



TRANSMISSION CAPACITY SERVICE

An ACCC *Discussion Paper* examining possible variation or revocation of the service declaration for transmission capacity

June 2000

1. Introduction

The Australian Competition and Consumer Commission (the Commission) has decided to hold a public inquiry under subsection 152AO(2) of the *Trade Practices Act 1974* (the Act) to determine whether it should vary its service declaration for transmission capacity. In particular, the focus of the inquiry is on whether to vary those elements of the declaration relating to intercapital transmission. The proposed variation, however, does not relate to other elements of the declared service.

Intercapital transmission capacity is used for the transmission of voice, data or other communications between a point of interconnection located in different capital cities. The Commission deemed various types of transmission capacity as declared services when it became the telecommunications competition regulator on 30 June 1997.¹ The Commission varied the declaration of transmission capacity on 4 November 1998 following a public inquiry process.² The variations involved, inter-alia, removing from the declaration the Melbourne-Canberra-Sydney route. At present, therefore, all intercapital routes are declared with the exception of Melbourne-Canberra-Sydney.

The declaration means that a carrier supplying intercapital transmission capacity to itself or another person must also supply the service, upon request, to carriage service providers (CSPs). Declaration ensures service providers have access to the inputs they need to supply competitive communications services to end-users and in accordance with the standard access obligations in s. 152AR of the Act. The terms and conditions of supply can be agreed through commercial negotiations. If the infrastructure owner or access seeker can not agree on the terms and conditions of supply, either party can seek Commission arbitration of disputes over access terms and conditions to regulated services. Where a relevant access undertaking (approved by the Commission) exists, an arbitration determination made by the Commission on access by the access seeker to the declared service must not be inconsistent with that undertaking.

1.1. Purpose

In the Commission's report *Competition in data markets*, the Commission decided to declare intercapital transmission routes where new entry was considered to be less likely to occur in the short to medium term. This meant that all intercapital routes with the exception of Melbourne-Canberra-Sydney were declared.

In addition, the Commission indicated that a monitoring program would be established to assess aspects of market structure and market conduct on both the declared and undeclared routes. The objectives of the monitoring program were:

¹ ACCC Deeming of Telecommunications Services, June 1997.

² See Chapter 4 of the Commission's *Competition in data markets – Inquiry Report*, November 1998.

1. to monitor whether the expected benefits from new entry and maturation of the market do, in fact, materialise; and
2. to obtain information that will assist the Commission in deciding whether to review the declaration decision where the structure of the market and the conduct of market participants change.

This monitoring program was initiated in March 1999.

To fulfil both aims of the monitoring program, the Commission collected quarterly information initially from Telstra and Cable & Wireless Optus (CWO) and, subsequently, from Macrocom, GPU Powernet and Transgrid regarding:

- the movement in wholesale intercapital transmission access prices over time;
- the margins available to suppliers of wholesale intercapital transmission services;
- capacity utilisation of intercapital transmission;
- the level of investment in intercapital transmission services;
- market shares;
- availability of substitutes; and
- the extent of market entry.

Importantly, the Commission considered that the focus of further competitive activity would be concentrated in specific geographic areas, particularly on the Eastern seaboard, so that a route by route approach was seen as appropriate.

The decision to hold a public inquiry is based, in part, on the results from this monitoring program, which suggests that competition on the Sydney-Brisbane route is increasing. The information collected from access providers is mostly confidential and is not presented in the Discussion Paper for this reason, but it indicates that the structure and conduct of the intercapital market has, and is, continuing to change. The key findings of the monitoring program are briefly outlined in section 5 of this Discussion Paper.

After receiving and considering submissions to this inquiry, the Commission will make preliminary decisions about the intercapital routes to exclude from the declaration, if any. A draft variation to the service description will be included in the draft inquiry report, on which further submissions will be sought.

The purpose of this Discussion Paper is to:

- identify the issues which, in the Commission's opinion, are relevant to the decision whether to vary the declared service as it relates to the declaration of particular intercapital routes; and
- set out background material about, and discussion of, those issues which the Commission

thinks should be considered in a public process, and which the Commission seeks comment from industry participants, other stakeholders (including end-users) and from the public more generally.

Section Two outlines the timetable and process for the public inquiry.

Section Three of the Paper sets out the legislative background to the access regime.

Section Four discusses the current service declaration, together with the proposed variation.

Section Five sets out the matters that the Commission would like submissions to deal with.

The **Appendix** provides the service description of the current transmission capacity service declaration.

2. Timetable and process for the public inquiry

Under the *Telecommunications Act 1997*, the Commission must provide a reasonable opportunity for any member of the public to make a written submission to a public inquiry. The Commission considers that six weeks represents a reasonable opportunity for the return of written submissions to this inquiry. Accordingly, the Commission requests written submissions by **17 July 2000**. It has been the Commission's experience that submissions have not always addressed the issues identified in the Discussion Paper. Persons considering making a submission to the inquiry may consider discussing their proposed submission with the Commission at an early opportunity, to facilitate the provision of relevant information that meets the Commission's needs in the inquiry.

To foster an informed and robust consultative process, the Commission proposes to treat all submissions as non-confidential, unless the submissions indicate otherwise. Unless the author of a submission requests that the submission be kept confidential, written submissions given to the Commission will be made available to interested parties upon request.

