jandakot, Jandakot South, Joondalup, Kelmscott, Kewdale, Kingsley, Landsdale, Maddington, Manning, Maylands, Midland, Morley, Mount Hawthorn, Mullaloo, Munster, Nedlands, Palmyra, Pier, Riverton, Scarborough, South Coogee, South Perth, Spearwood, Subiaco, Tuart Hill, Victoria Park, Wanneroo, Wellington, Wembley
Adelaide	Blackwood, Brooklyn Park, Brighton, Coromandel Valley, Croydon, Gepps Cross, Edwardstown, Elizabeth, Flinders, Glenelg, Glenunga, Golden Grove, Hampstead, Henley Beach, Lonsdale, Modbury, North Adelaide, Norwood, Osborne, Paradise, Port Adelaide, Prospect, Reynella, Salisbury, Semaphore, Stirling, St Marys St Peters, Unley, Waymouth, West Adelaide, Woodville
Canberra	Barton, Belconnen, Civic, Deakin, Fyshwick, Manuka, Mawson, Melba, Queanbeyan, Scullin

Table 2: Deregulated Regional ESAs

State	Deregulated Regional Areas/Routes	ESAs included
New South Wales	Albury	Albury, Lavington
	Beaudesert	Tweed Heads
	Bathurst	Bathurst
	Lismore	Lismore
	Newcastle	Maitland, Mayfield, Hamilton, Wolfe, New Lambton, Charlestown
	Grafton	Grafton
	Wollongong	Wollongong, Unanderra, Corrimal, Dapto
	Taree	Taree
	Dubbo	Dubbo
	Gosford	Gosford, Berkeley Vale, Erina, Wyong
	Coffs Harbour	Coffs Harbour
	Goulburn	Goulburn

	Orange	Orange
	Wagga Wagga	Wagga Wagga
	Wauchope	Port Macquarie
Victoria	Ballarat	Ballarat, Horsham, Mount Clear
	Bendigo	Bendigo
	Geelong	Belmont, Geelong, North Geelong
	Shepparton	Shepparton
	Wangaratta	Wangaratta
	Warragul	Pakenham
Queensland	Beaudesert	Burleigh Heights, Currumbin
	Brisbane	Bundamba, Caboolture, Ormeau, Springfield, Waterford
	Caboolture	Wurtulla
	Ipswich	Ipswich
	Toowoomba	Toowoomba
	Gold Coast	Southport, Nerang, Merrimac, Arundel, Bundall, Surfers Paradise, Robina, Mudgeeraba, Oxenford
	Moreton Bay	Rothwell, Narangba
	Logan	Beenleigh, Loganholme
	Nambour	Nambour
	Sunshine Coast	Caloundra, Mooloolaba, Maroochydore
	Townsville	Townsville, Gulliver
South Australia	Adelaide	Seaford
	Gawler	Gawler
	Murray Bridge	Murray Bridge
	Port Augusta	Port Augusta
	Smithfield	Smithfield
Western Australia	Pinjarra	Baldivis, Medina, Pinjarra, Rockingham

