

**Australian  
Competition &  
Consumer  
Commission**

**A final report on the assessment of Telstra's  
undertaking for the Line Sharing Service**

**August 2004**

**Public version**

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## Abbreviations

ACIF	Australian Communications Industry Forum
ADSL	Asymmetric digital subscriber line
CAN	Customer access network
CAM	Customer access module
DSLAM	Digital subscriber line access multiplexers
ECTA	European Competitive Telecommunications Association
EU	European Union
HFC	Hybrid fibre-coaxial cable
LSS	Line sharing service
LTIE	Long term interests of end users
MDF	Main distribution frame
OECD	Organisation for Economic Co-operation and Development
POI	Point of interconnection
PPP	Purchasing Power Parity
PSTN	Public switched telephone network
RAF	Regulatory Accounting Framework
RIM	Remote integrated multiplexer
RSS	Remote subscriber stage
RSU	Remote subscriber unit
SAO	Standard access obligation
SIO	(LSS) Service in operation
TCAM	Telstra customer access module
TSLRIC	Total service long run incremental cost
ULLS	Unconditioned local loop service
WACC	Weighted average cost of capital
xDSL	Refers to the ‘family’ of Digital Subscriber Line services (eg. ADSL, HDSL etc..)

## Executive Summary

Line-sharing refers to a situation where two separate carriers, or service providers, supply separate services to an end-user over a single copper or metallic pair (telephone line). The line sharing service (LSS) involves the access provider providing a voiceband PSTN service to an end-user directly, while also providing access to the line to another carrier or service provider (the access seeker) who simultaneously provides other services (typically broadband services) to the same end-user over the remaining frequency portion of the line.<sup>1</sup>

The LSS was ‘declared’ by the Australian Competition and Consumer Commission (the Commission) under Part XIC of the *Trade Practices Act 1974* (the Act) in August 2002.<sup>2</sup>

Telstra submitted its undertaking in relation to the LSS (the Undertaking) on 1 September 2003. The Undertaking primarily focuses on price terms and conditions and, in particular, the access price (monthly rental charge) applicable to the LSS. Telstra has proposed an access price of \$15 per service in operation (SIO) per month.<sup>3</sup> In addition to price terms and conditions, the Undertaking specifies various non-price terms and conditions. These reflect the way in which Telstra has specified its service description and how it will supply that service. The expiry date provided in the Undertaking is the earlier of 31 December 2004 or (in effect) termination of the Undertaking in accordance with the Act.

In accordance with sub-section 152BV(2)(a) of the Act, the Commission published the Undertaking in December 2003, along with a Discussion Paper<sup>4</sup>, and invited interested parties to make submissions on whether the Commission should accept or reject the Undertaking.

The Commission released a draft decision for public comment on 25 June 2004.<sup>5</sup> The Commission's draft decision was to reject the Undertaking and its reasons for coming to this decision were set out in its Draft Report.

This final report reaffirms the Commission’s draft view to reject the Undertaking and sets out the Commission’s final decision on this matter in full. In coming to its

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<sup>1</sup> This is technically provided over the unconditioned local loop service (ULLS) which is separately declared.

<sup>2</sup> ACCC, *Line-sharing service – final decision on whether or not a line sharing service should be declared under Part XIC of the Trade Practices Act 1974*, August 2002.

<sup>3</sup> Although Telstra notes the undertaking primarily relates to the pricing of the LSS, only the monthly rental charge falls within the scope of the undertakings and the connection and disconnection charges associated with the LSS are not included.

<sup>4</sup> ACCC, *Telstra’s Undertaking for the Line Sharing Service – Discussion Paper*, December 2003.

<sup>5</sup> ACCC, *A draft report on the assessment of Telstra’s Undertaking for the Line Sharing Service*, June 2004.

decision to reject the Undertaking, the Commission considered that:

- having regard to the relevant considerations under section 152AH of the Act, Telstra's proposed LSS access price of \$15 per SIO per month is not reasonable. In particular, the Commission notes that:
  - the proposed price is well above estimates of efficient cost (see below) taking into account future demand for the LSS and some modified cost assumptions that are considered to be more appropriate;
  - an access price set at the level proposed by Telstra is unlikely to encourage competition in the market for high bandwidth carriage services – both in terms of lower prices and higher quality and more innovative services; and
  - the access price is unlikely to encourage efficient use of, or investment, in broadband facilities, does not meet the interests of the access seeker, and is higher than necessary to satisfy Telstra's legitimate business interests.
- the drafting of Telstra's LSS Undertaking, and the view Telstra has expressed regarding to the scope of the Undertaking as compared to the declared service, raises a risk that the Undertaking could be argued to restrict current access rights and may, therefore, be inconsistent with Telstra's SAOs in respect to the Declared Service. While there is some doubt that the Undertaking would succeed in restricting access in this way, the Commission considers that a sufficient degree of uncertainty exists in relation to the operation of the Undertaking which could raise some unnecessary risks for the provision of access;<sup>6</sup> and
- the terms and conditions relating to network modernisation unduly affect the risks of network roll-out by access seekers thereby compromising the interests of persons that have rights to use the service.

Accordingly, the Commission's final view is that the Undertaking should be rejected.

In addition, in assessing the reasonableness of Telstra's proposed \$15 monthly charge, the Commission examined Telstra's LSS cost model which was used to estimate the unit costs of supplying LSS to access seekers once both costs and demand levels are specified. Using demand estimates based on what the Commission considers represents more reasonable forecasts of future LSS (wholesale) demand, as well as amendments to some cost assumptions, the Commission's analysis suggests access

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<sup>6</sup> The Act does not specify an approach to be adopted for assessing whether the terms and conditions in an undertaking are consistent with the SAOs. In this regard, the Commission finds it useful to consider whether the terms and conditions specified in the undertaking raise any inconsistencies with the SAOs, which are set out in s. 152AR of the Act.

prices of around \$7-\$9 per SIO per month would be more reflective of the total service incremental costs (TSLRIC) of supplying the LSS.

Accordingly, the Commission's final view is that the Undertaking should not be accepted.

# 1 Introduction

Line-sharing refers to a situation where two separate carriers, or service providers, supply separate services to an end-user over a single copper or metallic pair (telephone line). The line sharing service (LSS) involves the access provider providing a voiceband PSTN service to an end-user, while also providing access to the line to another carrier or service provider (the access seeker) who simultaneously provides other services (typically broadband services) to the same end-user over the high frequency portion of the line.<sup>7</sup> For example, if Telstra is the access provider, it could deliver voice services to end-users, while a second carrier could simultaneously provide high-speed data services (such as asymmetric digital subscriber line (ADSL)) over the same line. The LSS was ‘declared’ under Part XIC of the *Trade Practices Act 1974* (the Act) in August 2002.<sup>8</sup>

Declaration of a service has two important consequences. First, it means that the access provider is required to supply these services to all service providers upon request. Second, and this flows from the first point, when the access provider and a service provider cannot agree on the terms and conditions of supply, one of them can notify the Commission of a dispute. The Commission can then arbitrate and resolve the dispute.

To reduce the scope for disputes, and consequently the need for the Commission to become involved in arbitrations, an access provider can offer the Commission an undertaking setting out particular terms and conditions of supply. If the Commission accepts the undertaking, then it is prevented from making an arbitration determination that is inconsistent with the undertaking.

Telstra submitted its undertaking in relation to the LSS (the Undertaking) on 1 September 2003. The Undertaking primarily focuses on price terms and conditions and in particular the access price (monthly rental charge) applicable to the LSS. Telstra has proposed an access price of \$15 per service in operation (SIO) per month.<sup>9</sup> In addition to price terms and conditions, the Undertaking specifies various non-price terms and conditions. These reflect the way in which Telstra has specified its service description and how it will supply that service.

This report details the Commission’s assessment of the terms and conditions proposed by Telstra in the Undertaking, its final decision on whether the Undertaking should be accepted or rejected and the reasons for this decision. This essentially involves consideration of two key aspects:

- whether the terms and conditions proposed in the Undertaking are consistent with the standard access obligations (SAOs) (consistency criteria); and

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<sup>7</sup> This is technically provided over the unconditioned local loop service (ULLS) which is separately declared.

<sup>8</sup> ACCC, *Line-sharing service – final decision on whether or not a line sharing service should be declared under Part XIC of the Trade Practices Act 1974*, August 2002.

<sup>9</sup> Although Telstra notes the undertaking primarily relates to the pricing of the LSS, only the monthly rental charge falls within the scope of the undertakings and the connection and disconnection charges associated with the LSS are not included.

- whether the terms and conditions proposed in the Undertaking are reasonable (reasonableness criteria).

The Commission's final decision is to reject the Undertaking, mainly as it is not satisfied that the proposed access price of \$15 per SIO per month is reasonable. In this regard, the Commission is of the view that an access price of around \$7-9 per SIO per month is more reflective of the efficient costs of supplying the LSS than Telstra's proposed access price. Additionally, the Commission also considers the non-price term and condition dealing with network modernisation is not reasonable. The Commission is also not satisfied that the Undertaking is consistent with the relevant SAOs applicable to Telstra in respect of the declared LSS. Accordingly, the Commission's final view is that the Undertaking should not be accepted.



## 2 Background

### 2.1 Declaration and the regulatory framework

The LSS has been declared under Part XIC of the Act since August 2002.

Once a service is declared, carriers and carriage service providers supplying the declared service to themselves or others are subject to SAOs. These obligations constrain the manner in which those carriers and carriage service providers can conduct themselves in relation to supply of the declared service.

Section 152AR of the Act sets out the SAOs applying to those carriers and carriage service providers supplying the declared service to themselves or others. In summary, if requested by a service provider, the carrier/ carriage service provider is required to:

- supply the declared service;
- take all reasonable steps to ensure that the declared service supplied to the service provider is of equivalent technical and operational quality as that which the carrier/carriage service provider is supplying to itself;
- take all reasonable steps to ensure that the fault detection, handling and rectification which the service provider receives in relation to the declared service is of equivalent technical and operational quality as that provided by the carrier/carriage service provider provides to itself;
- permit interconnection of its facilities with those of the service provider; and
- provide particular billing information to the service provider.<sup>10</sup>

The terms and conditions upon which a carrier/carriage service provider is to comply with these obligations are as agreed between the parties. In the event that they cannot agree (and no approved access undertaking is in place) one of them can notify the Commission of an access dispute under s. 152CM of the Act.<sup>11</sup> Once notified, the Commission can arbitrate and make a determination which resolves the dispute. The Commission's determination need not, however, be limited to the matters specified in the dispute notification. It can deal with any matter relating to access by the service provider to the declared service.<sup>12</sup>

The Act also enables a carrier/carriage service provider to resolve potentially contentious issues with the Commission outside the arbitral process. It can do this by giving the Commission an access undertaking setting out the terms and conditions on which it proposes to comply with applicable SAOs.

If accepted by the Commission, the undertaking becomes binding on the carrier/carriage service provider. Hence, if a carrier/carriage service provider breaches the undertaking, the Federal Court can make an order requiring compliance with the

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<sup>10</sup> There are some exceptions to these obligations. These are set out in s. 152AR(4), and in any exemption issued under s. 152AS or s. 152AT of the Act. There are also additional SAOs relating to the use of conditional access equipment which are not relevant to this service.

<sup>11</sup> Section 152AY of the Act

<sup>12</sup> Sub-section 152CP(2) of the Act.

undertaking, the payment of compensation, or any other order that it thinks fit. Once an undertaking is in operation, the Commission must not make an arbitral determination that is inconsistent with the undertaking.<sup>13</sup>

## 2.2 The declared LSS

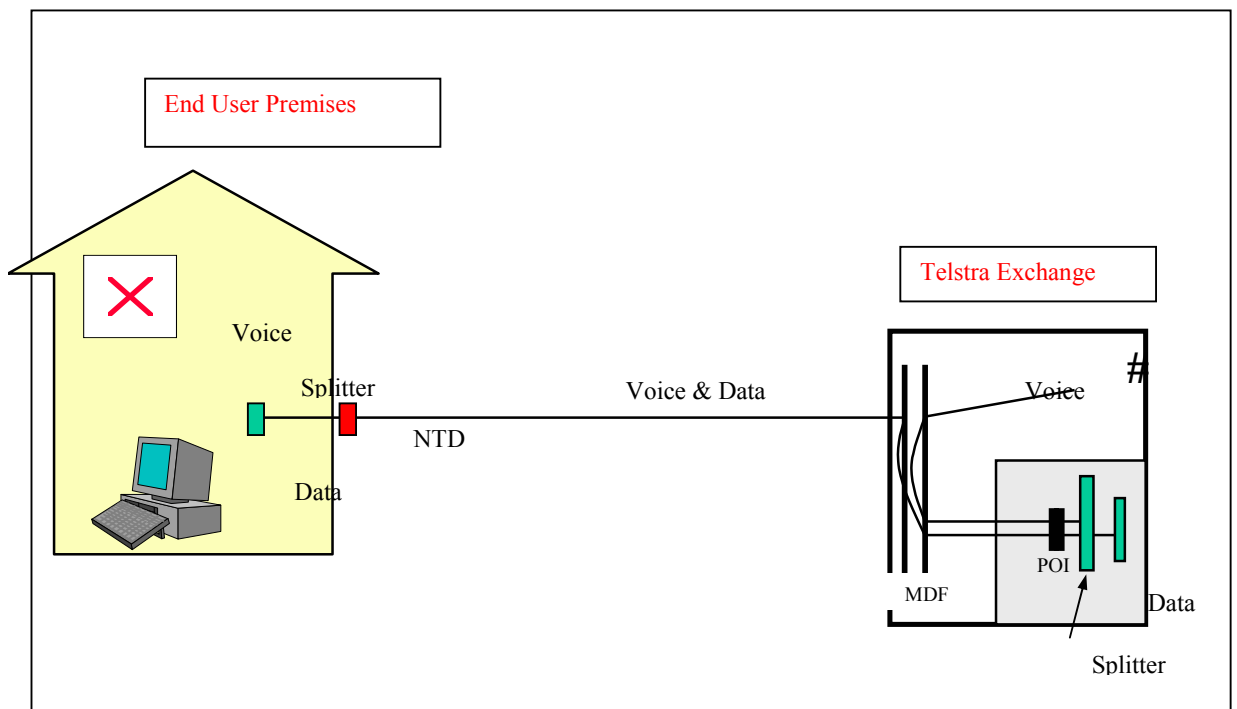
In the Commission's report *Line Sharing Service – final decision on whether or not a line sharing service should be declared under Part XIC of the Trade Practices Act 1974* (the LSS Declaration Report) the following service was declared:

The High Frequency Unconditioned Local Loop Service is the use of the non-voiceband frequency spectrum of an unconditioned communications wire (over which wire an underlying voiceband PSTN service is operating) between the boundary of a telecommunications network at an end-user's premises and a point on a telecommunications network that is a potential point of interconnection located at, or associated with, a customer access module and located on the end-user side of the customer access module.