At this stage, the Commission does not propose to hold a public hearing but may consider doing so in light of the written submissions. In lieu of a public hearing, it may be appropriate to hold a 'roundtable' discussion to discuss relevant issues.

The Commission expects that it will publish a draft report setting out its preliminary findings by August 2000. The Commission will then provide an opportunity to comment on the draft report prior to finalising the inquiry report.

In the event that the Commission is satisfied that it would be in the long-term interests of end-users (LTIE) to vary the intercapital routes of the service declaration for transmission capacity, that variation will be made shortly after the release of the report.

Further detail of the Commission's approach to declaration inquiries is outlined in its *Telecommunications services – Declaration provisions*, July 1999.

2.1. Making submissions to the public inquiry

The Commission seeks comment from all industry participants and from the public more generally. It encourages industry participants, other stakeholders and the public more generally to consider the matters set out in this Discussion Paper, and make submissions to the Commission to assist it in determining whether to vary the intercapital routes covered by the declaration.

Submissions can be addressed to:

Ken Walliss
Director – Regulatory
Telecommunications
Australian Competition and Consumer Commission
GPO Box 520J
Melbourne VIC 3001

In addition to a hard copy, people making submissions are encouraged to provide an electronic copy of the submission to ken.walliss@acc.gov.au

Enquiries can be made to Ken Walliss on (03) 9290 1869.

3. Legislative background

3.1. The access regime

Part XIC of the Act establishes a regime for regulated access to carriage services and services which facilitate the supply of carriage services. Access obligations in relation to a particular service are established following the declaration of that service by the Commission. Once a service is declared, CSPs must be provided with that service and specified ancillary services, on request, by any access provider supplying, or proposing to supply, those services to any person (including to themselves). The access regime thus enables service providers to supply carriage or content services to their customers without the (potentially anti-competitive) restriction of key services by upstream providers.

3.2. Declaring a new service or varying a service declaration

Following a request by any person or on its own initiative, the Commission may hold a public inquiry into whether to declare a new service, revoke a declaration, or vary the definition of a service that is already declared. Although the Commission can declare a service on the recommendation of the Telecommunications Access Forum (TAF) without the need to hold a public inquiry, any variation or revocation of an existing declared service, unless the variation is of a minor nature, can only be made after the Commission has first held a public inquiry. The purpose of the inquiry is to assist the Commission to determine whether it is satisfied that declaring, varying or revoking a particular service would promote the LTIE of carriage services and services provided by means of carriage services.

In this regard, the Commission must:

- hold a public inquiry in accordance with Part 25 of the *Telecommunications Act 1997* on whether to make the proposed declaration variation or revocation of a declaration;
- prepare and publish a report setting out the Commission's findings as a result of that public inquiry; and
- be satisfied that varying, or revoking, the service declaration or declaring the service will promote the LTIE of carriage services or of services provided by means of carriage services.

The variation, revocation or declaration must be made within 180 days of the publication of the report.

Details of the timetable and process for the public inquiry are outlined in section 2 of this Discussion Paper.

3.3. The Commission's approach to the LTIE test

The Commission must decide whether varying or revoking the service declaration would promote the LTIE of carriage services, or of services supplied using carriage services.

Section 152AB of the Act provides that, in determining whether varying or revoking the declaration promotes the LTIE, regard must be had only to the extent to which the variation or revocation is likely to result in the achievement of the following objectives:

- promoting competition in markets for listed (that is, telecommunications) services;
- achieving any-to-any connectivity in relation to carriage services that involve communication between end-users; and
- encouraging the economically efficient use of, and the economically efficient investment in, the infrastructure by which telecommunications services are supplied.

Section 152AB provides further guidance in interpreting these objectives.

Promoting competition

Section 152AB(4) requires that, in interpreting this objective, regard must be had to, but is not limited to, the extent to which the arrangements will remove obstacles to end-users gaining access to carriage services. The Explanatory Memorandum to Part XIC of the Act states that:

'...it is intended that particular regard be had to the extent to which the...[declaration]... would enable end-users to gain access to an increased range or choice of services'.³

Any-to-any connectivity

Section 152AB(8) provides that the objective of any-to-any connectivity is achieved if, and only if, each end-user who is supplied with a carriage service that involves communication between end-users is able to communicate, by means of that service, or a similar service, with each other whether or not they are connected to the same network.

³ *Trade Practices (Telecommunications) Amendment Act 1997*, Explanatory Memorandum, p 41.

Efficient use of, and investment in, infrastructure

Section 152AB(6) provides that, in interpreting this objective, regard must be had to, but is not limited to, the following:

- whether it is technically feasible for the services to be supplied and charged for, having regard to:
 - the technology that is in use or available;
 - whether the costs that would be involved in supplying, and charging for, the services are reasonable; and
 - the effects, or likely effects, that supplying, and charging for, the services would have on the operation or performance of telecommunications networks;
- the legitimate commercial interests of the supplier or suppliers of the service, including the ability of the supplier or suppliers to exploit economies of scale and scope; and
- the incentives for investment in the infrastructure by which the services are supplied.