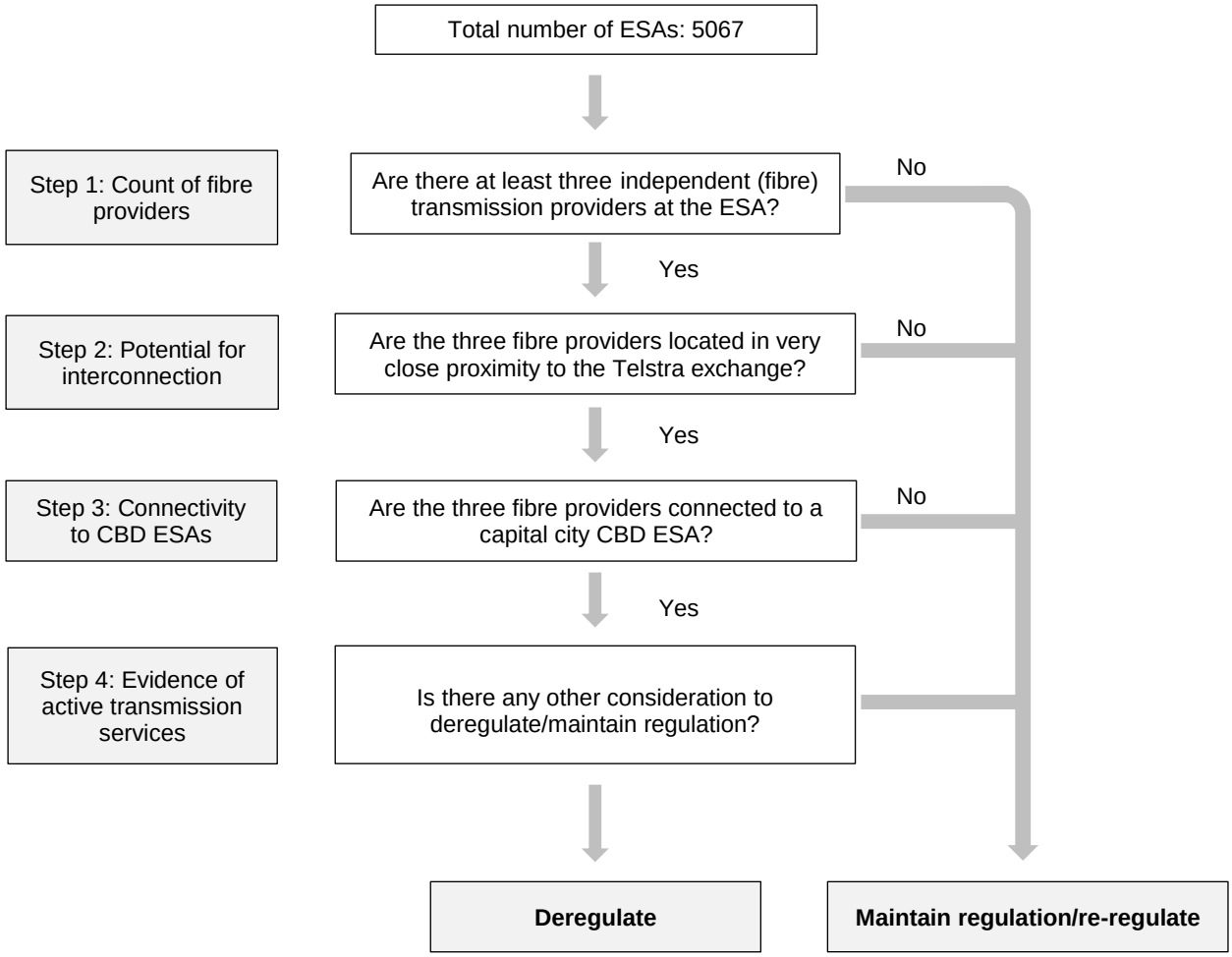
Table 3: Capital City Boundaries

Adelaide	A 25 km radius from the Waymouth ESA including the ESAs of: Balhannah, Blackwood, Brighton, Brooklyn Park, Chain of Ponds, Clarendon, Coromandel Valley, Croydon, Edwardstown, Elizabeth,