A full set of definitions for these terms can be found at Appendix A of the LSS Declaration Report.<sup>14</sup>

Diagram 2.1 below, drawn from the LSS Declaration Report, illustrates the way in which Telstra is able to provide the declared LSS.

**Diagram 2.1**



<sup>13</sup> Sub-section 152CQ(5) of the Act.

<sup>14</sup> ACCC, *Line Sharing Service, Final decision on whether or not a Line Sharing Service should be declared under Part XIC of the Trade Practices Act 1974*, August 2002.

Put simply, the declaration allows for Telstra, if it is the access provider, to deliver voice services to end-users, while permitting a second carrier, the access seeker, to acquire the LSS and simultaneously provide high-speed data services (such as ADSL) over the same line.

## 3 Summary of the Undertaking

### 3.1 Terms and conditions of the Undertaking

In order to assess the Undertaking, both in terms of its consistency with the SAOs and whether it meets the reasonableness criteria, the Commission must first form a view as to what terms and conditions are specified.

It is noted that the Undertaking is to continue until the earlier of 31 December 2004 or (in effect) until it is otherwise terminated pursuant to the Act.

The key term and condition in the Undertaking is the proposed access price of \$15 per SIO per month. The Undertaking notes that there are other charges which access seekers will face but that such charges are not dealt with by the Undertaking. These charges include:

- a once only connection charge which applies where an access seeker orders a LSS;
- a once only disconnection charge which applies where an access seeker disconnects a LSS; and
- other charges in relation to operational aspects of the LSS such as service qualification inquiries and order withdrawals.

Such terms and conditions not covered by the Undertaking are capable of being determined by the Commission directly using its arbitral powers under the Act.<sup>15</sup>

While recognising that the connection and disconnection charges are not a part of the Undertaking, the Commission notes that they appear to be an important cost consideration for access seekers.<sup>16</sup> In particular, Primus submitted that

...it [the Undertaking] does not account for connection and disconnection charges which can constitute a significant cost component for access seekers.<sup>17</sup>

The relevance of these charges, and particularly, whether these charges are required to be included in the Undertaking is discussed in section 6.1.1.

The Commission notes that, under Part XIC of the Act, it is required to determine principles relating to the price of access to a declared service. Relevantly, the Commission determined pricing principles applicable to the LSS when making the decision to declare the service. However, in respect to connection and disconnection charges, the Commission notes that it may, as a separate exercise, consider reviewing whether the current pricing principles are appropriate.

In addition to the monthly access price, the Undertaking also specifies various non-price terms and conditions. Most of these terms and conditions are established as a consequence of the way in which Telstra has specified its service description for the

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<sup>15</sup> Sub-section 152AY(2)(iii) of the Act.

<sup>16</sup> Chime Communications' submission to the Discussion Paper, p. 10-11, Network Technology's submission to the Discussion Paper, p. 5, Primus submission to the Discussion Paper, p. 33-4

<sup>17</sup> Primus' submission to the Draft Report, p. 2.

LSS and how it will supply that service. In particular, it has adopted the drafting technique of specifying a LSS with particular technical attributes which it refers to as the ‘Telstra Wholesale Spectrum Sharing Service’ (the Telstra Service). Some of these technical attributes are distinct from the declared LSS description. The Commission considers that the Undertaking contains the following non-price terms and conditions:

- that the access seeker must use the Telstra service to supply ADSL services in accordance with the Unconditioned Local Loop Service (ULLS) Network Deployment rules<sup>18</sup> and, in particular, Deployment Class 6 (excluding 6(c));
- that the end-user points of interconnection (POI) is such that if there is a main distribution frame (MDF) in the building and the line is connected to the MDF, the POI is a two wire point on the side of the frame nearest the Telstra network; or if this is not the case but the line is connected to a network termination device located in, on, or within close proximity to the building, the POI is the side of the device nearest to the end-user; or if neither of these cases applies, the POI is the network boundary point ascertained in accordance with section 22 of the *Telecommunications Act 1999*;
- that the network POI is an agreed point located at or with a Telstra customer access module (TCAM) and located on the end-user’s side of the TCAM;
- that the access seeker must at its own cost install Telstra approved over voltage protection on the equipment side of Telstra’s MDF before acquiring the LSS. This equipment must comply with applicable industry safety standards;
- that the access seeker is responsible for providing the splitter equipment at both the end-user and network POIs;
- that the access seeker must cooperate with Telstra to ensure that end-user privacy rights are not infringed; and
- that access seekers must acknowledge that Telstra may modernise its network without restriction or limitation.

The Undertaking notes that there are other matters that Telstra and an access seeker would need to reach agreement on prior to the supply of the LSS but that these are not dealt with by the Undertaking. For example, it is observed that facilities access arrangements will need to be put in place but arrangements for such are not detailed in the Undertaking.

It is noted that many of these non-price terms and conditions establish the scope of the Telstra Service and are, therefore, also relevant to the discussion in section 6.1.1 about the scope of the services covered by the Undertaking. This issue is relevant to whether the Undertaking is consistent with the SAOs.

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<sup>18</sup> These are the *Unconditioned Local Loop Service – Network Deployment Rules* registered by the Australian Communications Authority under section 117 of the *Telecommunications Act 1997*.

## 4 Basis for assessing the Undertaking

### 4.1 Form and contents of an Undertaking

Section 152BS of the Act provides that an access undertaking is a written document given to the Commission under which the relevant carrier or provider undertakes to comply with the terms and conditions specified in the undertaking in relation to the applicable SAOs.

Section 152BS sets out that an undertaking may be one of the following types:

- an undertaking containing terms and conditions that are specified in the undertaking; or
- an undertaking where the terms and conditions are specified by adopting a set of model terms and conditions set out in the telecommunications access code, as in force at that time.<sup>19</sup>

Telstra's undertaking falls into the first category; i.e. the terms and conditions are specified in the undertaking.

### 4.2 Criteria for acceptance of the Undertaking

Section 152BV sets out the matters on which the Commission must be satisfied before it can accept the Undertaking. It applies where an ordinary access undertaking is given to the Commission and the undertaking does not adopt a set of model terms and conditions set out in the telecommunications access code. As noted above, Telstra's Undertaking is an ordinary access undertaking.

Each of the matters set out in s. 152BV are explained in turn below.

#### 4.2.1 Public process

Sub-section 152BV(2)(a) of the Act provides that the Commission must not accept an undertaking unless:

- the Commission has published the undertaking and invited people to make submissions on the undertaking; and
- considered any submissions that were received within the time limit specified by the Commission when it published the undertaking.

In accordance with sub-section 152BV(2)(a) of the Act, the Commission published the Undertaking and, as part of its *Telstra's Undertaking for the Line Sharing Service – Discussion Paper*<sup>20</sup> (the Discussion Paper), it invited interested parties to make submissions. In total the Commission received six submissions from interested parties and has considered these in coming to its final views detailed below. Further, under s. 152BT of the Act the Commission has requested additional information from Telstra

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<sup>19</sup> Sub-section 152BS(3) and (4) of the Act.

<sup>20</sup> ACCC, *Telstra's Undertaking for the Line Sharing Service – Discussion Paper*, December 2003.

in order to assist its assessment of the Undertaking.<sup>21</sup> In particular, these requests have sought information relating to costs, demand and service description issues. In relation to service description issues, the Commission also sent a similar request to interested parties and received two submissions.

The Commission also released a preliminary or draft decision for public comment on 25 June 2004. The Commission's draft decision was to reject the Undertaking and its reasons for coming to this draft decision were set out in its Draft Report. The Commission received five submissions from interested parties commenting on its draft decision and these were also taken into account by the Commission in making its final decision.

A list of submissions made throughout the assessment process and supplementary submissions provided by Telstra in response to information requests is provided in Appendix 1.

#### **4.2.2 Consistency with the standard access obligations**

Sub-section 152BV(2)(b) provides that the Commission must not accept an undertaking unless the Commission is satisfied that the undertaking is consistent with the SAOs that are applicable to the carrier or provider.

The SAOs are set out in s. 152AR of the Act. In summary, if requested by a service provider, an access provider is required to:

- supply the declared service;
- take all reasonable steps to ensure that the technical and operational quality of the service supplied to the service provider is equivalent to that which the access provider is supplying to itself;
- take all reasonable steps to ensure that the fault detection, handling and rectification which the service provider receives in relation to the declared service is of equivalent technical and operational quality as that provided by the access provider to itself;
- permit interconnection of its facilities with the facilities of the service provider;
- take all reasonable steps to ensure that the technical operational quality and timing of the interconnection is equivalent to that which the access provider provides to itself;
- if a standard is in force under s. 384 of the *Telecommunications Act 1997*, take all reasonable steps to ensure that the interconnection complies with the standard;
- take all reasonable steps to ensure that the service provider receives interconnection fault detection, handling and rectification of a technical and operational quality and timing that is equivalent to that which the access provider provides to itself;
- provide particular billing information to the service provider; and
- supply additional services in circumstances where a declared service is supplied by means of conditional-access customer equipment.

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<sup>21</sup> These requests have the effect of 'stopping the clock' for the undertaking which must be considered by the Commission within a six month timeframe. To date, four such requests have been made by the Commission.

The question of whether Telstra's Undertaking is consistent with any applicable SAOs is considered in section 6.

#### **4.2.3 Consistency with Ministerial pricing determination**

Sub-section 152BV(2)(c) provides that the Commission must not accept an undertaking dealing with price or a method of ascertaining price unless the undertaking is consistent with any Ministerial pricing determination.

Division 6 of Part XIC of the Act provides that the Minister may make a written determination setting out the principles dealing with price-related terms and conditions relating to the SAOs.<sup>22</sup> To date, a Ministerial pricing determination has not been made. Accordingly, the Commission is not required to assess the Undertaking under this criterion.

#### **4.2.4 Whether terms and conditions are reasonable**

Sub-section 152BV(2)(d) of the Act provides that the Commission must not accept an undertaking unless the Commission is satisfied that the terms and conditions specified in the undertaking are reasonable.

In forming a view about whether particular terms and conditions are reasonable, the Commission must have regard to the range of matters set out in s. 152AH(1) of the Act. In the context of assessing Telstra's Undertaking, these are:

- whether the terms and conditions promote the long-term interests of end-users of carriage services or of services supplied by means of carriage services (the 'long-term interests of end-users');
- the legitimate business interests of Telstra, and its investment in facilities used to supply the declared services;
- the interests of all persons who have rights to use the declared services;
- the direct costs of providing access to the declared services;
- the operational and technical requirements necessary for the safe and reliable operation of a carriage service, a telecommunications network or facility; and
- the economically efficient operation of a carriage service, a telecommunications network or a facility.

In addition, s. 152AH(2) states that the matters listed in s. 152AH(1) do not limit the matters to which the Commission may have regard. Thus, the Commission may consider any other relevant matter. The question of whether the terms and conditions set out in Telstra's Undertakings are reasonable is considered in section 7.

Set out below is a summary of the key phrases and words used in the above matters. While, in general, these phrases and words have not been the subject of judicial interpretation, in order to have regard to those matters it is necessary for the Commission to form a view as to what they mean.

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<sup>22</sup> Section 152CH of the Act. 'Price-related terms and conditions' means terms and conditions relating to price or a method of ascertaining price.



### ***Long-term interests of end-users***

The Commission has published a guideline explaining what it understands is meant by the phrase ‘long-term interests of end-users’ in the context of its declaration responsibilities.<sup>23</sup> A similar interpretation would seem to be appropriate in the context of assessing an undertaking.

In the Commission’s view, particular terms and conditions promote the interests of end-users if they are likely to contribute towards the provision of goods and services at lower prices, higher quality, or towards the provision of greater diversity of goods and services.<sup>24</sup>

In considering whether particular terms and conditions promote the long-term interests of end-users, the Commission is required, under sub-section 152AB(2) of the Act, to give consideration to the extent to which those terms and conditions are likely to result in the achievement of the following objectives:

- the objective of promoting competition in markets for carriage services and services supplied by means of carriage services;
- for carriage services involving communications between end-users, the objective of achieving any-to-any connectivity; and
- the objective of encouraging the economically efficient use of, and economically efficient investment in, infrastructure by which carriage services and services provided by means of carriage services are supplied.<sup>25</sup>

In the Commission’s view, the phrase ‘economically efficient use of, and economically efficient investment in infrastructure’ refers to the concept of economic efficiency.

This concept consists of three components:

- Productive efficiency. This is achieved where individual firms produce the goods and services that they offer at least cost.
- Allocative efficiency. This is achieved where the prices of resources reflect their underlying costs so that resources are then allocated to their highest valued uses (i.e. those that provided the greatest benefit relative to costs).
- Dynamic efficiency. This reflects the need for industries to make timely changes to technology and products in response to changes in consumer tastes and in productive opportunities.

### ***Legitimate business interests and direct costs***

The Commission is of the view that the concept of legitimate business interests should be interpreted in a manner consistent with the phrase ‘legitimate commercial interests’ used elsewhere in Part XIC of the Act. Accordingly, it would cover the carrier’s, or carriage service provider’s interest in earning a normal commercial return on its investment.

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<sup>23</sup> ACCC, *Telecommunications services — Declaration provisions: a guide to the declaration provisions of Part XIC of the Trade Practices Act*, July 1999.

<sup>24</sup> *Ibid*, p. 32-3.

<sup>25</sup> Sub-section 152AB(2) of the Act.

This does not, however, extend to receiving compensation for loss of any ‘monopoly profits’ that occurs as a result of increased competition. In this regard, the Explanatory Memorandum for the *Trade Practices Amendment (Telecommunications) Bill 1996* states:

... the references here to the ‘legitimate’ business interests of the carrier or carriage service provider and to the ‘direct’ costs of providing access are intended to preclude arguments that the provider should be reimbursed by the third party seeking access for consequential costs which the provider may incur as a result of increased competition in an upstream or downstream market.