These matters are interrelated. In many cases, the LTIE may be promoted through the achievement of two or all of these criteria simultaneously. In other cases, the achievement of one of these criteria may involve some trade-off in terms of another criteria, and the Commission will need to weigh up the different effects to determine whether or not varying or revoking the declaration promotes the LTIE. In this regard, the Commission will interpret long-term to mean a balancing of the flow of costs and benefits to end-users over time in relation to the criteria. Thus, it may be in the LTIE to receive a benefit for even a short period of time if its effect is not outweighed by any longer term costs.

3.3.1. Promoting competition

The first criterion requires the Commission to make an assessment of whether or not varying the service declaration would be likely to promote competition in the markets for telecommunications services.

The concept of competition is of fundamental importance to the Act and has been discussed many times in connection with the operation of Part IIIA, Part IV, Part XIB and Part XIC of the Act.

In general terms, competition is the process of rivalry between firms, where each market participant is constrained in its price and output decisions by the activity of other market participants. The Trade Practices Tribunal (now the Australian Competition Tribunal) stated that:

'In our view effective competition requires both that prices should be flexible, reflecting the forces of demand and supply, and that there should be independent rivalry in all dimensions of the price-product-service packages offered to consumers

and customers.

Competition is a process rather than a situation. Nevertheless, whether firms compete is very much a matter of the structure of the markets in which they operate.”⁴

Competition can provide benefits to end-users including lower prices, better quality and a better range of services over time. 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 profitably 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.

The establishment of a right for third parties to negotiate access to certain services on reasonable terms and conditions can operate to constrain the use of market power that could be derived from the control of these services. Accordingly, an access regime such as Part IIIA or Part XIC attempts to change the *structure* of a market, to *limit* or reduce the sources of market power and consequent anti-competitive *conduct*, rather than directly regulating conduct which may flow from its use, which is the role of Part IV and Part XIB of the Act. Nonetheless, in any given challenge to competition, both Parts XIB (or IV) and XIC may be necessary to address anti-competitive behaviour.

To assist in determining the impact of potential variation or revocation of the declaration on downstream markets, the Commission will need to identify the relevant market(s) and assess the likely effect of the variation or revocation on competition in each market.

Section 4E of the Act provides that the term ‘market’ includes a market for the goods or services under consideration and any other goods or services that are substitutable for, or otherwise competitive with, those goods or services. The Commission’s approach to market definition is discussed in its *Merger guidelines*, June 1999 and is canvassed in its information paper, *Anti-competitive conduct in telecommunications markets*, August 1999.

It should be noted, however, that the Commission’s approach to market definition in relation to service declaration does not require the determination of a definitive or determinative market definition as is the case in a Part IV or Part XIB case.⁵ This approach was also recently endorsed by Wilcox J in his recent decision to uphold the validity of certain broadcasting access declarations by the Commission.⁶

The second step is to assess the likely effect of the proposal on competition in each relevant market. As noted above, section 152AB(4) requires that regard must be had to the extent to which the proposal will remove obstacles to end-users gaining access to carriage services.

The term ‘obstacles’ is best read, in the Commission’s view, as a reference to barriers facing new entrants in the markets for services arising from the need to use the network infrastructure services to be able to compete. In this regard, an access regime can remove

⁴ Re Queensland Co-operative Milling Association Ltd and Defiance Holdings Ltd (1976), *Australian Trade Practices Reporter* 40-012, at 17,245.

⁵ See the Commission’s *Telecommunications services – Declaration provisions*, July 1999, report.

⁶ Refer to Federal Court of Australia transcript of *Foxtel Management Pty Ltd v Australian Competition and Consumer Commission* [2000] FCA 589 at p. 65.

those obstacles by facilitating entry and therefore providing end-users with a choice of suppliers from which to obtain services. For example, access to intercapital transmission capacity may enable more service providers to request capacity to provide voice and data transmission between capital cities to end-users. This gives end-users more choice of service providers.

Where existing market conditions already provide for the competitive supply of services, the access regime should not impose regulated access.⁷ This recognises the costs of providing access, such as administration and compliance, as well as potential disincentives to investment. Regulated provision of services will only be desirable where it leads to benefits in terms of lower prices, better services or improved service quality for end-users which outweigh any costs of regulation.

In the context of considering whether a variation to, or revocation of, a service declaration will promote competition, it is therefore appropriate to examine the impact of the (alternative) service description on each relevant market, and compare the state of competition in that market before and after the proposed variation or revocation. In examining the market structure, the Commission considers that competition is promoted when market structures are altered such that the exercise of market power becomes more difficult; for example, because barriers to entry have been lowered (permitting more efficient competitors to enter a market and thereby constrain the pricing behaviour of the incumbents) or because the ability of firms to raise rival's costs is restricted.

3.3.2. Any-to-any connectivity

The objective of 'any-to-any' connectivity is achieved if, and only if, each end-user of a service that involves communication between end-users is able to communicate, by means of that service or a similar service, with each other even where they are connected to different telecommunications networks.⁸ The reference to 'similar' services in the Act enables this objective to apply to services with analogous, but not identical, functional characteristics, such as fixed and mobile voice telephony services or Internet services which may have differing characteristics.

The any-to-any connectivity requirement is particularly relevant when considering services that involve communications between end-users.⁹ When considering other types of services (such as carriage services which are inputs to an end-to-end service or distribution services such as the carriage of pay television), the Commission considers that this criterion will be given less weight compared to the other two criteria.