	Flinders, Gepps Cross, Glenelg, Glenunga, Golden Grove, Greenwith, Hahndorf, Hampstead, Henley Beach, Inglewood, Lenswood, Lonsdale, Modbury, Montacute, Morphett Vale East, Mylor, North Adelaide, Norwood, Osborne, Paradise, Port Adelaide, Prospect, Reynella, Salisbury, Scott Creek, Semaphore, St Marys, St Peters, Stirling, Summertown, Unley, Waterloo Corner, Waymouth, West Adelaide, Woodville
Brisbane	A 25 km radius from the Edison ESA including the ESAs of: Acacia Ridge, Albany Creek, Albion, Alexandra Hills, Ascot, Ashgrove, Aspley, Bald Hills, Brisbane Airport, Brookfield, Browns Plains, Bulimba, Camp Hill, Capalaba, Cashmere, Chapel Hill, Charlotte, Chermside, Closeburn, Coorparoo, Darra, Edison, Eight Mile Plains, Everton Park, Ferny Hills, Goodna, Highvale, Inala, Jamboree Heights, Kallangur, Karalee, Lutwyche, Lytton, Mitchelton, Moggill, Mount Crosby, Mount Gravatt, Mount Nebo, New Farm, Newmarket, Nudgee, Nundah, Paddington, Petrie, Pinkenba, Redcliffe, Salisbury, Samford, Sandgate, Sherwood, Slacks Creek, South Brisbane, Spring Hill, Strathpine, Sunnybank, The Gap, Thornlands, Tingalpa, Toowong, Valley, Wacol, Warner, Wellington Point, Woolloongabba, Wynnum, Yeronga, Zillmere
Canberra	A 15 km radius from the Barton ESA including the ESAs of: Barton, Belconnen, Civic, Crace, Deakin, Fyshwick, Jerrabomberra, Kambah, Manuka, Mawson, Melba, Monash, Queanbeyan, Scullin, Tralee, Tuggeranong, Weston Creek
Darwin	A 10 km radius from the Nightcliff ESA including the ESAs of: Berrimah, Casuarina, Darwin, Nightcliff
Hobart	A 6 km radius from the Bathurst ESA including the ESAs of: Bathurst, Davey, Glenorchy, New Town, Sandy Bay
Melbourne	A 45 km radius from the Kooyong ESA including the ESAs of: Altona, Arthurs Creek, Ascot, Balaclava, Batman, Baxter, Bayswater, Bayswater North, Beaconsfield Upper, Beaumaris, Belgrave, Bentleigh, Berwick, Berwick South, Blackburn, Boronia, Box Hill, Brighton, Broadmeadows, Brooklyn, Brunswick, Bulla, Bulleen, Bundoora, Camberwell, Campbellfield, Canterbury, Carlton, Carrum Downs, Caulfield, Chelsea, Cheltenham, Clayton, Clyde, Coburg, Cockatoo, Coldstream, Collingwood, Craigieburn, Cranbourne, Cranbourne North, Croydon, Dandenong, Dandenong North, Dandenong South, Deepdene, Deer Park, Derrimut, Devon Meadows, Diamond Creek, Diggers Rest, Dixons Creek, Doncaster, Doncaster East, East Kew, Eden Park, Elsternwick, Eltham, Elwood, Emerald, Endeavour Hills, Epping, Exhibition, Fawkner, Ferntree Gully, Ferny Creek, Flemington, Footscray, Frankston, Gardenvale, Glen Iris, Glenroy, Greensborough, Greenvale, Gruyere, Hallam, Hartwell, Hawthorn, Heatherton, Heidelberg, Highett, Hurstbridge, Ivanhoe, Jordanville, Kalkallo, Kangaroo Ground, Karingal, Keilor, Kew, Keysborough, Kings Park, Kooyong, Laverton, Laverton South, Lilydale, Lonsdale, Lyndhurst, Lysterfield, Maidstone, Malvern, Melton, Mernda, Mitcham, Monbulk, Montrose, Mooroolbark, Mordialloc, Moreland, Mornington, Mount Cottrell, Mount Eliza, Mount Evelyn, Narre Warren, Narre Warren North, Newport, North Balwyn, North Essendon, North Melbourne, Northcote, Oakleigh, Officer, Olinda, Ormond, Pakenham Upper, Panton Hill, Pearcedale, Point Cook, Port Melbourne, Preston, Research, Reservoir, Richmond, Ringwood, Rockbank, Rowville, Sandringham, Scoresby, Seaford, Seaford North, Silvan, Somerton, Somerville, South Melbourne, South Morang, South Oakleigh, South