When considering the legitimate business interests of the carrier or carriage service provider in question, the Commission may consider what is necessary to maintain those interests. This can provide a basis for assessing whether particular terms and conditions in the undertaking are necessary (or sufficient) to maintain those interests.

### ***Interests of persons who have rights to use the declared service***

Persons who have rights to use a declared service will, in general, use that service as an input to supply carriage services, or a service supplied by means of carriage services, to end-users. In the Commission’s view, these persons have an interest in being able to compete for the custom of end-users on the basis of their relative merits. Terms and conditions that favour one or more service providers over others and thereby distort the competitive process may prevent this from occurring and consequently harm those interests.

While s. 152AH(1)(c) directs the Commission’s attention to those persons who already have rights to use the declared service in question, the Commission can also consider the interests of persons who may wish to use that service. Where appropriate, the interests of these persons may be considered to be ‘any other relevant consideration’.

### ***Economically efficient operation of, and investment in, a carriage service***

In the Commission’s view, the phrase ‘economically efficient operation’ embodies the concept of economic efficiency set out in section 6.1.1. It would not appear to be limited to the operation of carriage services, networks and facilities by the carrier or carriage service provider supplying the declared service, but would seem to include those operated by others (e.g. service providers using the declared service).

To consider this matter in the context of assessing an undertaking, the Commission may consider whether particular terms and conditions enable a carriage service, telecommunications network or facility to be operated in an efficient manner. This may involve, for example, examining whether they allow for the carrier or carriage service provider supplying the declared service to recover the efficient costs of operating and maintaining the infrastructure used to supply the declared service under consideration.

In general, there is likely to be considerable overlap between the matters that the Commission takes into account in considering the long-term interests of end-users and its consideration of this matter.<sup>26</sup>

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<sup>26</sup> Relevantly, in considering whether particular terms and conditions will promote the long-term interests of end-users, the Commission must have regard to their likely impact on the economically efficient use of, and economically efficient investment in, the infrastructure by which carriage services and services provided by means of carriage services are supplied.

#### **4.2.5 Expiry date**

Sub-section 152BS(7) of the Act provides that the undertaking must specify the expiry time of the undertaking. Further, s. 152BV(2)(e) provides that the expiry time of the undertaking must be within 3 years after the date on which the undertaking comes into operation.

The expiry date provided in the Undertaking is the earlier of 31 December 2004 or (in effect) termination of the Undertaking in accordance with the Act. Accordingly, the Commission considers that the Undertaking meets the expiry date requirements.

## **5 Procedural matters**

### **5.1 Confidentiality**

In arriving at its final view, the Commission has relied on commercial-in-confidence information supplied by Telstra and interested parties. The Commission has assessed this material in terms of its policy on treatment of information<sup>27</sup> and has determined that, in most instances, it should not reproduce that material in this report.

Accordingly, where information that is commercially sensitive has been relied upon in reaching a conclusion in this report, it has either been aggregated to a level such that it is no longer of commercially sensitive or, where this is not possible, it has been masked with the designation [c-i-c].

The Commission recognises that its decision making processes should be as transparent as practicable and, in this regard, notes the opportunity for interested parties to obtain the commercial-in-confidence information from the provider of that information upon the giving of appropriate undertakings. The Commission notes that interested parties have been able to negotiate such undertakings in respect of some of the information that has been relied upon by the Commission in coming to its final view and would similarly encourage the provision of any further information that has been relied upon by the Commission but not to date supplied to interested persons.

The Commission notes that, unless it can corroborate commercial-in-confidence information in some way, it is constrained in the weight that it can give to information that has not been subject to industry scrutiny. In certain instances where it is not possible to otherwise corroborate information, or where parties are unable to agree to the terms of provision of commercial-in-confidence information, the Commission would consider requests for it to supply the information, so as to allow its scrutiny.

### **5.2 Information requests and further submissions from Telstra**

The Commission has the power under s. 152BT(2) to request that the applicant give the Commission further information about an undertaking in order to facilitate the Commission's consideration of an undertaking.

Since the date of lodgement of the Undertaking, the Commission has requested further information of Telstra under s. 152BT(2) on four occasions. As noted above, this information has been referred to and relied upon by the Commission in its formulation of this final decision. In the interests of procedural fairness, these further submissions were made available to interested parties, subject to the confidentiality constraints over such information, to assist in the making of submissions on the Commission's draft decision.

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<sup>27</sup> ACCC, *Collection and Use of Information*, October 2000.

### **5.3 Information relied upon**

The Commission, for its final assessment of the Undertaking, has primarily used the supporting submission of Telstra, its further submissions associated with the Commission's requests for further information under sub-section 152BT(2), as well as the submissions of interested parties made pursuant to the Discussion Paper and the Draft Report. These submissions are listed at Appendix 1.

### **5.4 Decision-making period**

The Commission has a 6 month statutory time frame by which it must make a decision to accept or reject the Telstra Undertaking. For the purposes of calculating the 6 month timeframe, certain periods of time are disregarded. In particular, the time it takes between when the Commission makes a request for further information (under s.152BT of the Act) and when Telstra has furnished the information requested is disregarded, as is the time between when the Commission published the Undertaking (and sought submissions<sup>28</sup>) and the due date for receipt of those submissions.

The Commission may also exercise a power under sub-section 152BU(7) to extend the time it has to make a decision by up to a further 3 months. However, it has not been necessary for the Commission to seek to invoke this power.

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<sup>28</sup> Sub-section 152BV(2)(a) of the Act.

## **6. Consistency with standard access obligations**

Under s. 152BV(2)(b) of the Act, the Commission must not accept an undertaking unless it is satisfied that the undertaking is consistent with the SAOs that are applicable to Telstra. The SAOs are set out in s. 152AR of the Act and are summarised in section 4.

In relation to the declared LSS, most of the SAOs set out in s. 152AR apply to Telstra. That said, there is no relevant standard currently in force under s. 384 of the *Telecommunications Act 1997* and therefore there is no consequent obligation to ensure reasonable steps are taken to allow interconnection which complies with such standards. Further, as access to the declared LSS is not proposed to be supplied by means of conditional-access customer equipment, the obligation under sub-section 152AR(8) of the Act does not currently apply.

### **6.1 Approach to assessing consistency with the standard access obligations**

The Act does not specify an approach to be adopted for assessing whether the terms and conditions in an undertaking are consistent with the SAOs. In this regard, the Commission finds it useful to consider whether the terms and conditions specified in the undertaking raise any inconsistencies with the SAOs. That is, if the terms and conditions are not inconsistent with the obligations, the Commission is likely to regard them as being consistent with the obligations. In considering consistency with the SAOs, the Commission considers there is no requirement that the undertaking set out a complete set of terms and conditions in respect to the declared service.

If the Commission considered the terms and conditions of an undertaking compromised the access providers' obligation to wholly satisfy each of its SAOs under section 152AR then the Commission is likely to consider the undertaking to be inconsistent with the SAOs.

The Undertaking provides at Recital C that the terms and conditions specified in the Undertaking principally relate to matters of pricing. The Commission notes, however, that the Undertaking does contain a number of non-price terms and conditions. Relevantly, clause 3.1 of the Undertaking provides that Telstra will comply with the terms and conditions specified in Attachments A, B and C of the Undertaking in relation to the SAOs that are applicable to Telstra in respect of the declared LSS. Attachments A, B and C of the Undertaking contain price and non-price terms and conditions.<sup>29</sup> In determining consistency with the SAOs, the Commission would typically consider whether the non-price terms and conditions specified in the undertakings (including the attachments) raised any potential inconsistencies with each of the applicable SAOs. The price terms and conditions are chiefly assessed in terms of the reasonableness criteria – see section 7 below.

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<sup>29</sup> See Section 3.1 for further details

### 6.1.1 Non-exhaustive scope of the Undertaking

The Undertaking purports to apply a particular form of the LSS. In this respect, it adopts, as a drafting technique, the specification of a LSS with particular technical attributes, which is referred to as the ‘Telstra Wholesale Spectrum Sharing Service’ (the Telstra Service). As detailed below in section 6.1.2, the Telstra Service differs from the declared LSS. The Undertaking sets out terms and conditions upon which the Telstra Service will be supplied. The Commission notes (as provided by Recital C(a) of the Undertaking) that the terms and conditions are not exhaustive of all the matters upon which an access provider and access seeker would be required to reach agreement in respect of the supply of the Telstra service.

In its submission to the Discussion Paper, PowerTel expressed concern that the Undertaking is not consistent with the SAOs because terms and conditions relating to certain technical specifications are absent (e.g. filters, provision of fault detection and others.) In particular, PowerTel stated that an absence of ‘critical’ terms and conditions in an undertaking should prevent the Commission concluding that the Undertaking is consistent with the SAOs.<sup>30</sup> While PowerTel accept that not ‘all’ terms and conditions need be specified in an undertaking to satisfy the SAOs, it considers that:

...it is necessary to include those non-price terms and conditions that impact on the assessment of whether the terms and conditions specified in the undertaking are consistent with the SAOs...<sup>31</sup>

PowerTel considers the following ‘key’ terms should have been included in the Undertaking: technical standards (e.g. filters and interconnection with digital subscriber line access multiplexers (DSLAMs)); service provisioning terms and related charges; and payment terms.

Further, in its submission to the Discussion Paper, Optus noted that the Undertaking does not contain a full list of charges applicable with the provision of the LSS.<sup>32</sup> In this regard, it considered the Commission should reject the Undertaking as it does not present all the likely charges meaning the Commission has no basis to determine the likely overall costs of the service.

In submissions to the Draft Report, the Commission notes the concerns expressed by a number of access seekers in relation to disconnection charges and facilities access issues, and therefore, the absence of these matters in the Undertaking.

In particular, Chime Communications and Agile Communications indicated that the imposition of disconnection as well as connection charges by Telstra was excessive, and it was not clear why both were necessary, as customers move from Telstra to another service provider.<sup>33</sup> In particular, Chime notes that the work involved to connect the customer to a new provider can be scheduled at the same time as a disconnection, such that access seekers should only be charged a connection charge. It would also appear that, while Telstra has offered to reduce this charge where **[c-i-c]**.

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<sup>30</sup> PowerTel’s submission to the Discussion Paper, p. 3.

<sup>31</sup> Ibid.

<sup>32</sup> Optus’ submission to the Discussion Paper, p. 4.

<sup>33</sup> Chime Communications’ submission to the Draft Report, p. 5, Meeting with Agile Communications, 28 July 2004.

The Commission also notes that Chime and Agile Communications submit that, besides the requirement to pay both a connection and disconnection charge, they have experienced difficulties in migrating customer across to their services due to certain facilities access issues. Some of the difficulties noted by these access seekers relate to the provision of TEBA, internal tie cables, exchange jumpering and project management.<sup>34</sup>

It is noted that in Telstra's submission to the Draft Report, it indicated that while it has included a reference to connection and disconnection charges in the Undertaking;

Telstra has decided to limit the scope of the UT Price to the proposed monthly rental charges on the basis that charges for connection and disconnection of the UT Service are unlikely to give rise to significant disputes between Telstra and the access seeker and can therefore be agreed on a commercial basis. Furthermore, it is the ongoing monthly charges, not once-off charges for connection and disconnection, which are likely to determine whether an access seeker will invest in the UT service.<sup>35</sup>

In addition, in its submission of 23 July 2004, Telstra suggested the Commission should not consider such charges in the context of its assessment of the Undertaking, because these charges do not form part of the Undertaking.

The Commission notes that while the price and non-price terms and conditions that are contained in Telstra's Undertaking do not cover all matters relating to the supply of the Telstra service, sections 152AY(2) and 152BS(6A) of the Act makes clear that it is not necessary for a section 152BS access undertaking to set out all the terms of access that could relate to the applicable SAOs. In particular, the Explanatory Memorandum to the *Telecommunications Competition Bill 2002* notes that section 152BS(6A) was introduced in 2002 in order to, '...make it clear that an undertaking may be made without limitations or may be subject to such limitations as are specified in the undertaking.'<sup>36</sup> Accordingly, the Commission considers that the absence of terms and conditions about certain matters does not make an undertaking inconsistent with the SAOs. In this regard, the Commission considers that any relevant matters that are not addressed in an undertaking could be settled by commercial negotiation or in the absence of agreement, arbitration by the Commission. In its response to the Draft Report, Telstra notes that it agrees with the Commission's view on this issue.

That said, the Commission would be concerned if terms or conditions which are key elements to access seekers in the provision of services to end-users are absent in an undertaking. The Commission considers that the absence of such terms and conditions could preclude access seekers from readily obtaining reasonable supply of the service on a timely basis. In this regard, in order to promote greater certainty in relation to these charges and facilities access issues, the Commission invites Telstra to expressly address these matters in any replacement undertaking.

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<sup>34</sup> Chime Communications' submission to the Draft Report, p. 4, Meeting with Agile Communications, 28 July 2004

<sup>35</sup> Telstra's submission to the Draft Report, p. 6-7.

<sup>36</sup> Commonwealth of Australia, *Telecommunications Competition Bill 2002*, Explanatory Memorandum, 2002, p. 76



The Commission also notes that the assessment as to whether terms and conditions are reasonable is a different test which also requires consideration of a number of specific matters, including, for example, whether the terms and conditions are in the LTIE.<sup>37</sup> The assessment as to whether terms and conditions in the Undertaking are reasonable is conducted in section 7. It is noted that, although an undertaking may be held to be consistent with the SAOs, the terms and conditions may, nevertheless, still be determined unreasonable.

### **6.1.2 Whether the Undertaking in specifying the Telstra service satisfies the standard access obligations**

As detailed in section 6.2.1 the LSS is a declared service and, pursuant to sub-section 152AR(3)(a) of the Act, Telstra has to supply the LSS. In this section of the report the Commission gives consideration to whether it is satisfied that the terms and conditions of the Undertaking are consistent with this SAO.

The Commission notes the Undertaking relates to the supply of the Telstra Service rather than the declared LSS. Importantly, the Telstra Service is not defined in the Undertaking in the precise form determined by the Commission as the declared LSS as per the relevant instruments in which it was declared or taken to be declared. In particular, certain aspects of the Telstra Service would appear of more limited scope than the declared LSS.