⁷ *Trade Practices (Telecommunications) Amendment Act 1997*, Explanatory Memorandum.

⁸ See s.152AB(8) of the Act.

⁹ *Trade Practices (Telecommunications) Amendment Act 1997*, Explanatory Memorandum.

3.3.3. Efficient use of, and investment in, infrastructure

The third objective under s. 152AB is to encourage the economically efficient use of, and economically efficient investment in, the infrastructure used for the supply of carriage service.

Economic efficiency has three components.

- Productive efficiency refers to the efficient use of resources within each firm such that all goods and services are produced using the least cost combination of inputs.
- Allocative efficiency refers to the efficient allocation of resources across the economy such that the goods and services that are produced in the economy are the ones most valued by consumers. It also refers to the distribution of production costs amongst firms within an industry to minimise industry-wide costs.
- Dynamic efficiency refers to the efficient deployment of resources between present and future uses such that the welfare of society is maximised over time. Dynamic efficiency incorporates efficiencies flowing from innovation leading to the development of new services, or improvements in production techniques.

The Commission will need to ensure that the access regime does not discourage investment in networks or network elements where it is efficient. However, where it is inefficient to require investment in a number of networks or network elements, the access regime may play an important role in ensuring that existing infrastructure is used efficiently. For instance, even where a higher utilisation of a network may be more efficient, a network owner with market power may deny access, in the absence of an access regime.

Section 152AB(6)(a) requires that the Commission to have regard to a number of specific matters in applying this criterion and these matters are discussed below.

The technical feasibility of supplying and charging for particular services

This incorporates a number of elements, including the technology that is in use or available, the costs of supplying, and charging for, the services and the effects on the operation of telecommunications networks.

In many cases, the technical feasibility of supplying and charging for particular services given the current state of technology may be clear, particularly where there is a history of providing access. The question will be more difficult where there is no prior access, or where conditions have changed. Experience in other jurisdictions, taking account of relevant differences in technology or network configuration, will be helpful. Generally the onus will be on the potential access provider to demonstrate that supply is not technically feasible.

The costs of supplying and charging for the services, and potential spillover costs in terms of network integrity will also be considered by the Commission. In identifying costs involved in supplying and charging for a service, however, the Commission only needs to consider the direct costs.

The legitimate commercial interests of the supplier or suppliers, including the ability of the supplier to exploit economies of scale and scope

A supplier's legitimate commercial interests encompass its obligations to the owners of the

firm, including the need to recover the cost of providing services and to earn a commercial return on the investment in infrastructure. The Commission will also consider the need for appropriate incentives for the access provider to maintain, improve and invest in the efficient provision of the service.

A significant issue relates to whether or not capacity should be made available to an access seeker. Where there is spare capacity within the network, not assigned to current or planned services, allocative efficiency would be promoted by obliging the owner to release capacity for competitors.

Section 152AB(6)(b) also requires the Commission to have regard to whether the access arrangement may affect the owner's ability to realise economies of scale or 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 from a production process in which it is less costly in total for one firm to produce two (or more) products than it is for two (or more) firms to each separately produce each of the products.

Potential effects from access on economies of scope are likely to be greater than on 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 may simply result from the use of the capacity of the network and be able to be realised regardless of whether that capacity is being used by the owner or by other carriers and service providers. Nonetheless, the Commission will assess the effects of the supplier's ability to exploit both economies of scale and scope on a case-by-case basis.

The impact on incentives for investment in infrastructure

Firms should have the incentive to invest efficiently in infrastructure. Various aspects of efficient investment have been discussed already. It is also important to note that while access regulation may have the potential to diminish incentives for some businesses to invest in infrastructure, it also ensures that investment is efficient, reduces the barriers to entry for other (competing) businesses, or barriers to expansion by competing businesses.

There is also a need to consider the effects of any expected disincentive to investment with any anticipated increases in competition to determine the overall effect on the LTIE. The Commission will be careful to ensure that services are not declared where there is a risk that incentives to invest may be dampened, such that there is little subsequent benefit to end-users from the access arrangements.

4. Intercapital transmission capacity

4.1. Overview

Transmission capacity is a generic service that can be used for the carriage of voice, data or other communications using wide-band or broadband carriage. Carriage service providers can use transmission capacity to set up their own network for aggregated voice or data channels, or for integrated data traffic (such as voice, video, and data).

As the Commission noted in the Deeming Statement, pursuant to s. 39 of the *Telecommunications (Transitional Provisions and Consequential Amendments) Act 1997*:

‘Transmission is a service for the supply by an access provider of transmission capacity to the access seeker pursuant to a range of different requirements including transmission links to the access provider’s network, transmission links within the access seeker’s network and transmission links between an access seeker’s point of presence and the access seeker’s customer premises ... There are a number of types of transmission capacity, which have differing degrees of contestability. These are:

- *tail-end transmission*¹⁰ (footnote not originally in the Deeming Statement);
- *inter-exchange local transmission;*
- *intercapital transmission; and*
- *other transmission.*’

The current service description for the transmission capacity declaration can be found in the Appendix. Of concern to this Discussion Paper is intercapital transmission, which refers to the transmission of voice, data or other communications between a point of interconnection located in different capital cities. As mentioned in section 1.1 of this Discussion Paper, the only intercapital transmission routes that are currently not declared are the Melbourne-Canberra-Sydney routes.