	Yarra, Springvale, St Albans, St Andrews, St Kilda, Sunbury, Sunshine, Sydenham, Tally Ho, Tarneit, Templestowe, Thomastown, Thornbury, Toorak, Tullamarine, Wandin, Wantirna, Warrandyte, Warranwood, Werribee, Werribee South, West Essendon, Wheelers Hill, Whittlesea, Williamstown, Windsor, Wollert, Wonga Park, Woori Yallock, Yarra Glen, Yarrambat, Yellingbo
Perth	A 30 km radius from the Wellington ESA including the ESAs of: Applecross, Armadale, Ascot, Attadale, Balcatta, Ballajura, Bassendean, Bateman, Beechboro, Bulwer, Burns, Canning Vale, Cannington, Carmel, City Beach, Cottesloe, Currambine, Darlington, Doubleview, Ellenbrook, Forrestdale, Forrestfield, Fremantle, Girrawheen, Glen Forrest, Gosnells, Greenmount, Hamersley, Herne Hill, Hilton, Jandakot, Jandakot South, Joondalup, Kalamunda, Kelmscott, Kewdale, Kingsley, Landsdale, Lesmurdie, Maddington, Maida Vale, Manning, Maylands, Midland, Morley, Mount Hawthorn, Mullaloo, Munster, Nedlands, Ocean Reef, Palmyra, Parkerville, Pickering Brook, Pier, Pinjar, Riverton, Roleystone, Scarborough, South Coogee, South Perth, Spearwood, Subiaco, Tuart Hill, Victoria Park, Wanneroo, Wellington, Wembley
Sydney	A 50 km radius from the City South ESA including the ESAs of: Ashfield, Austral, Avalon Beach, Avoca Beach, Balgowlah, Balmain, Bankstown, Baulkham Hills, Berkshire Park, Berowra, Berrilee, Blacktown, Blakehurst, Bondi, Botany, Bringelly, Brooklyn, Campbelltown, Campbelltown South, Campsie, Canoelands, Carlingford, Carramar, Castle Hill, Cattai, Chatswood, City South, Como, Concord, Coogee, Cranebrook, Cremorne, Cronulla, Dalley, Dee Why, Drummoyne, Dural, East, Eastwood, Ebenezer, Edensor Park, Edgecliff, Elderslie, Engadine, Epping, Erskine Park, Fiddletown, Five Dock, Frenchs Forest, Galston, Glebe, Glenorie, Granville, Guildford, Gunderman, Harbord, Haymarket, Helensburgh, Holsworthy, Homebush, Hornsby, Horsley Park, Hunters Hill, Hurstville, Ingleburn, Kariong, Kellyville, Kemps Creek, Kensington, Kent, Kenthurst, Kenthurst North, Killara, Kincumber, Kingsgrove, Kogarah, Kurnell, Lakemba, Lane Cove, Leppington, Lidcombe, Lindfield, Liverpool, Llandilo, Luddenham, Manly, Maraylya, Maroota South, Maroubra, Mascot, Matraville, Menai, Miller, Minto, Miranda, Mona Vale, Mooney Mooney, Mosman, Mount Kuring-gai, Mount White, Narellan, Narrabeen, Newtown, North Parramatta, North Ryde, North Sydney, Northbridge, Orchard Hills, Palm Beach, Parramatta, Patonga Beach, Peakhurst, Pendle Hill, Pennant Hills, Penrith, Petersham, Pitt, Pitt Town, Pymble, Quakers Hill, Ramsgate, Randwick, Redfern, Revesby, Riverstone, Rockdale, Rooty Hill, Rose Bay, Rouse Hill, Rydalmere, Ryde, Saratoga, Sefton, Seven Hills, Shalvey, Silverwater, South Strathfield, Spencer, St Helens Park, St Leonards, St Marys, Sutherland, Sylvania, Terrey Hills, Undercliffe, Vaucluse, Wagstaff Point, Wahroonga, Waverley, Wetherill Park, Wilberforce, Willoughby, Windsor, Woy Woy

Appendix 5 - Competition Criteria



Appendix 6 – Results of the competition assessment – ESAs to be deregulated from 1 January 2020

ESA	STATE	Current status	Metro/regional	NBN POI location	Fibre providers within 150m	Providers connected to a CBD?	Evidence of active service supply	Final decision
Barton	ACT	Regulated	Metro		4	Yes	Yes	Deregulate
Belconnen	ACT	Regulated	Metro		4	Yes	Yes	Deregulate
Deakin	ACT	Regulated	Metro		3	Yes	Yes	Deregulate
Fyshwick	ACT	Regulated	Metro		4	Yes	Yes	Deregulate
Manuka	ACT	Regulated	Metro		3	Yes	Yes	Deregulate
Mawson	ACT	Regulated	Metro		3	Yes	Yes	Deregulate
Melba	ACT	Regulated	Metro		4	Yes	Yes	Deregulate
Queanbeyan*	ACT	Regulated	Metro	Yes	3	Yes	Yes	Deregulate
Scullin	ACT	Regulated	Metro		4	Yes	Yes	Deregulate
Avalon Beach	NSW	Regulated	Metro		3	Yes	Yes	Deregulate
Blakehurst	NSW	Regulated	Metro		4	Yes	Yes	Deregulate
Five Dock	NSW	Regulated	Metro		3	Yes	Yes	Deregulate
Horsley Park	NSW	Regulated	Metro	Yes	4	Yes	Yes	Deregulate
Kellyville	NSW	Regulated	Metro		3	Yes	Yes	Deregulate
Lindfield	NSW	Regulated	Metro		6	Yes	Yes	Deregulate
Matraville	NSW	Regulated	Metro		3	Yes	Yes	Deregulate