For example, the Commission notes the following limitations in respect of the Telstra Service when compared to the declared LSS:

- the Telstra Service only allows use of the ‘non-voice ADSL frequency spectrum’ whereas the scope of the declared LSS encompasses the ‘non-voiceband frequency spectrum’;
- the Telstra Service may only be used for an ‘Asymmetrical Digital Subscriber Line Service operated in accordance with the Network Deployment Rules’, whereas there is no such requirement for the declared LSS;
- the Telstra Service requires that the access seeker must install, at its own cost, over voltage protection on the equipment side of Telstra’s MDF prior to acquiring the service; and
- access seekers must provide their own splitters and such equipment must conform with the ‘Telstra Splitter Specifications’, whereas for the declared LSS no such provisions are made.

A further list setting out all of the differences identified by the Commission between the Telstra Service and the declared LSS may be found at Appendix 2.

In a supplementary submission to the Discussion paper, Telstra noted that the Undertaking obliges access seekers to comply with the ULLS Network Deployment rules and in particular Deployment Class 6 (excluding 6c).<sup>38</sup> In this regard, it submitted that as Deployment Class 6 applies to ADSL services only, Telstra has sought to ensure

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<sup>37</sup> Section 152AH(1)(a) of the Act.

<sup>38</sup> Telstra’s fifth supplementary submission, p. 1.

the declared LSS may only be used to supply ADSL.<sup>39</sup> That is, Telstra has proposed that the Undertaking should be interpreted such that the declared LSS can only be supplied in accordance with Deployment Class 6. While this differs from the way in which the declared LSS is specified, Telstra has advised that its view is that the Undertaking if accepted will satisfy its SAOs. Further, it submits that if the undertaking is accepted, the SAOs would not require Telstra to supply the declared LSS other than as the Telstra service (i.e. in accordance with Deployment Class 6). In this regard, Telstra considered the Commission could not arbitrate a dispute requiring Telstra to supply the declared service in accordance with any other deployment class, such as Deployment Class 9 or 3.

In its submission to the Discussion Paper, Primus noted that the Telstra Service and the declared LSS are slightly different as the Telstra Service refers to a service that uses the non-voice ADSL frequency spectrum, which may be a subset of the total non-voice frequency spectrum available from the line.<sup>40</sup> From a practical perspective, however, Primus notes that the declared LSS will be used by most access seekers to provide broadband services via ADSL and in that case considers the two service descriptions are practically equivalent.

While PowerTel initially noted that the proposed service description used by Telstra in its undertaking was an appropriate form of the declared LSS<sup>41</sup>, in a supplementary submission it noted that the Telstra Service is more restrictive than the declared LSS.<sup>42</sup> In particular, that the Telstra Service only provides for the simultaneous deployment of ADSL and voice services, whereas the declared LSS is not limited to the deployment of ADSL. PowerTel noted that the ULLS Network Deployment rules currently restrict the simultaneous deployment of xDSL services over a copper pair with voice services to ADSL services. Therefore, in a practical sense, it was of the view that it would be unlikely an access seeker would deploy an xDSL service other than ADSL using the LSS under current ULLS Network Deployment rules.

That said, PowerTel noted that the Australian Communications Industry Forum (ACIF) is currently considering variations to relevant codes or the development of new codes that will specify deployment rules permitting the simultaneous deployment of xDSL services other than ADSL with voice, including ADSL2, ADSL2+ and VDSL. In this regard, PowerTel expressed concern that the undertaking may be used to prevent such deployment as it could be argued that deployment of ADSL services other than in the manner specified by the Telstra Service would be outside the scope of the undertaking. It took the view, however, that the current drafting of the undertaking limits its application to simultaneous deployment of ADSL and voice services and that the supply of other xDSL services was outside the scope of the undertaking. Therefore, it considered the Commission should be able to arbitrate a dispute involving the supply of ADSL2, ADSL2+ and VDSL services (in the event the ULLS Network Deployment

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<sup>39</sup> Telstra notes that under C559 only Deployment Class 6 is compatible with the provision of underlying voice services (as required in the LSS service description). Therefore, as Deployment Class 6 applies to ADSL services only, Telstra has sought to ensure the declared LSS may only be used to supply ADSL in order to comply with C559.

<sup>40</sup> Primus' submission to the Discussion Paper, p. 3.

<sup>41</sup> PowerTel's submission to the Discussion Paper, p. 11.

<sup>42</sup> PowerTel's supplementary submission, p. 1.

rules allow such supply) as it would fall within the declared LSS description. Optus noted in its supplementary submission that the undertaking only applies to the supply of one xDSL service using the LSS, that being ADSL.<sup>43</sup> It considered the Undertaking should not apply for ADSL services that are not supplied in accordance with the ULLS Network Deployment rules and that the Commission would appear to retain the ability to arbitrate terms and conditions in relation to parts of the LSS that are not covered by Telstra's undertaking.

As noted earlier, Telstra has a SAO to supply the LSS to access seekers. The Commission understands that, at this stage, the only way in which the LSS can be used to supply broadband services is in accordance with the ULLS Network Deployment rules. This means that in a practical sense the LSS can only be used to supply ADSL services and that therefore the declared LSS and the Telstra Service are very similar services. That said, there appear to be a number of differences in terms of how the Telstra service is specified, e.g. over voltage protection, splitter specifications and boundary points. Further, it appears that at some point in the future it may be possible to supply services other than ADSL using the LSS.

In response to the Draft Report, Telstra stated that it did not agree with the Commission's concerns regarding the inconsistencies between the Telstra Service and the Declared Service. Further, Telstra submits that the limitations detailed with respect to the Telstra Service are:

..simply the terms and conditions on which Telstra will comply with its applicable SAOs with regard to the Declared Service.<sup>44</sup>

In addition, Telstra has reiterated that, if the Commission accepts Telstra's Undertaking, it would not owe any SAOs in respect to a request for the supply of the Declared Service in a form other than the specified Telstra Service.<sup>45</sup> However, the Commission is of the view that, in the event that Telstra's LSS Undertaking was accepted, the Commission would have the power to arbitrate on any terms and conditions relating to the Declared Service that are not dealt with in the Undertaking. Accordingly, the Commission would be empowered to arbitrate terms and conditions relating to alternative forms of the Declared Service, that is, in relation to parts of the LSS that are not covered by Telstra's Undertaking. The Commission observes that this is also a view put forward by Optus in its response to the Draft Report.

The Commission notes that it does not agree with Telstra's interpretation that:

The Commission appears to assume that in order for the undertaking to satisfy the SAOs, the description of the Service must be identical to that of the Declared Service as set out in the Commission's register of declared services.<sup>46</sup>

As stated in its Draft Report, the Commission noted that specifying a limited service in an undertaking does not itself raise concerns in accepting an undertaking. For example, in this case the Commission would typically interpret the Undertaking such that Telstra could not be required, pursuant to its Undertaking, to supply on the price and non-price

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<sup>43</sup> Optus' supplementary submission, p. 2.

<sup>44</sup> Telstra's submission to the Draft Report, p. 3.

<sup>45</sup> Telstra's submission to Draft Report, p. 6.

<sup>46</sup> Telstra's submission to the Draft Report, p. 4.

terms set out in the Undertaking an instance of the declared LSS that was outside the scope of the 'Telstra Service'. Any such instance of the declared service (outside the scope of the Telstra Service) would typically be subject to commercial negotiation and, failing agreement, to arbitration. In other words, unless an express intention to the contrary is provided in an undertaking, the Commission would typically interpret an undertaking as specifying the terms and conditions upon which the access provider would satisfy its SAOs in respect of only the service as defined in the undertaking (however that is done) and not as satisfying the SAOs in respect of any other instance of the declared service.

If Telstra's Undertaking was to be interpreted instead as specifying terms and conditions in respect of all instances of the declared LSS, then Telstra may, in accordance with such an interpretation, purport to refuse to supply any instance of the declared LSS other than the Telstra Service. This view would be based on the argument that the form of the service defined in the Undertaking purports to define terms and conditions relating to the supply of all potential instances of the declared service, as opposed to applying only to the instance of the service as set out in the Undertaking. Were such an interpretation to be given to the Undertaking, the Commission could not be satisfied that the Undertaking was consistent with Telstra's SAOs in respect of the full scope of the declared service, as such an interpretation would purport to limit the scope of that SAO owed by Telstra in respect to the supply of the declared service (by limiting the obligation to only the Telstra Service). The Undertaking would therefore be inconsistent with Telstra's SAOs.

The Commission considers that the current drafting of the Undertaking is open to arguing such a construction. The Commission would typically interpret matters where there was uncertainty in a way that would best give effect to the purpose of providing the Undertaking, that being for the Undertaking to only specify terms and conditions that apply to the specified instance of the declared service defined in the Undertaking.

Given the drafting of Telstra's LSS Undertaking, and the view Telstra has expressed in regards to the interpretation of the Undertaking, the Commission recognises there is a risk that the Undertaking could be argued to restrict current access rights and may, therefore, be inconsistent with Telstra's SAOs in respect to the Declared Service. While there is some doubt that the Undertaking could restrict access in this way, the Commission considers that a sufficient degree of uncertainty exists in relation to the operation of the Undertaking which could raise some unnecessary risks for access seekers.

Given this level of uncertainty, the Commission invites Telstra to make a clear distinction in any revised undertakings between what is covered in the undertaking and what is possible under the declared service. The Commission notes that it is open to Telstra to specify with certainty and particularity the terms and conditions on which it agrees to provide access.

### **6.1.3 Conclusion**

The Commission considers that given the drafting of Telstra's LSS Undertaking, there is some uncertainty in relation to whether the Undertaking purports to preclude access seekers from seeking supply of an instance of the declared service that falls outside of the scope of the Telstra Service. In this regard, the Commission considers that while it is doubtful that the Undertaking could restrict access in this way, there is sufficient

uncertainty about this matter that the Undertaking may, therefore, be inconsistent with Telstra's SAOs in respect to the Declared Service.

The Commission considers that Telstra may want clarify its position in regards to the operation of the Undertaking in any revised undertakings. The Commission notes it would be concerned to ensure that any undertaking it accepted, or any future undertakings given, would apply only in respect of the services as defined in the undertaking and not purport to specify terms and conditions that would in some way restrict current or future access to the corresponding declared service.

## **7 Reasonableness of the terms and conditions**

The Commission cannot accept an undertaking unless it is satisfied that the terms and conditions are reasonable. In forming a view about whether particular terms and conditions are reasonable, the Commission must have regard to the range of matters set out in s. 152AH(1) of the Act. These were summarised in section 4. It is also noted that the Commission is not limited by the matters to which regard may be had, as set out in s. 152AH(2) of the Act.

The terms and conditions specified in the Undertaking were detailed in section 3.1. In summary they are that the:

- access seeker must pay an access price of \$15 per SIO per month;
- access seeker must use the Telstra service to supply ADSL services in accordance with the ULLS Network Deployment rules;
- end-user and network POIs are as specified in the undertaking;
- access seeker must at its own cost install Telstra approved over voltage protection on the equipment side of Telstra's MDF before acquiring the LSS;
- access seeker is responsible for providing the splitter equipment at both the end-user and network POIs;
- access seeker must cooperate with Telstra to ensure that end-user privacy rights are not infringed; and
- that the access seeker must acknowledge that Telstra may modernise its network without restriction or limitation.

The Commission has undertaken an assessment of whether it is satisfied that the price term is reasonable at section 7.1 and has given similar consideration to the non-price terms and conditions at section 7.2.

### **7.1 An assessment of the reasonableness of the proposed price terms and condition**

The following assesses the reasonableness of the proposed access price of \$15 per SIO per month. It starts by outlining the pricing principles used to assess the proposed price and in this light assesses line-related and LSS-specific costs. In relation to LSS-specific costs there is an analysis of the cost model used to determine LSS-specific unit costs and in particular the specific model inputs, including demand. An international comparison of LSS access prices is also detailed, as is a comparison of the proposed LSS access price and wholesale ADSL prices. These all inform the reasonableness assessment at section 7.1.6.

### 7.1.1 LSS pricing principles

At the time of declaring the LSS, the Commission also determined what it considered to be appropriate pricing principles for the service.<sup>47</sup> These principles were considered appropriate to serve as a basis for establishing prices that best meet the reasonableness criteria. Broadly, the Commission's pricing principles can be characterised as cost-based and reliant on the total service long-run incremental cost (TSLRIC) principle. In summary the Commission considered that two types of cost are relevant to determining the reasonable price of a LSS – incremental LSS-specific costs and some allocation of the costs of a line over which a LSS is provided.

LSS-specific costs are the costs the access provider incurs in wholesaling the service to an access seeker. The costs are similar in nature to unconditioned local loop service (ULLS) specific costs and include IT system development and operational costs, connection costs, wholesale management costs as well as a contribution to common indirect costs.

With regard to whether some allocation of the costs of a line used to provide a LSS should be included in the price of a LSS, the pricing principles noted that, where Telstra is recovering its line-related costs through other revenue sources, the Commission believed it would be inappropriate to include any allocation of line costs in the price of a LSS.

Each of these aspects is discussed in more detail in the following sections.

### 7.1.2 Line-related costs

The Commission concluded in the LSS Declaration Report that where Telstra is recovering line-related costs through other revenue sources, it would be inappropriate to include any allocation of line costs in the LSS access price. At that time, Telstra was found to be fully recovering its line costs and so the Commission considered the LSS access price should only equal LSS-specific costs.<sup>48</sup> It was not considered necessary to recover an additional amount via the LSS access price.<sup>49</sup>

The LSS Declaration report did note that it may be preferable from an efficiency perspective to allocate some line costs to the LSS access price but that this would be dependent on changes being made to the prices of other services. In considering an undertaking the Commission has no power to influence or make directions in regard to prices Telstra charges for other services. As detailed below, the Commission is of the

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<sup>47</sup> ACCC, *Final Decision on whether or not a Line Sharing Service should be declared under Part XIC of the Trade Practices Act 1974*, August 2002, p. 79.

<sup>48</sup> Line costs were recovered via the following revenue sources: the price of line rental charged to end-users; a mark-up in the retail price of per call services provided over the PSTN; an access deficit contribution included in the access price of services used by access seekers in order to provide retail services to end-users, where provision of those services requires access to the PSTN; and the price charged to access seekers for the ULLS.