4.2. The proposed variation

The Commission has decided to undertake an inquiry to consider varying the declaration of transmission capacity service to potentially exclude one or more additional intercapital routes from the service description. The Commission, however, is not considering other elements of the service description. Issues the Commission considers important to assist in making its decision include the:

¹⁰ Tail-end transmission refers to transmission between a point at the customer’s location and the access seeker’s point of interconnection.

- relevant market or markets for intercapital transmission services;
- changes in wholesale intercapital transmission access prices over time;
- margins available to suppliers of wholesale intercapital transmission services;
- capacity availability of intercapital transmission infrastructure; and
- level of investment, and expected future investment, in intercapital transmission services.

The next section will discuss each of the above issues. On the information available to the Commission at this time, it appears that competition on the Sydney-Brisbane route is increasing, but that there appears to be limited competition on the remaining declared routes. Depending on the information obtained for this inquiry, the Commission may exclude the Sydney-Brisbane route from the service description, and/or may exclude other declared routes. If the Commission decides to exclude certain intercapital routes from the declaration, a draft variation to the service description will be included in the draft inquiry report, on which submissions will be sought.

5. Matters submissions should address

The Commission will decide whether to vary the declaration after having regard to the legislative criteria in s. 152AB of the Act (discussed in section 3 of this Discussion Paper). Submissions should, therefore, address the legislative criteria, where possible, to assist the Commission. Outlined below are more specific issues that the Commission considers may be pertinent to deciding whether varying the geographical scope of the current declaration service description of transmission capacity is in the LTIE. Importantly, it is likely that the Commission would consider each intercapital route as a separate geographic market. Submissions are, therefore, encouraged to consider these issues in relation to each intercapital route.

5.1. Market definition

Identifying markets relevant to intercapital transmission allows the Commission to analyse the level of competition and the effect of declaration or a variation to the current declaration. The markets identified may be for intercapital transmission, or downstream markets. The Act directs the Commission's attention to the markets in which competition may be promoted. In most cases, this is likely to be the markets for downstream services rather than the market in which the eligible service is supplied (where these markets are separate). That said, the Act does not prohibit the Commission considering the markets in which the service is supplied where this will assist in examining the impact of declaration on competition in the relevant (for example, downstream) markets.

In the Commission's *Competition in data markets* inquiry report, the Commission stated that the focus of the report would be on the impact of declaring the wholesale transmission services on the downstream market as well as on the wholesale market. The Commission considered that competition at the wholesale level would impact on a number of dependant downstream markets. These downstream markets included long distance and international call services, data related services and IP-based services.¹¹

The process of market definition involves determining the market boundaries of intercapital transmission, which can be described in product, geographic and functional terms. A discussion of these elements can be found in the Commission's *Merger guidelines*, June 1999.

In the previous inquiry into competition in data markets, the Commission stated that it considered the geographic markets for transmission could include intercapital, regional to capital, intra-regional, metropolitan and the central business district.¹² Therefore, each intercapital transmission route is a geographic market from which the Commission will determine the effects of declaration. As noted above, the Commission's view is still that each intercapital route is a separate geographic market.

¹¹ Refer to p. 58 of the Commission's *Competition in data markets* inquiry report, November 1998.

¹² Refer to p. 33 of inquiry report.

That said, the use of market definition in declaration inquiries is not intended to provide all purpose definitions that may be applicable to other aspects of the Commission's work, such as an investigation of a potential breach of the conduct provisions of Part IV and Part XIC of the Act.

Questions to assist those preparing submissions:

- As mentioned above, the Commission's view in the previous inquiry was that long distance call and international call services, data related services and IP-based services are the relevant downstream markets for transmission capacity. Are these still the relevant downstream markets for which intercapital transmission constitute an input?
- What is the extent to which downstream services are concentrated in certain intercapital routes?

5.2. Technologies used to provide intercapital transmission

In the present inquiry, the Commission is particularly interested in views on which technologies are substitutes for the provision of an intercapital transmission service. The Commission's view in the previous inquiry report¹³, and Telstra's and CWO's submissions to the monitoring program on 30 June 1999 and 4 July 1999, was that substitutes to fibre optic cables for intercapital transmission include:

- satellite;
- electricity utilities infrastructure;
- digital microwave; and
- submarine cables.

Whether these other technologies are significant substitutes for fibre optic in the provision of intercapital transmission will depend upon the relative cost and reliability of these alternatives. In this regard:

- submissions by access seekers to the previous inquiry indicated that substitutes to fibre optic, such as microwave or satellite, are not viable because of limited application or cost;¹⁴ and
- in its submission to the monitoring program, Macrocom submits that fibre optic and microwave are the only cost effective technologies. In doing so, it acknowledges that satellite and undersea fibre cable are alternatives to fibre optic cable, but they are considered to be less cost effective.

¹³ See p. 69 of the Commission's inquiry report.

¹⁴ See p. 32-3 of the Commission's inquiry report.