Menai	NSW	Regulated	Metro		3	Yes	Yes	Deregulate
Mona Vale	NSW	Regulated	Metro		3	Yes	Yes	Deregulate
Narellan	NSW	Regulated	Metro		3	Yes	Yes	Deregulate
Northbridge	NSW	Regulated	Metro		3	Yes	Yes	Deregulate
Orchard Hills	NSW	Regulated	Metro		3	Yes	Yes	Deregulate
Rooty Hill	NSW	Regulated	Metro		3	Yes	Yes	Deregulate
Sefton	NSW	Regulated	Metro		4	Yes	Yes	Deregulate
South Strathfield	NSW	Regulated	Metro		3	Yes	Yes	Deregulate
Sylvania	NSW	Regulated	Metro		4	Yes	Yes	Deregulate
Terrey Hills	NSW	Regulated	Metro		3	Yes	Yes	Deregulate
Vaucluse	NSW	Regulated	Metro		3	Yes	Yes	Deregulate
Windsor	NSW	Regulated	Metro	Yes	3	Yes	Yes	Deregulate
Ascot	QLD	Regulated	Metro		4	Yes	Yes	Deregulate
Ashgrove	QLD	Regulated	Metro		3	Yes	Yes	Deregulate
Aspley	QLD	Regulated	Metro	Yes	3	Yes	Yes	Deregulate
Bald Hills	QLD	Regulated	Metro		3	Yes	Yes	Deregulate
Brisbane Airport	QLD	Regulated	Metro		3	Yes	Yes	Deregulate
Camp Hill	QLD	Regulated	Metro	Yes	3	Yes	Yes	Deregulate
Darra	QLD	Regulated	Metro		3	Yes	Yes	Deregulate
Jamboree Heights	QLD	Regulated	Metro		4	Yes	Yes	Deregulate
Kallangur	QLD	Regulated	Metro		3	Yes	Yes	Deregulate
Lytton	QLD	Regulated	Metro		3	Yes	Yes	Deregulate

Newmarket	QLD	Regulated	Metro		4	Yes	Yes	Deregulate
Nudgee	QLD	Regulated	Metro		3	Yes	Yes	Deregulate
Pinkenba	QLD	Regulated	Metro		3	Yes	Yes	Deregulate
Redcliffe	QLD	Regulated	Metro		3	Yes	Yes	Deregulate
Sandgate	QLD	Regulated	Metro		3	Yes	Yes	Deregulate
Sherwood	QLD	Regulated	Metro		3	Yes	Yes	Deregulate
Strathpine	QLD	Regulated	Metro		3	Yes	Yes	Deregulate
Wacol	QLD	Regulated	Metro		3	Yes	Yes	Deregulate
Blackwood	SA	Regulated	Metro		5	Yes	Yes	Deregulate
Brooklyn Park	SA	Regulated	Metro		3	Yes	Yes	Deregulate
Coromandel Valley	SA	Regulated	Metro		5	Yes	Yes	Deregulate
Edwardstown	SA	Regulated	Metro	Yes	5	Yes	Yes	Deregulate
Elizabeth	SA	Regulated	Metro	Yes	5	Yes	Yes	Deregulate
Glenelg	SA	Regulated	Metro		5	Yes	Yes	Deregulate
Glenunga	SA	Regulated	Metro		5	Yes	Yes	Deregulate
Hampstead	SA	Regulated	Metro		5	Yes	Yes	Deregulate
Henley Beach	SA	Regulated	Metro		5	Yes	Yes	Deregulate
Lonsdale	SA	Regulated	Metro	Yes	4	Yes	Yes	Deregulate
Modbury	SA	Regulated	Metro	Yes	5	Yes	Yes	Deregulate
North Adelaide	SA	Regulated	Metro		5	Yes	Yes	Deregulate
Osborne	SA	Regulated	Metro		5	Yes	Yes	Deregulate
Paradise	SA	Regulated	Metro		5	Yes	Yes	Deregulate