<sup>49</sup> It is also open to Telstra to vary the charges of other PSTN-related services such as would justify the addition of a line-related charge for LSS, however, in this case Telstra has not made any such proposal.

understanding that Telstra continues to fully recover in respect to line costs through these other services.

In the context of this undertaking, in its submission to the Draft Report, Telstra argues that, while it was prepared to forgo a contribution to joint and common costs (which includes line costs) in its \$15 monthly LSS charge, it is not prepared to do so in the context of the Commission's previously proposed monthly charge of \$7-8 in the Draft Report.

Telstra notes that, in formulating the charge for the LSS, it has not included a contribution toward joint and common costs in its cost model as it believes that demand for the LSS will be quite small. As a consequence, distortions to other services, such as ISDN, wholesale ADSL, and ULLS, which are expected to make a contribution to joint and common costs, are likely to be small.

However, Telstra argues that, due to the Commission's demand forecasts being significantly higher than Telstra's, this will increase the inefficiency associated with an approach that does not allocate a contribution to joint and common costs. In particular, Telstra contends that the \$7-8 previously proposed by the Commission in its Draft Report will detrimentally impact on its ability to recover its line costs from services such as the ISDN, wholesale ADSL, and the ULLS, which are substitutes, due to the likelihood of access seekers abandoning these services in favour of the LSS.

In its submissions to the Discussion paper and Draft Report, AAPT raised the issue of incorporating line-related costs in the LSS access price.<sup>50</sup> It argued that a TSLRIC-based access price that makes no contribution to the cost of a line will not represent an allocatively efficient price, as common costs of the network services are inappropriately allocated to a more narrow set of services than is efficient. In this regard, it considered that all services using the customer access network should contribute to its costs and that the most efficient means of recovering costs is using Ramsey-Boiteux pricing. That is, higher proportional mark-ups on attributable costs for less elastic services.

AAPT submitted that there is a large difference in the elasticity of demand for ADSL services (the LSS services, wholesale ADSL services and retail ADSL services) and basic access, with the ADSL services likely to be relatively more elastic compared to basic access. It therefore concluded that a small contribution towards line costs should be made by ADSL services but with a greater contribution made by other more inelastic services, such as basic access. This said, AAPT noted that the relative elasticities are likely to change over time with ADSL services becoming less elastic as they are used more widely.

Commission analysis of the RAF continues to show that Telstra already fully recovers its line-related costs. In its report *Final Determinations for model price terms and conditions of the PSTN, ULLS and LCS services*, the Commission noted that examination of the PSTN's profitability showed that over the last four years, on average, Telstra realised an economic profit, as a percentage mark-up on costs, of over [c-i-c]. This analysis used data from Telstra's reports made under the Regulatory Accounting Framework record keeping rule. It considered Telstra's revenue from all services using the PSTN, including Telstra's own retail services and the PSTN

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<sup>50</sup> AAPT's submission to the Discussion Paper, p. 8.



services.<sup>51</sup> In this light, the Commission remains of the view that it is inappropriate for Telstra to include any allocation of line costs in the LSS access price, given prevailing pricing structures.

The Commission maintains the view that, even at the previously proposed charge of \$7-8 in its Draft Report (now \$7-\$9), it is not necessary for Telstra to recover line-related costs for the LSS as Telstra already recovers its line-related costs through other services. In this regard, the Commission does not consider it appropriate for Telstra to recover an additional amount of its line costs in the price of the LSS. If other services are meeting these costs, then there is no need for increasing the price of substitutable services and nor will there be an inefficient shift in demand towards the LSS if line costs continue to be excluded. The inclusion of line costs in LSS charges, by contrast, will result in Telstra over-recovering its overall line costs. The Commission notes, however, that if Telstra is concerned about current and possible distortions, the Commission remains open to the option of Telstra proposing changes to the pricing of its existing services, such that would justify a line cost contribution from LSS. The Commission also notes that this market is presently not free of distortions from what might be expected in a competitive market, and in this regard, has clearly indicated its concerns about the prices of and competition for broadband services.

In terms of the Ramsey-Boiteux pricing approach advocated by AAPT, the Commission notes that it is practically very difficult to implement given, amongst others, a lack of reliable information on price elasticity. Determining prices in this way results in a higher than otherwise regulatory risk, particularly in comparison to a fully distributed cost approach. For this reason, the Commission has not been supportive of it in the past as a pricing mechanism and continues to hold this view.

The Commission notes that, in response to the Draft Report, AAPT sought clarification as to the Commission's reference to 'regulatory risk' used in the draft report. The Commission's use of this term was in the context of the assessment of the Ramsey-Boiteux pricing approach having '...higher than otherwise regulatory risk when compared to a fully distributed cost approach'.<sup>52</sup> To clarify, the Commission considers that the usage of the Ramsey-Boiteux approach is likely to result in a greater degree of uncertainty due to its reliance on accurate information on price elasticities and other associated cost information.

The Commission notes that, in its submission to the Draft Report, AAPT provided some indicative estimates of relative elasticities. However, the Commission maintains its view that there are several obstacles in its implementation at the wholesale level, including access to detailed knowledge of the demand conditions, and the requirement for constant price changes as demand conditions vary overtime. Such informational barriers are not insignificant, and could result in greater market distortions.

The Commission also notes that the Ramsey pricing approach may only apply in the case where the demand for basic access and LSS services are not related, which may

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<sup>51</sup> Services considered were end-user access, local, long-distance (national and international) and fixed-to-mobile calls as well as the Conditioned Local Loop, the ULLS, the Domestic and Local PSTN originating and terminating services and the Local Carriage Service.

<sup>52</sup> ACCC, *A draft report on the assessment of Telstra's undertaking for the line sharing service*, June 2004, p. 28.

not necessarily be the case. Any relation between the two services implies cross-elasticities which could complicate the operation of the Ramsey pricing approach.

The Commission also observes the existence of retail price regulations limits the applicability of Ramsey pricing. For instance, price regulations applying to rentals for local telephone services implies that residential charges do not adequately recover the costs of the services. Therefore, the access deficit needs to be recovered by other services, even if it would be more efficient to recover it via the line rental charge. In addition, the Commission is not, in any case, able to set line rental charges, and therefore is not able to enforce such a pricing approach.

### **7.1.3 LSS-specific costs – an analysis of Telstra’s LSS cost model**

The following section examines the framework, input parameters and methodology of Telstra’s LSS cost or pricing model which has been used to derive a monthly per unit cost and resulting access price. More comprehensive analysis and a fuller exposition of the information used by the Commission to examine the efficacy of the Telstra model and its inputs is provided in Appendix 3, detailing the approach to estimating demand, and Appendix 4, which details the Commission’s analysis of costs.

#### ***Description of the Telstra LSS cost model***

Telstra states that its cost model seeks to estimate the TSLRIC of providing the LSS.<sup>53</sup> This is the additional cost to Telstra over the long-term of providing the LSS to access seekers while keeping the costs of all other services unchanged. The model has a number of elements. The main cost elements include:

- capital expenditures required to provide the LSS over the 5 years from [c-i-c];
- direct operational and maintenance expenditure required to provide the LSS over the 5 years from [c-i-c]; and
- a loading on operational and maintenance expenditures to allow for an allocation of common indirect costs to the LSS.

The above costs are determined for each year and from this a monthly cost per SIO is ultimately calculated by adding into the model actual or forecasted demand for the LSS. The model provides for the calculation of a net present value for these incurred and forecasted costs and for the number of actual and forecasted SIOs.

#### ***Telstra’s comments on the model***

In its submission in support of the undertaking, Telstra notes that:

Telstra’s model indicates that the efficient service specific costs of the UT Service [LSS] is in excess of \$57 per UT Service per month.<sup>54</sup>

However, notwithstanding this output from the cost model, Telstra has proposed an access price of \$15 per SIO per month for the period of the undertaking in order to prevent ‘rate shock’. It notes that this has regard to the prices that currently exist in the

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<sup>53</sup> Telstra’s first supplementary submission, p. 1.

<sup>54</sup> Telstra’s supporting submission, paragraph 8. However, in the soft and hard copy of the model provided to the Commission with Telstra’s second supplementary submission, the monthly cost was [c-i-c] (rounded to the nearest dollar).

market place, which range from [c-i-c].<sup>55</sup> Telstra states that the \$15 per SIO per month is ‘...similar to those currently prevailing at the upper end of the market for the UT [LSS] service.’<sup>56</sup> Telstra considered this price to be ‘...significantly below efficient costs.’<sup>57</sup>

#### *Interested parties’ comments on the Telstra model*

In relation to the Telstra LSS cost model, Optus commented that: [c-i-c]<sup>58</sup>

However, the Commission notes that the concerns expressed by Optus (and others) in relation to the Telstra cost model largely relate to the inputs used in the model rather than how the model determines a monthly per unit cost. Indeed, Gibson Quai (who has examined the model on behalf of Primus) states that it has:

...formed the opinion that the model is functionally sound, and given appropriate inputs offers a reasonable basis for calculating the TSLRIC for [the] LSS.<sup>59</sup>

#### *Commission’s view*

In broad terms, the Commission considers that Telstra’s LSS cost model appears to be technically sound. This said, it has concerns with the specific input parameters and assumptions used in the model and its treatment of depreciation and timing of cost recognition. These concerns are outlined below and detailed in Appendices 3 and 4. They are significant and mean the model should be modified in specific ways from that proposed by Telstra to provide for a more reasonable estimation of the LSS-specific unit costs and resulting access price.

The main change relates to the input assumption for forecast demand. As well, there are changes to other input parameters which also have a bearing on the estimation of a TSLRIC-based LSS monthly charge.

The Commission notes that the categories of costs claimed by Telstra for providing the LSS are largely the same as those put forward and examined by the Commission in the ULLS-specific cost context. These cost categories were rigorously examined in 2001 by independent consultants employed by the Commission, the Communication and Media Policy Institute and Amos Aked and Swift (the consultants). The primary aim of this work was to assist the Commission in arbitrating access disputes over the provision of the ULLS by Telstra to a number of access seekers and in particular to determine a reasonable access price. This work was also used to inform the development of the Commission’s pricing principles for the ULLS<sup>60</sup> and model ULLS price terms and conditions.<sup>61</sup>

This said, Telstra’s LSS cost model is slightly different from that proposed by Telstra in 2001 for estimating ULLS-specific costs. In particular, Telstra’s LSS cost model

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<sup>55</sup> Telstra’s first supplementary submission, Annexure C.

<sup>56</sup> Telstra’s supporting submission, paragraph 10.

<sup>57</sup> Ibid, paragraph 10.

<sup>58</sup> Optus’ submission to the Discussion Paper, p. 3.

<sup>59</sup> Primus’ submission to the Discussion Paper, p. 15.

<sup>60</sup> ACCC, *Pricing of unconditioned local loop services (ULLS)*, March 2002.

<sup>61</sup> ACCC, *Final determinations for model price terms and conditions of the PSTN, ULLS and LCS services*, October 2003.

uses a tilted annuity approach for depreciation of capital and it allows for an after-tax return on capital.

While recognising these differences, the Commission considers the work undertaken in relation to the ULLS-specific costs to be highly relevant to an examination of the LSS-specific costs. Some of the conclusions drawn in respect of the ULLS-specific cost analysis have been incorporated, where appropriate, into the Commission's consideration of the LSS undertaking.

However, unlike the ULLS-specific cost assessment, at this stage, the Commission has not conducted a separate audit of the proposed LSS-specific capital costs. The Commission points out that, had it been satisfied that all other aspects of Telstra's proposed access price were reasonable, it would have conducted such an audit to ensure that an appropriate efficient forward looking estimate was determined. In this instance, however, the Commission has not found it necessary to conduct such an audit and it has formed a view on the reasonableness of the access price based on an implicit assumption that the proposed LSS-specific capital costs are appropriate. This should not be taken to mean that the Commission accepts these costs as being consistent with TSLRIC principles. As the Commission has formed the view that the proposed price is unreasonable (see section 7.1.6), the Commission considers it is not required, for the purpose of assessing the Undertaking, to conduct an audit to consider whether the LSS-specific capital costs proposed by Telstra are appropriate.

However, the Commission notes the submission of Optus to the Draft Report which urged the Commission to conduct such an audit for the Final Report and

...prior to stating an indicative price for the service, to ensure that the ACCC provides economically efficient price signals to the market, thereby enhancing the effectiveness of the access regime.<sup>62</sup>

While the Commission has chosen not to conduct such an audit for the Final Report, it notes that, if the Commission was required to determine an actual access price (e.g. in an arbitration), it would likely conduct an audit of the proposed LSS-specific capital costs.

### ***Demand estimates***

The Commission considers the assumptions made in relation to demand are the most critical for deriving an estimate of monthly LSS-specific unit costs and the resulting access prices. This is because of the sensitivity of the monthly unit cost to demand changes. In addition to the discussion below, a comprehensive account of the Commission's analysis of LSS demand estimates is provided at Appendix 3.

Using the LSS cost model, estimates of LSS demand are necessary to determine unit costs and an access price. Telstra's demand estimates are significantly lower than those forecast by access seekers.

Telstra assumes demand for the LSS as detailed in Table 7.1.

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<sup>62</sup> Optus' submission to the Draft Report, p. 4.

**Table 7.1 – Telstra’s demand estimates for the LSS, 2002/03 – 2006/07**

SIO estimates	2002/03	2003/04	2004/05	2005/06	2006/07
Cumulative net*	6 <sup>^</sup>	1,426 <sup>#</sup>	4,751	8,171	[c-i-c]

\* this takes into account an expectation that each SIO will have a limited life span of 2 years.

<sup>^</sup> actual services sold.

<sup>#</sup> 784 LSS had been sold as at 30 April 2004.

In contrast, interested parties have submitted demand estimates that are much higher than those assumed by Telstra. These are detailed in Table 7.2.