The National Bandwidth Inquiry outlined the key advantage and disadvantages of the various technologies, and how the technologies are utilised. It found that:

- microwave is used for transmission, but to a lesser extent than fibre optic and only in selected regional and rural areas;¹⁵
- satellite technology is more cost effective when used mainly as a broadcast medium or in remote areas;¹⁶
- the economic viability of satellite technology for intercapital transmission is only marginal because its capacity is small relative to fibre optic cables;¹⁷ and
- a disadvantage of using undersea fibre cables is that it is not cost effective for capacity to be increased. For this reason, capacity of undersea cables are determined at the time it is installed and remain at this capacity level for its working life.¹⁸

Questions to assist those preparing submissions:

- Have the alternative technologies to fibre optic cable become more or less viable in the provision of intercapital transmission capacity since the previous inquiry? Are they likely to increase or decrease in importance in the foreseeable future?
- Are certain types of technology more viable on certain intercapital route?
- Are there other technologies that may become available in the foreseeable future that are viable technologies to provide intercapital transmission?

5.3. Market structure

Market structure is an important determinant of a competitive market. The Commission is particularly concerned that the market structure does change, with respect to the declared routes, and matures, with respect to the non-declared routes. Both current and future indications of market structure are important. The Commission is interested, therefore, not only in the current number of participants in the intercapital transmission markets, but in whether this number is likely to change via new market entry.

The size of investment by new and existing players is also important to indicate the relative importance of market participants. Having said that, a relatively small number of market participants in a particular market may be efficient due to economies of scale or scope. In these circumstances, the Commission will need to consider whether declaration promotes the efficient utilisation of that infrastructure.

¹⁵ See p. 50 of the report.

¹⁶ See p. 51 of the report.

¹⁷ See p. 51 of the report.

¹⁸ See p. 64 of the report.

5.3.1. Market entry

In the previous inquiry report, the Commission noted that the main participants in intercapital transmission market are vertically integrated and hold a large share of the retail market. It appears that CWO and Telstra remain the major suppliers of intercapital transmission with Telstra, according to the *National Bandwidth Inquiry Report*,¹⁹ the only carrier who has the trunk network to meet high bandwidth demand nationally.

Since 1998, however, new suppliers have entered the market. To the Commission's knowledge, these new suppliers include Macrocom, PowerTel, NorthPower, Transgrid, GPU Powernet, Amcom, Australian Fibre Networks, Soul Pattinson Telecommunications, Horizon and a consortium made up of Leighton and Bankers Trust.²⁰ From the information available to the Commission, it appears a number of new transmission infrastructure investments are taking place, or are planned to be started soon. These include:

- Macrocom²¹ is building an intercapital transmission link between Melbourne, Sydney, Brisbane and Canberra using digital microwave and fibre optic cables with a link to Adelaide also planned. Macrocom also indicated that it is planning to increase capacity of its intercapital transmission network for the Sydney-Melbourne route by 2000/01, Sydney-Brisbane route by 2000 and Sydney-Adelaide route (including regional cities en-route) by 2001/02;
- PowerTel²² is rolling-out intercapital transmission networks between capital cities on the eastern seaboard as well as Wollongong and Newcastle;
- GPU Powernet²³ is planning to roll-out a fibre optic link between Melbourne and Sydney;
- NorthPower²⁴ is considering setting-up an intercapital transmission link in northern NSW;
- Australian Fibre Networks, which does not have a carrier licence as yet, is planning a \$200 million fibre network roll-out linking capital cities and major regional centres on the east coast. It is expected to become available from April 2001;
- Amcom, a licensed Perth carrier, will construct a fibre optic network linking Melbourne, Adelaide and Perth in June 2000 with completion of the project due in June 2001; and
- a joint venture between Leighton and Bankers Trust will construct an intercapital transmission network between Sydney, Melbourne, Adelaide and Perth²⁵.

¹⁹ See p. 159 of the National Bandwidth Inquiry Report, which can be found at: ftp://ftp.dcita.gov.au/pub/bandwidth/full_report.pdf

²⁰ Companies listed as new entrants in the intercapital transmission market are considered to be able to set prices for their own intercapital transmission capacity, and therefore, exclude companies involved only in the construction and maintenance of the cables.

²¹ Submission from Macrocom on December 21, 1999.

²² Submission by CWO on July 4, 1999 and Telstra on June 30, 1999.

²³ Submission from GPU Powernet on December 9, 1999.

²⁴ Submission by CWO on July 4, 1999.

²⁵ Ibid.

Based on the information above, it appears that construction of new transmission networks is predominantly concentrated on the Melbourne-Sydney-Brisbane routes with some infrastructure investments also occurring in other parts of Australia.

Macrocom²⁶ submits that some of the new entrants in the intercapital transmission market are reselling capacity bought from existing suppliers of intercapital transmission. As a consequence, the ability of these new entrants to offer lower prices will be restricted by the wholesale price they pay to the wholesaler.

While evidence of market entry and new investment are important indicators of increased competition, the Commission is mindful that the magnitude of infrastructure investment in intercapital transmission may be relatively large, due to economies of scale. This will mean that it will be efficient for only a relatively low number of access providers to enter a particular intercapital market.

That said, the evidence of new entry does not necessarily equate to the market entry being efficient. It is possible that further market entry would have occurred but for existing barriers to entry. Therefore, the Commission will seek to consider whether barriers to entry (or expansion) exist and consider the impact of declaration in relation to these barriers.