Port Adelaide	SA	Regulated	Metro		5	Yes	Yes	Deregulate
Prospect	SA	Regulated	Metro	Yes	5	Yes	Yes	Deregulate
Reynella	SA	Regulated	Metro		5	Yes	Yes	Deregulate
Semaphore	SA	Regulated	Metro		5	Yes	Yes	Deregulate
Woodville	SA	Regulated	Metro		5	Yes	Yes	Deregulate
Balaclava	VIC	Regulated	Metro		4	Yes	Yes	Deregulate
Bayswater	VIC	Regulated	Metro		3	Yes	Yes	Deregulate
Box Hill	VIC	Regulated	Metro		5	Yes	Yes	Deregulate
Broadmeadows	VIC	Regulated	Metro		4	Yes	Yes	Deregulate
Bulleen	VIC	Regulated	Metro		3	Yes	Yes	Deregulate
Campbellfield	VIC	Regulated	Metro		4	Yes	Yes	Deregulate
Clayton	VIC	Regulated	Metro		4	Yes	Yes	Deregulate
Cranbourne	VIC	Regulated	Metro	Yes	3	Yes	Yes	Deregulate
Cranbourne North	VIC	Regulated	Metro		3	Yes	Yes	Deregulate
Dandenong North	VIC	Regulated	Metro		3	Yes	Yes	Deregulate
Dandenong South	VIC	Regulated	Metro		3	Yes	Yes	Deregulate
Deer Park	VIC	Regulated	Metro		5	Yes	Yes	Deregulate
Doncaster	VIC	Regulated	Metro		3	Yes	Yes	Deregulate
Fawkner	VIC	Regulated	Metro		5	Yes	Yes	Deregulate
Glenroy	VIC	Regulated	Metro		3	Yes	Yes	Deregulate
Hallam	VIC	Regulated	Metro		3	Yes	Yes	Deregulate
Hartwell	VIC	Regulated	Metro		5	Yes	Yes	Deregulate

Heatherton	VIC	Regulated	Metro		3	Yes	Yes	Deregulate
Ivanhoe	VIC	Regulated	Metro		3	Yes	Yes	Deregulate
Jordanville	VIC	Regulated	Metro		3	Yes	Yes	Deregulate
Karingal	VIC	Regulated	Metro	Yes	3	Yes	Yes	Deregulate
Kew	VIC	Regulated	Metro	Yes	5	Yes	Yes	Deregulate
Keysborough	VIC	Regulated	Metro	Yes	3	Yes	Yes	Deregulate
Lilydale	VIC	Regulated	Metro	Yes	3	Yes	Yes	Deregulate
Lyndhurst	VIC	Regulated	Metro		3	Yes	Yes	Deregulate
Lysterfield	VIC	Regulated	Metro		3	Yes	Yes	Deregulate
Maidstone	VIC	Regulated	Metro		4	Yes	Yes	Deregulate
Mount Eliza	VIC	Regulated	Metro	Yes	3	Yes	Yes	Deregulate
Newport	VIC	Regulated	Metro		5	Yes	Yes	Deregulate
Reservoir	VIC	Regulated	Metro	Yes	5	Yes	Yes	Deregulate
Scoresby	VIC	Regulated	Metro		3	Yes	Yes	Deregulate
Somerton	VIC	Regulated	Metro		3	Yes	Yes	Deregulate
South Morang	VIC	Regulated	Metro	Yes	3	Yes	Yes	Deregulate
Springvale	VIC	Regulated	Metro		4	Yes	Yes	Deregulate
St Albans	VIC	Regulated	Metro	Yes	4	Yes	Yes	Deregulate
Tarneit	VIC	Regulated	Metro		3	Yes	Yes	Deregulate
Werribee	VIC	Regulated	Metro	Yes	4	Yes	Yes	Deregulate
West Essendon	VIC	Regulated	Metro		4	Yes	Yes	Deregulate
Williamstown	VIC	Regulated	Metro		3	Yes	Yes	Deregulate

Applecross	WA	Regulated	Metro	Yes	4	Yes	Yes	Deregulate
Armadale	WA	Regulated	Metro		4	Yes	Yes	Deregulate
Ascot	WA	Regulated	Metro		4	Yes	Yes	Deregulate
Attadale	WA	Regulated	Metro		4	Yes	Yes	Deregulate
Balcatta	WA	Regulated	Metro		4	Yes	Yes	Deregulate
Ballajura	WA	Regulated	Metro		4	Yes	Yes	Deregulate
Bassendean	WA	Regulated	Metro	Yes	4	Yes	Yes	Deregulate
Canning Vale	WA	Regulated	Metro		4	Yes	Yes	Deregulate
Fremantle	WA	Regulated	Metro		5	Yes	Yes	Deregulate
Hamersley	WA	Regulated	Metro		4	Yes	Yes	Deregulate
Jandakot	WA	Regulated	Metro		3	Yes	Yes	Deregulate
Jandakot South	WA	Regulated	Metro		3	Yes	Yes	Deregulate
Joondalup	WA	Regulated	Metro		4	Yes	Yes	Deregulate
Kelmscott	WA	Regulated	Metro	Yes	4	Yes	Yes	Deregulate
Kewdale	WA	Regulated	Metro		4	Yes	Yes	Deregulate
Kingsley	WA	Regulated	Metro		4	Yes	Yes	Deregulate
Landsdale	WA	Regulated	Metro	Yes	3	Yes	Yes	Deregulate
Maddington	WA	Regulated	Metro		4	Yes	Yes	Deregulate
Manning	WA	Regulated	Metro		4	Yes	Yes	Deregulate
Midland	WA	Regulated	Metro		4	Yes	Yes	Deregulate
Morley	WA	Regulated	Metro		4	Yes	Yes	Deregulate
Mount Hawthorn	WA	Regulated	Metro		4	Yes	Yes	Deregulate