**Table 7.2 – Interested parties demand estimates for the LSS, 2002/03 – 2006/07<sup>63</sup>**

	2002/03	2003/04	2004/05	2005/06	2006/07
Primus SIO estimates (cumulative gross)	0	10,000	150,000	240,000	350,000
Chime SIO estimates (cumulative gross)*	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]

\* these are estimates of only Chime’s LSS demand not industry. Chime estimates it has approximately 10 per cent of the ADSL market. These estimates were provided in January 2004. Chime has since commented that *...the demand forecasts in our January submission ...now appears conservative given the installation program since put in train.*<sup>64</sup>

As noted by the Commission in its assessment of ULLS-specific costs<sup>65</sup>, there is a problem of circularity regarding demand estimates and LSS prices. In particular, estimated demand, *ceteris paribus*, is inversely related to the LSS access price, such that reducing the estimated demand used for calculating LSS-specific costs will increase the access price. This increase in the LSS access price, in turn, will have the effect of further reducing the level of realised demand for the service going forward. Thus, the relationship between estimated demand and realised demand, via the LSS price, has a consolidating effect which, unless addressed, will exacerbate the problem of low LSS take-up for future periods.

In order to address this problem of circularity, the Commission considers it appropriate to forecast demand based on achieving current and likely future use of the LSS by comparable European Union (EU) countries. The Commission has drawn on data supplied by the European Competitive Telecommunications Association (ECTA), as at the end of March 2004, to forecast DSL and LSS penetration rates for Australia for the years 2004/05, 2005/06 and 2006/07. As can be seen in Table 7.3, the ECTA data includes total numbers of DSL and LSS lines for specific EU countries as well as an EU average.

<sup>63</sup> Primus’ submission to the Discussion Paper, p. 36, Chime Communications’ submission to the Discussion Paper, p. 7.

<sup>64</sup> Chime Communications’ submission to the Draft Report, p. 4.

<sup>65</sup> ACCC, *Final determinations for model price terms and conditions of the PSTN, ULLS and LCS services*, October 2003, p.87-8.

**Table 7.3 – EU broadband figures**

Country	Copper lines	DSL lines	DSL as percentage of copper (%)	LSS lines	LSS as percentage of DSL (%)
Austria	3,000,000	318,800	11	0	0
Belgium	5,200,000	868,876	17	2,690	0
Denmark	2,526,901	527,500	21	25,354	5
Finland	3,180,000	336,600	11	22,000	7
France	32,100,000	4,012,600	13	472,000	12
Germany	49,400,000	4,950,015	10	15	0
Greece	5,644,000	15,156	0	10	0
Ireland	1,700,000	39,380	2	1,100	3
Italy	23,700,000	2,855,092	12	92	0
Luxembourg	315,000	13,325	4	0	0
Netherlands	7,655,173	1,234,448	16	256,207	21
Portugal	4,036,649	238,347	6	0	0
Spain	17,266,520	1,870,616	11	133	0
Sweden	5,474,000	634,042	12	63,876	10
UK	29,300,000	2,315,500	8	4,100	0
Total	190,498,243	20,230,297	11	847,577	4

Source: ECTA, *Broadband Scorecard end of March 2004*

At the end of March 2004, the EU average DSL penetration rate was 11 per cent and, of DSL lines, 4 per cent were provided by access seekers using a LSS. Using this data as a reference point, the Commission projects that a rate of 3 per cent can be achieved in Australia by the end of 2005/06 – termed a ‘Low’ (conservative) range demand estimate – and an increase to 4 per cent (of DSL lines) by 2006/07 is also considered reasonable. A ‘High’ (more optimistic) range demand estimate of 5 per cent by 2006/07 has also been projected.<sup>66</sup> The ‘High’ and ‘Low’ range demand estimates forecasted by the Commission are detailed in Table 7.4.<sup>67</sup>

**Table 7.4 – Commission estimates of LSS demand**

	2002/03	2003/04	2004/05	2005/06	2006/07
ACCC – ‘Low’ range (cumulative gross)	6	1,426	14,518	27,999	41,480
ACCC – ‘High’ range (cumulative gross)	6	1,426	14,518	27,999	57,035

It is noted that actual LSS demand figures are used for 2002/03 and, for 2003/04, the Commission has used the same forecast as that made by Telstra in its LSS cost model.

<sup>66</sup> The Commission notes that OECD data is available that details broadband services per 100 inhabitants and breaks this down to give the number of DSL services per 100 inhabitants. This can also be used as a reference for establishing a demand estimate, although it is less useful than the EU data which includes data on LSS connections.

<sup>67</sup> It should be noted that these demand estimates are year-end estimates, as opposed to average or mid-year estimates. To ensure consistency in the treatment of costs and demand, the Commission considers year-end demand estimates should be used in the cost model.

For 2004/05, 2005/06 and 2006/07, however, the Commission has applied the forecasting approach detailed above.

It is also noted that rapid growth in demand for the LSS has been experienced over very short timeframes in EU countries. Similarly, based on this trend, and using an appropriate forecasting approach, it is expected that LSS demand in Australia would also rise relatively rapidly (as shown in Table 7.4). The Commission notes that these forecasts could be said to be conservative by comparison with the growth experienced in the EU, as Table 7.5 illustrates.

**Table 7.5 – Number of LSS lines, EU**

Period	Number of LSS lines, EU
2001 (Q3)	1,284
2002 (Q2)	27,700
2003 (Q2)	180,023

Source: ECTA

Telstra's submission to the Draft Report included criticism of the Commission's so-called 'aspirational' demand approach and the use of ECTA data on EU LSS take-up to generate a benchmark or target rate of growth for LSS take-up in Australia<sup>68</sup>. In summary, Telstra argued that the Commission's demand forecasts, which underpinned the Commission's calculation of a lower price than that proposed by Telstra, were over-optimistic, having regard to the current low LSS (and ULLS) take-up rates. Furthermore, Telstra argued that the Commission's use of EU data to generate a target for LSS take-up in Australia was crude and relied on a distortion of the extent of LSS take-up in the EU.

The Commission has noted Telstra's criticisms and its responses to the specific points made by Telstra are provided in Appendix 3.

#### *Demand uncertainty and cost recovery*

The Commission also notes that, for the purposes of assessing the Undertaking, Telstra does not propose any adjustment mechanism to address uncertainty over demand and the Commission is therefore not required to form a view on whether an adjustment mechanism is appropriate for pricing the LSS at this time. However, in a supplementary submission, Telstra indicated that it may do so in the future.

The Commission has been considering the adjustment mechanism proposed for the ULLS in Telstra's core services undertakings. In this regard, the Commission has been reviewing the precise form of such an adjustment, and in particular, whether the approach proposed by Telstra, which the Commission had previously been inclined to favour, remains appropriate given developments in the broadband market in 2004.

The Commission is considering alternative options such as the implementation of a 'constant' price-based approach, based on reasonable demand estimates. With this approach, if demand for the service was to exceed expectations over a given period (for instance, 3 years) then Telstra would get to keep the additional revenues from this extra demand rather than being required to reduce the price. Alternatively, if demand was to be lower than expectations, Telstra would be required to absorb any losses. The Commission notes that in the event of cost under-recovery because of lower than

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<sup>68</sup> Telstra's submission to the Draft Report, p. 10-4.

expected demand, Telstra's losses are likely to be offset by greater retail (and wholesale) broadband revenues arising from less intense LSS-based competition from access seekers.

Further, the Commission notes that this cost price-based approach would create an incentive on the part of Telstra to increase the demand for this service and would remove the incentive on the part of access seekers to delay their demand for the service.<sup>69</sup>

While Telstra has not proposed an adjustment mechanism in its (LSS) Undertaking, the Commission would invite it to address this issue in any subsequent undertaking and were it required to arbitrate on the matter.

### *Conclusion*

In summary, the Commission is not persuaded that its demand forecasts are over-optimistic or that they should even be characterised as 'aspirational', where the term may be construed to imply going well beyond current and more immediate future levels of LSS demand to levels that are unlikely to transpire and which rest solely on assumption or hope. This is not the interpretation the Commission gives to the word 'aspirational'. The Commission's forecasting approach seeks to match trends that can be observed in comparable countries where statistics on LSS use are available. Indeed, the Commission's demand forecasts are relatively conservative, especially in comparison to those proffered by access seekers. The Commission is also not persuaded that its EU benchmark measure overstates LSS take-up in the EU. The Commission therefore upholds the demand forecast outlined above and as first presented in its Draft Report.

### *Cost input assumptions*

In its costing model, Telstra estimated the LSS-specific costs to be **[c-i-c]**.<sup>70</sup> This is made up of capital and operational and maintenance expenses. In addition to the broad conclusions outlined below, a detailed discussion of the Commission's analysis of LSS-specific costs is provided at Appendix 4.

In relation to capital costs, there are several issues that need to be considered. These include the appropriate asset life of the relevant IT systems, depreciation of these assets and the quantum of capital costs. The Commission has made the following conclusions in relation to these issues:

- that the asset life of 5 years assumed by Telstra is appropriate, but that this asset life should commence in 2002/03 when the LSS was first supplied, as opposed to when the capital expenditure was first incurred;

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<sup>69</sup> The proposed ULLS adjustment mechanism has the effect of penalising early relative to late adopters of the service.

<sup>70</sup> As compared to the ULLS for which the specific costs were \$19.5 million over the five year project life 2000-2005 (ACCC, *Final determinations for model price terms and conditions of the PSTN, ULLS and LCS services*, October 2003, p. 87).



- that the capital costs should be depreciated using a straight line approach, given the relatively short asset life assumed for the IT systems;<sup>71</sup> and
- that the capital costs are the incremental costs incurred by Telstra as a result of having to supply access seekers the LSS, but that without an independent audit it is not possible to determine whether they are the efficient forward-looking costs associated with supplying the LSS.

It is noted that these conclusions are consistent with the approaches taken by the Commission in the context of assessing the ULLS-specific costs. In that case, however, the consultants assessed the quantum of ULLS-specific capital costs. In this case, and as noted above, the Commission has not undertaken a separate audit of these costs to establish the appropriate efficient forward looking estimate. Rather, in its initial analysis of the reasonableness of the proposed access price, it has assumed these capital costs to be appropriate. This initial analysis has led the Commission to form the view, as detailed in section 7.1.6, that it is not satisfied the access price is reasonable. Accordingly, it has not been necessary, at this stage, for the Commission to undertake a further assessment as to the actual appropriateness of the historic LSS-specific capital costs proposed by Telstra.

In its submission to the Draft Report, Telstra contended that IT assets specifically used to supply the LSS are subject to obsolescence from the time they are installed and should therefore be depreciated from 2001/02 when expenditures were first incurred rather than from when the LSS was first sold in the next year, 2002/03, as suggested by the Commission in its Draft Report.<sup>72</sup>

The issue of when the depreciation of similar IT-based assets should commence was addressed by the expert consultants employed by Commission to examine the costs incurred by Telstra in supplying the ULLS in the context of the Commission's arbitration of a number of disputes over access to the ULLS in 2001. As stated in the Draft Report, the Commission considered that the views put by the consultants in the ULLS context are equally valid for an assessment of depreciation of LSS-specific assets. In particular, that the 5 year cost recovery period, including providing for the depreciation of IT assets, should commence from the year in which the service is first sold and not before.

However, in its submission to the Draft Report, Telstra also submitted that, should depreciation commence in 2002/03, it should be the present value of capital expended in 2001/02 that should be depreciated, not its nominal value<sup>73</sup>, implying that Telstra should enjoy a return on the capital expended on the LSS assets before revenues are earned from 2002/03. The Commission considers that there should be an adjustment to the cost model to allow for this.

Based on the information provided in the course of considering the LSS undertaking, the Commission has provided an indicative assessment as to what it would likely consider to be a reasonable LSS access price. The Commission notes that by accepting the LSS-specific capital costs estimated by Telstra, there is a possibility that the

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<sup>71</sup> In the context of assessing the Telstra 1999 PSTN undertakings, the Commission used a tilted annuity approach given the much longer asset life of the PSTN.

<sup>72</sup> Telstra's submission to the Draft Report, paragraphs 4.28-4.31.

<sup>73</sup> *ibid*, paragraph 4.31.

Commission's conclusion as to an appropriate access price as detailed below is an over-estimate. In this regard, the Commission notes the possibility of auditing of the LSS-specific capital costs should it be required to arbitrate an access dispute. The Commission recognises that the indicative access prices detailed below are provided for the context of considering this Undertaking only, and are based only on information currently available to the Commission.

A further relevant consideration in relation to capital costs is the weighted average cost of capital (WACC) that should be applied. Telstra's cost model assumes a (post-tax vanilla) WACC of 11.69 per cent. However, consistent with the approach used in the ULLS-specific cost context, the Commission considers that a (pre-tax) WACC of 9.73 per cent should be used. This is reflective of the WACC used by the Commission in its assessment of PSTN costs<sup>74</sup>, adjusted for the risk free rate applying at 1 July 2002 when the LSS was first made available for sale. Again, this is consistent with the Commission's approach in the ULLS-specific cost context.

In relation to operational and maintenance costs, the Commission has also assessed several issues. These include the appropriate quantum of front-of-house and wholesale product management costs, as well as the indirect operational and maintenance factors assumed by Telstra. The Commission has made the following conclusions in relation to these issues:

- the salaries estimated for front-of-house staff appear to be reasonable and are consistent with those adopted in the ULLS-specific cost context, but that the number of connections Telstra assumes front-of-house staff can perform in a day should be modified to 20 connections per day in the first three years and 40 connections per day for the following two years<sup>75</sup>;
- the salary estimated for wholesale product management staff appears to be reasonable, and is consistent with that adopted in the ULLS-specific cost context, but that less management activity would be required once the start-up phase has passed and that, accordingly, there should be some scaling down of these costs; and
- the indirect operational and maintenance factors should reflect those used in the ULLS-specific cost context, as opposed to those assumed by Telstra, given the ULLS factors had benefited from independent verification and are likely to be similar for the LSS.

The Commission notes that the above conclusions result in a modification to the operation of the model, as well as changes to various input assumptions.

### ***Conclusion on Telstra's LSS cost model***

The Commission has examined the framework, input parameters and methodology of the Telstra LSS cost model. This model establishes the costs associated with the provision of the LSS to access seekers, which are distinct to any line-related costs. As discussed above, the Commission considers the cost model developed by Telstra for

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<sup>74</sup> ACCC, *Final determinations for model price terms and conditions of the PSTN, ULLS and LCS services*, October 2003, p. 44-5.