One barrier to entry may be the significant level of excess capacity potentially held by existing access providers in their infrastructure. This is discussed below.

Questions to assist those preparing submissions:

- Are there likely to be new entrants to the intercapital transmission markets in the foreseeable future?
- On which intercapital routes is new entry likely?
- Do barriers to entry exist in any market in intercapital transmission? If so, what are they? Are there barriers to expanding in any intercapital transmission market? If so, what are they?
- At what point, if at all, in terms of traffic volume or bandwidth, does intercapital transmission capacity become uneconomic?
- Would varying the declaration affect barriers to entry to the downstream markets or the state of competition in the downstream markets?

5.3.2. Excess capacity

The existence of significant excess capacity may provide a barrier to entry for new entrants, who may be hesitant to enter a market where the incumbents have the potential to engage in vigorous competition.

²⁶ Macrocom's submission to the monitoring program on December 21, 1999.

In the previous inquiry, the Commission was not able to form a definitive view on the precise extent of excess capacity in the transmission networks due to the lack of detailed and verifiable information. The Commission has sought this information, on a route by route basis, from access providers as part of monitoring program.

Telstra has refused to provide the Commission with this information, denying there is excess capacity in their intercapital transmission network. CWO also submitted that there is no excess capacity in its network, at a given point in time and given the current multiplexing technology. Other providers of transmission capacity, such as GPU Powernet, are relatively new and did not have sufficient data to provide to the Commission.

In their submissions to the monitoring program, both Telstra and CWO argue that any spare capacity is required to meet demand for capacity from their own customers. In its submission, CWO maintains that it must balance capacity that is spare with the need to secure a return on its infrastructure investment. CWO argues that if its spare capacity had to be given away at low cost, it will receive no return on investment, and would discourage future investment. Similarly, Telstra argues that capacity not yet taken up should not be considered as excess capacity since it is future capacity that it intends to use.

In the previous inquiry, Telstra submitted that there are substantial costs associated with lighting and upgrading unlit fibres. Independent advice provided to the Commission for the previous report, however, suggested that this is not the case and that it is not a difficult task to light up any spare fibres.²⁷

The National Bandwidth Inquiry report also states that multiplexing technology has the ability to increase capacity in a short period of time.²⁸ Similarly, in its submission to the monitoring program, CWO claims that capacity of a fibre optic cable is infinite because the capacity of the network can be increased by lighting up another pair of fibres, or installing fast and advanced multiplexing equipment.

Notwithstanding the costs of lighting up fibres and whether there is excess capacity, both carriers submitted to the previous inquiry that excess capacity is not relevant in determining the level of competition in the intercapital transmission market. Telstra believes that taking a snapshot of intercapital transmission capacity at any point in time could be potentially misleading and would not be particularly useful for drawing conclusions given the variability and dynamic nature of capacity utilisation.²⁹ For example, submissions by access providers to the previous report argued that spare capacity may be required to meet any unexpected increase in demand for transmission capacity.

²⁷ See p. 61-2 of the Commission's inquiry report.

²⁸ See p. 58 of the report.

²⁹ See p. 62 of the Commission's inquiry report for the Commission's view on the provisions for spare capacity.

Questions to assist those preparing submissions:

- Is it relatively costly to light up unlit fibres?
- Is there excess capacity in the incumbents' transmission networks? If so, is the level of excess capacity relevant for determining the level of competition in the market?
- On what routes would there likely be excess capacity?

5.4. Price movements

In the Commission's previous inquiry into competition in data markets, access seekers argued that the introduction of a second supplier of intercapital transmission capacity had little impact on the price. The Commission's view in the inquiry was that price competition between access providers was limited at that time to main wholesale customers and corporates, as evidenced by the limited differences in price for the supply of wholesale transmission capacity to the majority of the access seekers.

Based on the pricing information obtained from Telstra and CWO for the monitoring program, prices for all intercapital routes have fallen.³⁰ The extent of the price reduction, however, varies by route and capacity level requested. The National Bandwidth Inquiry supports the view that there have been significant falls across some routes estimating that prices for 2 megabits per second (M/bits) services on the Melbourne, Canberra, Sydney and Brisbane routes have fallen approximately 60 per cent over the past 18 months. The report also found that reductions in wholesale prices are far smaller, however, on other intercapital routes, such as, Melbourne to Perth, where there is less competition.³¹ Similarly, Macrocom notes that prices for the Sydney-Melbourne and the Sydney-Brisbane routes have fallen. While Macrocom claims that for routes still dominated by Telstra and CWO prices have remained unchanged, the Commission's monitoring program suggests that prices for the other routes have fallen, but not to the extent as those on the Eastern seaboard routes. Importantly, international comparisons conducted by the National Bandwidth Inquiry found that current retail prices for bandwidth in Australia are still 30-50 per cent higher than those in Europe and the United States.³²

In its submission to the monitoring program, CWO claims the price reductions occurred independently of the Commission's declaration decision. CWO believes that the fall in price is due to the competitive nature of the market, rapidly increasing demand for high bandwidth services and declining costs associated with building infrastructure.

³⁰ According to the information Telstra had provided to the monitoring program, the percentage discounts offered have increased between the March 1999 and December 1999 quarters. Discounts offered by Telstra depend on the term of contract, the level of expenditure and the volume of total transmission services sourced from Telstra (loyalty discount). CWO's standard rates also vary according to volume demanded and length of contract.