Mullaloo	WA	Regulated	Metro	Yes	4	Yes	Yes	Deregulate
Munster	WA	Regulated	Metro		3	Yes	Yes	Deregulate
Nedlands	WA	Regulated	Metro		4	Yes	Yes	Deregulate
Palmyra	WA	Regulated	Metro		4	Yes	Yes	Deregulate
Riverton	WA	Regulated	Metro		4	Yes	Yes	Deregulate
Scarborough	WA	Regulated	Metro		3	Yes	Yes	Deregulate
South Coogee	WA	Regulated	Metro	Yes	4	Yes	Yes	Deregulate
Spearwood	WA	Regulated	Metro		3	Yes	Yes	Deregulate
Tuart Hill	WA	Regulated	Metro		4	Yes	Yes	Deregulate
Wanneroo	WA	Regulated	Metro		3	Yes	Yes	Deregulate
Wembley	WA	Regulated	Metro		4	Yes	Yes	Deregulate
Berkeley Vale	NSW	Regulated	Regional	Yes	3	Yes	Yes	Deregulate
Erina	NSW	Regulated	Regional		4	Yes	Yes	Deregulate
Maitland	NSW	Regulated	Regional	Yes	3	Yes	Yes	Deregulate
Port Macquarie	NSW	Regulated	Regional		4	Yes	Yes	Deregulate
Tweed Heads	NSW	Regulated	Regional		4	Yes	Yes	Deregulate
Wyong	NSW	Regulated	Regional		5	Yes	Yes	Deregulate
Bundamba	QLD	Regulated	Regional	Yes	4	Yes	Yes	Deregulate
Burleigh Heads	QLD	Regulated	Regional		3	Yes	Yes	Deregulate
Caboolture	QLD	Regulated	Regional	Yes	3	Yes	Yes	Deregulate
Currumbin	QLD	Regulated	Regional		4	Yes	Yes	Deregulate
Gulliver	QLD	Regulated	Regional		4	Yes	Yes	Deregulate

Nambour	QLD	Regulated	Regional	Yes	3	Yes	Yes	Deregulate
Ormeau	QLD	Regulated	Regional		4	Yes	Yes	Deregulate
Springfield	QLD	Regulated	Regional		5	Yes	Yes	Deregulate
Waterford	QLD	Regulated	Regional		3	Yes	Yes	Deregulate
Wurtulla	QLD	Regulated	Regional		3	Yes	Yes	Deregulate
Gawler	SA	Regulated	Regional		5	Yes	Yes	Deregulate
Seaford	SA	Regulated	Regional		4	Yes	Yes	Deregulate
Belmont	VIC	Regulated	Regional		4	Yes	Yes	Deregulate
Horsham	VIC	Regulated	Regional	Yes	3	Yes	Yes	Deregulate
Mount Clear	VIC	Regulated	Regional		4	Yes	Yes	Deregulate
Pakenham	VIC	Regulated	Regional		4	Yes	Yes	Deregulate
Wangaratta	VIC	Regulated	Regional		3	Yes	Yes	Deregulate
Baldivis	WA	Regulated	Regional		3	Yes	Yes	Deregulate
Medina	WA	Regulated	Regional		4	Yes	Yes	Deregulate
Pinjarra	WA	Regulated	Regional	Yes	3	Yes	Yes	Deregulate
Rockingham	WA	Regulated	Regional		4	Yes	Yes	Deregulate

*Queanbeyan is listed together with ESAs in the ACT to reflect that it mainly serves the Canberra metropolitan area.