<sup>75</sup> Telstra assumes front-of-house staff are able to make 11 connections per staff member in 2002/03 increasing linearly to 20 connections per day in 2006/07.

determining monthly unit costs would have to be modified in a number of respects to allow for the calculation of a more reasonable and appropriate access price. In this regard, the Commission has developed a modified LSS cost model which includes a small modification to the model provided to interested parties following the release of the Draft Report, to reflect a minor adjustment to the approach to depreciation outlined above.

In particular, the Commission notes the importance of the demand estimates for the calculation of the monthly unit cost and the effect that this can have by reducing (or increasing) the per unit price and thereby further increasing (or decreasing) demand. To overcome this circularity problem, the Commission considers that the demand forecasts used in the model should not be unduly pessimistic but reflect an expectation that anticipated demand for the LSS, in line with growing demand for DSL services, will increase from a low level at a similar rate to that already experienced (on average) in the EU.

Using demand estimates based on such an approach, as well as the changes to costs detailed above, the Commission's analysis suggests access prices as detailed in Table 7.7. In this regard, the Commission's adjustments to Telstra's LSS cost model suggest that an access price of around \$7-9 per SIO per month is more closely reflective of the TSLRIC of supplying the LSS than the \$15 per SIO per month proposed in the Undertaking. That is, an access price of \$15 per SIO per month is too high relative to the efficient TSLRIC of supplying the LSS to access seekers. As is detailed in section 7.1.6 below, this finding indicates quite strongly that the access charge proposed by Telstra is not reasonable.

**Table 7.7: Monthly LSS access charge, Commission demand forecasts**

Demand forecasts used in the Commission's modified Telstra model*	Monthly charge (\$)
ACCC – Low range	8.55
ACCC – High range	7.09

\* modified to reflect the treatment of depreciation and timing of cost recognition as well specific cost input assumptions.

The Commission notes that an access price of around \$7-9 per SIO per month is based on a full allowance for Telstra's proposed LSS-specific capital costs. Given its finding that the proposed access price of \$15 per SIO per month is not reasonable, the Commission has not considered it necessary to audit these costs. Had the Commission formed a view that the proposed access price of \$15 per SIO per month was reasonable, based on all considerations save for an assessment of LSS-specific capital costs, then the Commission would likely have undertaken such an audit. Similarly, as a matter of procedure, if the Commission is to be required to determine access prices, it may choose to subject all costs to an independent audit to ensure that (capital) costs are both efficient and forward looking.

#### **7.1.4 International comparisons of LSS access prices**

In a supplementary submission Telstra provided international comparisons of LSS charges.<sup>76</sup> Its methodology assumed a two year connection period, and both upfront (i.e. connection) and recurring (i.e. monthly) charges. Telstra's analysis concluded that its LSS charges, equate to around \$18.50 to \$19.00. Telstra explained that it has assumed a \$15 monthly rental component, as well as a connection component of \$93 in determining these charges.<sup>77</sup> In this regard, it appears to the Commission that these charges are the monthly amortised average LSS price.

In assessing Telstra's international price comparisons, the Commission assessed EU monthly averages of LSS rental and connection charges. In particular, it assessed an average charge for a 24 month period.<sup>78</sup> This analysis is detailed in Appendix 5. It is noted that Euro values were converted to Australian dollars at an exchange rate of \$AUD per 0.5580 Euro. This exchange rate is an average rate for the first half of 2003, which was the reference point used by Telstra. This analysis shows that, in comparison to Telstra's proposed access price of \$15 per SIO per month, average LSS monthly rates in EU countries are around A\$7.5 in currency terms. Further, using a purchasing power parity conversion rate of \$1AUD per 0.6584 Euro, average LSS monthly rates are around A\$6.40.<sup>79</sup> These prices are not dissimilar, and indeed are somewhat lower, as compared to those determined by the Commission in its above cost analysis.

#### **7.1.5 The proposed LSS access price and its relationship with wholesale ADSL prices**

Given the recent changes to retail and wholesale ADSL services, it is important to consider the relativities between the proposed LSS access price and wholesale ADSL prices – this will impact on access seeker's build/ buy incentives.<sup>80</sup> For example, if the LSS access price is too high relative to the wholesale ADSL price then access seekers will prefer to resell Telstra's wholesale ADSL service rather than acquiring the LSS and using it in combination with their own DSLAMs and other infrastructure to provide ADSL services. A brief assessment in this regard follows.

The Commission's initial assessment of the relativities between the LSS access price and the wholesale ADSL prices shows that, even if a LSS access price of \$15 per SIO per month is used and the wholesale ADSL prices proposed by Telstra (the 'protected rate' and 'growth' options), access seeker's incentives are unlikely to be significantly

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<sup>76</sup> Telstra's first supplementary submission, p. 6 and 13.

<sup>77</sup> Telstra's second supplementary submission, p. 7.

<sup>78</sup> The values for the 24 month period were derived using a linear average of the connection charge over 24 months.

<sup>79</sup> As detailed in Appendix 5, the purchasing power parity conversion rate is determined using OECD data.

<sup>80</sup> It is also important to compare the ULLS access price and the wholesale ADSL access price. A direct comparison is, however, much more difficult for ULLS than LSS as the ULLS can be used to supply any xDSL and telephony service, including VoIP, whereas LSS (at stated prices) and the wholesale ADSL services can only be used to supply ADSL services.

distorted. Specifically, it appears that there is a degree of neutrality between the build and buy options. This is demonstrated in Table 7.8.

**Table 7.8 – Comparison of 2003/04 costs of supplying ADSL using LSS or wholesale ADSL**

	LSS costs (\$ per SIO per month)	Wholesale ADSL protected rate (\$ per SIO per month)^	Wholesale ADSL growth rate (\$ per SIO per month)^
Access price/wholesale price	15	[c-i-c]	[c-i-c]
DSLAM and equipment costs*#	5-10		
Exchange related costs#	4		
Total	24-29	[c-i-c]	[c-i-c]

\* This depends on port utilisation and contention ratios. Typically these are closer to \$10 for business grade services and \$5 for residential grade services.

^ These wholesale prices reflect a weighted average of the specific pricing plans proposed by Telstra in terms of estimated take-up.

# These are estimates of cost reflecting Commission discussions with industry.

The cost comparison undertaken in Table 7.8 is as direct a comparison as the Commission could make of the cost of taking the traffic from the end-user to the local exchange/customer access module (CAM) (where the DSLAM is located). While the wholesale ADSL option may offer additional advantages in terms of aggregation and switching, the LSS option provides the access seeker with flexibility as to how that traffic is delivered to its network.<sup>81</sup> It is noted that, depending on migration patterns over 2004-05, 2005-06 and 2006-07, the weighted average wholesale ADSL prices for both the ‘protected rate’ and ‘growth’ options could be above [c-i-c] per SIO per month.

Further, it is noted that the weighted average wholesale ADSL prices detailed in Table 7.8 are sensitive to the extent of migration between the various plans that are offered for resale. In particular, the more customers are assumed to take the 512K or 1.5M plans, as opposed to 256K plans, the higher the weighted average wholesale ADSL price. It is expected that service providers taking the LSS will be more inclined to offer higher functionality in services, including at speeds of 1.5MBps or higher, than service providers relying on Telstra’s wholesale service. This result is more pronounced for the ‘protected rate’ option than the ‘growth option’. The latest information appears to show that the distribution of customers across plans [c-i-c] which makes the LSS option at \$15 per SIO per month more concerning.

The above cost comparisons are also predicated on a sufficient take-up and utilisation of DSLAM ports by LSS users. What these comparisons therefore are showing is that *once* service providers achieve the necessary scale, then the cost advantages of LSS at

<sup>81</sup> In relation to delivery of traffic to an access seeker’s network, under the LSS option, the Commission access seekers generally acquire backhaul or transmission capacity for an associated cost of approximately \$10 per SIO per month. Under the wholesale ADSL option, the Commission understands access seekers incur AGVC charges from Telstra as well as transport charges from the ATM switch to the access seeker’s network, at a cost of approximately [c-i-c] per SIO per month.

the sub-network level, as compared to the likely weighted average costs for comparable plans/functionality at the wholesale level, are still evident. However, at a price of \$15 per SIO per month it will be more difficult to encourage such build out in order to garner the necessary cost advantages being assumed.

In summary, on the assumption of reasonable take-up of higher value plans by end-users, it does not appear that the relativities between the LSS access price proposed by Telstra in its undertaking (\$15 per SIO per month) and the wholesale ADSL access prices proposed in response to the March 2004 competition notice are likely to significantly distort build/buy incentives, when compared directly and ignoring any temporal and non-price factors. However, as noted in section 7.1.6, an access price of less than \$15 per SIO per month might tend to increase the incentive for access seekers to build as opposed to buy and be more likely to achieve the necessary scale of operation to make this option efficient.

#### **7.1.6 Assessment of the proposed LSS access price under the mandatory reasonableness criteria**

As detailed above, in analysing Telstra's cost model the Commission has formed a conclusion that the access price proposed by Telstra of \$15 per SIO per month is too high relative to the efficient TSLRIC of supplying the LSS. In this regard, the Commission considers that an access price of around \$7-9 per SIO per month is more closely reflective of LSS-specific efficient costs that Telstra faces.

In assessing the reasonableness of the proposed access price, as noted in section 4.2.4, the Commission is required to have regard to a number of factors as set out in section 152AH of the Act.

##### ***Long-term interests of end-users***

The Commission has published a guideline explaining what it understands is meant by the phrase 'long-term interests of end-users'. This was outlined in section 4.2.4 and these factors are considered below.

##### ***Promotion of competition***

In considering whether the proposed access price of \$15 per SIO per month will promote competition, it is first necessary to identify the relevant markets in which competition may be affected. In the LSS Declaration Report the Commission identified three relevant markets. These are:

- the market for the supply of the LSS;
- the market for high bandwidth carriage services – a national market for the supply of high bandwidth carriage services to end-users; and
- the local telephony market – a national market for the supply of local telephony services (including fixed line calls and line rental) by service providers to end-users.<sup>82</sup>

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<sup>82</sup> ACCC, *Line Sharing Service – Final Decision on whether or not a Line Sharing Service should be declared under Part XIC of the Trade Practices Act 1974*, p. 33-49.

The Commission continues to be of the view that these are the markets relevant to its considerations.

In relation to the market for the supply of the LSS, the LSS Declaration Report noted that this included HFC networks given their ability to constrain the pricing of the LSS. This said, it was observed that the extent of any such constraint was likely to be limited given that these networks are only rolled out in certain geographic areas and that third party access rights do not exist for the purpose of providing broadband services over them.

Other possible substitutes such as the ULLS and Telstra's wholesale ADSL service were not considered to provide sufficient constraint on the pricing of the LSS to be a part of the market. In relation to the ULLS it was considered that this service had a level of functionality over and above that of a LSS and was therefore not a substitute in this sense. Further, given it appeared an efficient access seeker could not fully recover its costs if only supplying high-speed data services over the ULLS, it was not considered a service that would constrain LSS pricing. In relation to Telstra's wholesale ADSL services, these were again differentiated on a functional level. Further, given Telstra is the main supplier of both wholesale ADSL services and the LSS, the Commission was of the view that the prices of these services were unlikely to constrain the other. Telstra's incentives operate in such a way as to encourage it to price the LSS at a higher level than necessary in order to prevent its wholesale ADSL business from being undermined.

In the LSS Declaration Report, the Commission also noted that the structure of the market for the supply of the LSS is not conducive to high levels of competition. The Commission continues to consider that this is the case and is of the view that Telstra's proposed access price will not promote competition. In particular, given the Commission is of the view that Telstra's proposed LSS access price is above efficient costs, it does not consider the access price will constrain the pricing of HFC networks.

The proposed LSS access price will, however, impact on the extent of competition in the market for high bandwidth carriage services. In particular, to the extent that this price is above efficient costs it is likely to act as a barrier to entry. This will result in fewer entrants than would be the case if the access price reflected efficient costs and, accordingly, result in less facilities-based competition.

It is important to note that this is likely to mean not only less price competition but also less non-price competition. The Commission considers that, in contrast to wholesale ADSL, facilities-based competition via the LSS would enable competitors to focus on aspects of their service offering other than price and give them the flexibility to develop niche products that would appeal to particular end-users, such as higher quality and more innovative services. An access price above efficient costs, such as the Commission considers has been proposed by Telstra in the Undertaking, is likely to deter entry or, at the very least, delay the prospect of competition benefits.

#### *Any to any connectivity*

The Commission does not consider that the proposed access price would likely impact to a significant degree on the achievement of any to any connectivity. To the extent the undertaking is consistent with well established and industry accepted technical and operational procedures, it will accord with this objective. The Commission has not been provided with any evidence to refute this position.

### *Efficient use of, and investment in, infrastructure*

As detailed in section 4.2.4, the concept of economic efficiency is used to analyse whether efficient use of, and investment in, infrastructure is being achieved. In particular, the concepts of productive, allocative and dynamic efficiency are employed.

In relation to the efficient use of infrastructure, the Commission considers that the price of access to the infrastructure should reflect the underlying cost so that it is then allocated to its highest valued use.

Given that the proposed access price of \$15 per SIO per month is greater than the Commission's estimate of the efficient costs of supplying the LSS, then such an access price is likely to result in inefficient use of the LSS. In particular, if such an access price was accepted, the LSS would likely be under-utilised as compared to if the access price was set at efficient levels.

In relation to the efficient investment in infrastructure, the Commission is generally concerned to ensure that the access price does not distort the 'build or buy' decision facing access seekers. To encourage efficient investment in infrastructure, in the long term, the access price should be sufficient to cover the costs of providing access, including a normal commercial return on the investment.

An access price that is greater than efficient costs is likely to distort access seekers 'build or buy' decision and therefore may result in inefficient investment. In this regard, the Commission considers such an access price may typically have two possible impacts. Firstly, it may result in duplicative over-investment in the underlying network that is used to support the service. While this is a possibility in respect to the LSS, the Commission considers that, given the strong bottleneck characteristics of the underlying network in most areas, this is an unlikely result. Secondly, it is more likely to result in under-investment in the facilities associated with acquiring the service. In regard to the LSS, for example, the equipment required to supply xDSL services over the high frequency portion of a line. This includes DSLAMS and splitters. An implication of such under-investment is that facilities-based competition is weakened and price reductions, as well as new and innovative product offerings in the market for high bandwidth carriage services, may not result.