³¹ See p. 104-5 of the report.

³² See p. 98 of the report.

The Commission is aware that price reductions may be due to a range of factors, including increased competitive pressures, lower costs (which is discussed below), changes in the level of demand and supply, and changes in relative bargaining power.

In regards to the last point, the Commission noted in the previous report that in:

“commercial negotiations between access providers and access seekers for the purchase of wholesale transmission capacity....most negotiating strength has rested with the suppliers of wholesale transmission services”³³

Questions to assist those preparing submissions:

- As noted above, the results of the monitoring program suggests that the price of transmission capacity has fallen, but the price fall has varied across intercapital routes. Is this a true reflection of price movements for transmission services?
- How do wholesale prices for intercapital transmission in Australia compare to those in other countries?
- What are the reasons for the price fall? Is the reduction in wholesale prices experienced in the past year partly a result of a reduction in the access providers’ bargaining power since declaration of many of the intercapital transmission routes?
- Are the benefits of competition in intercapital transmission capacity demonstrably flowing to end-users of carriage services and services provided by means of carriage services in the form of lower prices?

5.4.1. Profit margins

The Commission generally expects that access providers margins should reflect underlying costs, including a risk-adjusted commercial return. Previously, the Commission noted that the access providers’ margins are healthy and a reflection, in part, of attempts to recover large fixed costs associated with the construction of transmission networks. The Commission also recognised that prior to the previous inquiry, the cost of high capacity cables had been significantly reduced.

Questions to assist those preparing submissions:

- Do wholesale prices for intercapital transmission reflect the underlying costs? If not, on which intercapital routes is this the case?

³³ See p. 57 of the Commission’s inquiry report.

5.5. Impact of varying the declaration on efficient investment in infrastructure

The potential for declaration to discourage efficient investment in infrastructure is a key concern of the Commission.

In submissions to the Commission's previous inquiry, existing suppliers of transmission capacity stated that their decision to invest is influenced by the guarantee of high returns which is required if they are to recover the high cost of investment in infrastructure. This concern stems from the uncertainty in relation to price that might result from declaration. Suppliers of transmission capacity, including potential new entrants, were worried about the impact of the Commission's arbitration powers after declaration on their expected returns. In particular, new and potential entrants were concerned that the Commission may force transmission prices down if requested to arbitrate a transmission dispute.³⁴

In the previous inquiry, Telstra submitted that it might not have the incentive to invest in infrastructure because of the potential for access seekers to 'piggy back' off their investment at regulated prices. Telstra submitted that declaration would lead to under investment in both current and new technologies, such as the use of power cables for the provision of transmission capacity.³⁵

Declaration may also impact on investment in the upstream market by service providers. The Commission's view was that economical efficient investment in downstream markets could be achieved through market processes in routes where new entry will occur or is already occurring, or through declaration where the probability of entry is low in the short to medium term. Declaration would ensure that service providers are not forced into a decision to construct their own network facilities by a lack of competition in the upstream market. This duplication of infrastructure was considered by the Commission to be wasteful and represented an inefficient allocation of resources.

Questions to assist those preparing submissions:

- Would varying the declaration have an effect on the investment decisions of new entrants or existing suppliers? Would the variation encourage investment by new entrants or existing suppliers? If so, which intercapital routes will be effected?
- How would varying the declaration affect decisions to invest in downstream markets?

³⁴ See p. 69 of the Commission's inquiry report.

³⁵ See p. 45 of the Commission's inquiry report.

Appendix: Transmission capacity 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 network interfaces at a designated rate on a permanent basis by means of guided and/or unguided electromagnetic energy, except communications between:

- a) one customer transmission point and another customer transmission point; and
- b) a transmission point in Sydney and a transmission point in Melbourne; and
- c) a transmission point in Melbourne to a transmission point in Canberra; and
- d) a transmission point in Sydney and a transmission point in Canberra; and
- e) a transmission point in a State or Territory capital city and a transmission point in another State or Territory capital city, where the communications would entail communications of the type described in one or more of paragraphs (b), (c) and (d) if the capacity was routed via a continuous cable running from Brisbane to Perth through each of the capital cities.

For the purposes of e), a State or Territory capital city will be taken to include any associated secondary centre.

Definitions

Where words or phrases used in this Annexure are defined in the *Trade Practices Act 1974* or the *Telecommunications Act 1997*, they have the meaning as given in the relevant Act.

In this appendix:

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; and

an ***associated secondary centre*** means, in the case of Brisbane, the Gold coast, in the case of Sydney, Newcastle and Wollongong, and in the case of Melbourne, Geelong; and

a ***customer transmission point*** is a point located at customer equipment at a service provider's customer's premises in Australia (for the avoidance of doubt, a customer in this context may be another service provider); and

a ***designated rate*** is a transmission rate of 2.048 megabits per second, 4.096 megabits per second, 6.144 megabits per second, 8.192 megabits per second, 34 to 45 megabits per second, 140/155 megabits per second (or higher orders agreed between a carrier or carriage service provider and another service provider); and

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

a *transmission point* is any of the following agreed between a carrier or carriage service provider and another service provider:

- a) a point of interconnection;
- b) a customer transmission point;
- c) an access seeker network location.