### ***Legitimate business interests and direct costs***

As noted in section 4.2.4, the legitimate business interests of an access provider cover a carrier's interest in earning a normal commercial return on its investment, but do not extend to receiving compensation for the loss of any monopoly profits that occurs as a result of increased competition.

In this regard, the Commission considers that Telstra should earn a normal commercial profit in supplying the LSS to access seekers. For investment involving LSS-specific systems, the Commission estimates that a normal commercial return on investment (i.e. the WACC) is 9.73 per cent per annum in nominal pre-tax terms. As noted in section 7.2.4, this reflects the PSTN WACC adjusted for the risk free rate for the period concerned. This WACC contrasts to that proposed by Telstra of 11.69 per cent per annum.



Using a WACC of 9.73 per cent per annum the Commission has determined that the access price proposed in the undertaking is around \$6-8 greater than the Commission's estimate of the efficient costs of supplying the LSS.<sup>83</sup> Consequently, the Commission is of the view that the proposed access price is higher than necessary to satisfy Telstra's legitimate business interests.

Further, the Commission notes that, in addition to calculating the direct costs of supplying the LSS to access seekers, it has also allowed for indirect operational and maintenance costs (TSLRIC+). Even allowing for these costs, the Commission estimates that the proposed access price of \$15 per SIO per annum is significantly above its efficient cost estimate of around \$7-9.

### ***Interests of persons who have rights to use the declared service***

Consideration of the interests of persons who have rights to use the LSS includes the consideration of the ability for access seekers to compete for the custom of the end-users on the basis of their relative merits. Terms and conditions favouring one competitor, or class of competitors, over another distorts the competitive process and harms the interests of persons who have rights to use the LSS.

As previously detailed, the Commission considers that there is a significant difference between the efficient costs faced by Telstra in supplying the LSS to access seekers and its proposed access price for access seekers. This difference is in the range of around \$6-8 per SIO per month and impacts on the rights of access seekers by inflating the access price beyond efficient costs.

The Commission recognises that as a result of the natural efficiencies available to Telstra, as a result of its vertical integration, it may not face the same LSS-specific costs as access seekers do. For example, Telstra is unlikely to face the same LSS-specific costs when its wholesale arm supplies the necessary services to its retail arm. This means that it is difficult to achieve a competitively neutral outcome between Telstra, as the access provider, and access seekers. If the LSS-specific costs were recovered by attributing the costs of Telstra 'wholesaling' to itself and access seekers across all relevant services then it is possible to achieve a greater degree of competitive neutrality. However, the Commission also needs to take account of other reasonableness criteria, such as direct costs associated with access and legitimate business interests of the access provider. It is also arguable whether such an approach will lead to more efficient outcomes.

To avoid further exacerbating any lack of competitive neutrality, the Commission aims to ensure that LSS-specific costs are not inflated beyond efficient costs.

### ***Economically efficient use of, and investment in, a carriage service***

Issues relevant to this criterion are considered above in the section assessing the long-term interests of end-users.

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<sup>83</sup> The Commission noted above in its discussion of cost input assumptions that its monthly unit cost estimate, and the resulting access price, includes Telstra's proposed LSS-specific capital costs which may not be efficient *forward looking* cost estimates. An independent audit of these costs would be necessary to establish an appropriate efficient forward looking cost estimate.

***Conclusion in relation to reasonableness of the proposed LSS access price***

Having regard to the relevant considerations under section 152AH of the Act, the Commission has formed the view that Telstra's proposed LSS access price of \$15 per SIO per month is not reasonable. In particular, it considers that the proposed price is well above estimates of efficient cost, taking into account likely future demand for the LSS and some modified cost assumptions that are more appropriate.

In the Commission's view, an access price of the order of \$7-9 would be more reflective of efficient costs of supplying the LSS, net of line costs, than Telstra's proposed price of \$15.

An access price set at the level proposed by Telstra is unlikely to encourage competition in the market for high bandwidth carriage services – both in terms of lower prices and higher quality and more innovative services. Further, the access price is unlikely to encourage efficient use of, or investment, in broadband facilities, does not meet the interests of the access seeker, and is higher than necessary to satisfy Telstra's legitimate business interests.

## **7.2 An assessment of the reasonableness of the proposed non-price terms and conditions**

As detailed in section 3.1, the non-price terms and conditions in the undertakings are as follows:

- that the access seeker must use the Telstra service to supply ADSL services in accordance with the ULLS Network Deployment rules;
- that the end-user and network POIs are as specified in the undertaking;
- that the access seeker must at its own cost install Telstra approved over voltage protection on the equipment side of Telstra's MDF before acquiring the LSS;
- that the access seeker is responsible for providing the splitter equipment at both the end-user and network POIs;
- that the access seeker must cooperate with Telstra to ensure that end-user privacy rights are not infringed; and
- that the access seeker must acknowledge Telstra may modernise its network without restriction or limitation.

Section 6 addressed the issue of whether the non-price provisions are consistent with the SAOs and found that the nature of the undertaking was such that they were not. The following section deals with whether, notwithstanding the consistency finding, the non-price terms and conditions are reasonable.

### **7.2.1 Assessment under the mandatory reasonableness criteria**

#### ***Long-term interests of end-users***

In general, the non-price terms and conditions in the undertaking appear to be reasonable and accord with operational and technical requirements, including those mandated by relevant ACIF codes. The Commission notes that while the requirement to limit provision of broadband services over the LSS to ADSL is narrower than the declaration specification, it is consistent with the current ULLS Network Deployment rules. As other DSL technologies become accepted and reflected in the code, the Commission would typically expect such access to be subject to negotiation (see section 6 for discussion on this point). Alternatively, an access provider may choose to draft an undertaking that would provide access on terms and conditions that would reflect changes in technologies as they become incorporated into the relevant codes.

This finding is to be distinguished from that noted in section 6 in relation to consistency with the SAOs. In that discussion, the concern was not so much that the undertaking failed to allow for non-ADSL technologies to be used with the LSS, but that it may have attempted to forestall the provision of such technologies outside the undertaking context (even if they were allowable under relevant ACIF codes).

In relation to this Undertaking, the Commission has formed a view, however, that one of the non-price terms does not appear to accord with the reasonableness criteria, and the long-term interests of end-users in particular. This relates to the network modernisation provision. While this provision seeks the acknowledgement of access seekers that Telstra may modernise its network, it is also open to interpretation that it

allows Telstra to modernise its network without regard to any other processes. This raises concerns for the Commission given the resulting ambiguity, as well as the fact that this term is not consistent with the Commission's model non-price terms and conditions relating to network modernisation.<sup>84</sup> In particular, it may make it difficult for an access seeker to compete.

Telstra has submitted that the Commission's interpretation is 'inconsistent with the substance and intent of the provision of the term, which does not seek to be exhaustive in its scope or prescriptive in its nature.'<sup>85</sup> In its submission, the interpretation implied by Telstra is that, in the course of Telstra modernising its network, a Service Provider is free to negotiate and dispute the terms and conditions on which Telstra meets its SAOs in respect to the provision of that Declared Service. In such a case, the Commission may be called upon to arbitrate the terms and conditions of (continued) access.

That is the preferred interpretation, and while this is a likely outcome, nevertheless the interpretation referred to in the draft determination is sufficiently available on the face of the Undertaking to lead to some uncertainty. More specifically, it is noted that clause 7.1 could be read as purporting to ensure that Telstra is not limited or restricted in respect to modernising its Network. The Commission notes that these concerns were also raised in submissions by Optus and Chime Communications to the Draft Report.

Therefore, on balance, the Commission considers that such uncertainty gives rise to some doubt as to whether the network modernisation provision is reasonable. In this regard, the Commission invites Telstra to clarify this provision in any replacement undertakings, in accordance with the Commission's model terms and conditions determination in relation to this matter.<sup>86</sup>

#### ***Legitimate business interests and direct costs***

In considering the reasonableness of the non-price terms and conditions the Commission has considered the legitimate business interests of Telstra and the relevant direct costs. The Commission has not identified any issues in this regard the non-price terms and conditions.

#### ***Interests of persons who have rights to use the declared service***

The Commission has considered the interests of persons who have rights to use the service and has formed a view that the network modernisation term may raise concerns in relation to whether it is reasonable. In particular, this term may make it difficult for an access seeker to compete. For example, where an access seeker is not given a notice period informing it of any modernisation activity its supply of broadband services to end-users may be affected.

#### ***Economically efficient use of, and investment in, a carriage service***

In considering the reasonableness of the non-price terms and conditions the Commission has considered the economically efficient use of, and investment in,

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<sup>84</sup> ACCC, *Final Determination – Model Non-price Terms and Conditions*, October 2003, p. 184.

<sup>85</sup> Telstra's submission to the Draft Report, p. 21.

<sup>86</sup> ACCC, *Final Determination – Model Non-Price Terms and Conditions*, October 2003, p.184-5.

infrastructure. The Commission has not identified any issues in the non-price terms and conditions for this criteria.

### ***Conclusion***

Given the Commission's concerns in relation to the network modernisation term in the undertaking, it has formed the view that the non-price terms and conditions are not reasonable.

## **7.3 Conclusion on the reasonableness of the proposed terms and conditions**

The Commission's view is that the LSS undertaking should be rejected as it is not satisfied that the terms and conditions specified in the undertaking are reasonable. In particular, the Commission forms the view that:

- the proposed access price of \$15 per SIO per month is above estimates of the efficient cost of this service, taking into account prospective demand levels that have regard to the more solid growth of broadband services in future years and some adjustment to the cost estimates to reflect more efficient costs;
- an access price of the order of \$7-9 would be more reflective of efficient costs of supplying the LSS, net of line costs, than Telstra's proposed price of \$15;
- an access price above efficient costs is likely to dissuade access seekers from using the LSS to compete more intensely for broadband services with Telstra in terms of both price and non-price forms of competition to the benefit of end users;
- an access price above costs may mean under-utilisation of existing network infrastructure and will likely inhibit efficient expansion of broadband facilities and networks both by Telstra and access seekers;
- an access price above costs may make it more difficult for access seekers to migrate customers from current wholesale broadband offerings to the use of their own facilities through the use of LSS, thus distorting build/buy decisions; and
- the terms and conditions relating to network modernisation affect the risks of network roll-out by access seekers thereby compromising the interests of persons that have rights to use the service.

## **Appendix 1: Submissions to LSS undertakings**

### **Submissions**

Telstra's supporting submission: Telstra's Submission in Support of its Undertaking dated 1 September 2003 – 1 September 2003

Telstra's first supplementary submission: Information Requested by the ACCC regarding Telstra's Spectrum Sharing Undertaking – 30 September 2003 **(1,3)**

Telstra's second supplementary submission: Information Requested by the ACCC regarding Telstra's Spectrum Sharing Undertaking – 29 October 2003 **(2,3)**

Telstra's third supplementary submission: Information Requested by the ACCC regarding Telstra's Spectrum Sharing Undertaking – 7 June 2004 **(3)**

Telstra's fourth supplementary submission: Telstra's Further Submission in Support of its Spectrum Sharing Undertaking dated 1 September 2003 – 11 June 2004

Telstra's fifth supplementary submission: Information Requested by the ACCC regarding Telstra's Spectrum Sharing Undertaking – 16 June 2004 **(3)**

Telstra's submission to the Draft Report – 23 July 2004

AAPT submission to the Discussion Paper: Submission by AAPT to the Australian Competition and Consumer Commission in response to Telstra's Line Sharing Service Undertakings dated 1 September 2003 – 29 March 2004

AAPT's supplementary submission: *Line Sharing Service – Telstra Access Undertakings* – 17 May 2004 **(4)**

AAPT submission to the Draft Report – July 2004

Chime submission to the Discussion Paper: *Comments on Telstra's Undertaking for Line Sharing Service* – January 2004 **(1)**

Chime submission to the Draft Report – 23 July 2004 **(1)**

Optus submission to the Discussion Paper: *Telstra's Undertaking for the Line Sharing Service* – 11 March 2004 **(1)**

Optus supplementary submission: *Line Sharing Service – Telstra Access Undertakings* – 24 May 2004 **(4)**

Optus submission to the Draft Report – 2 August 2004 **(1)**

Network Technology submission to the Discussion Paper: *Telstra's line sharing service undertakings 2003* – 17 March 2004

PowerTel submission to the Discussion Paper: Telstra's Access Undertakings for the Line Sharing Service, dated 1 September 2003 – 24 March 2004 **(1)**

PowerTel supplementary submission: Line Sharing Service – Telstra Access Undertakings (Supplementary Questions) Submission by PowerTel – 13 May 2004 **(4)**

Primus submission to the Discussion Paper: Primus Telecommunications Independent Technical Expert Report in Telstra's LSS undertaking – 27 April 2004 **(1)**

Primus submission to the Draft Report – 11 August 2004

- (1) confidentiality claim made over part(s) of the submission
- (2) confidentiality claim made over the entire submission
- (3) response to a s.152BT request for further information
- (4) response to Commission letter dated 3 May 2004 seeking information on service description and other non-price matters

#### **Other material relied on by the Commission**

ACCC, *A draft report on the assessment of Telstra's undertaking for the Line Sharing Service*, June 2004.

ACCC, *Telstra's Undertaking for the Line Sharing Service – Discussion Paper*, December 2003.

ACCC, *Final determinations for model price terms and conditions of the PSTN, ULLS and LCS services*, October 2003.

ACCC, *Final Determination – Model Non-price Terms and Conditions*, October 2003

ACCC, *Line-sharing service – final decision on whether or not a line sharing service should be declared under Part XIC of the Trade Practices Act 1974*, August 2002.

ACCC, *Pricing of unconditioned local loop services (ULLS)*, March 2002

ACCC, *Collection and Use of Information*, October 2000.

ACCC, *A report on the assessment of Telstra's undertaking for the Domestic PSTN Originating and Terminating Access services*, July 2000.

ACCC, *Telecommunications services – Declaration provisions: a guide to the declaration provisions of Part XIC of the Trade Practices Act*, July 1999.

ACIF, *Unconditioned Local Loop Service – Network Deployment Rules*, C559:2003, registered by the ACA on 29 April 2004.

Commonwealth of Australia, *Telecommunications Competition Bill 2002*, Explanatory Memorandum, 2002.

ECTA, *Ninth Report on the Implementation of the Telecommunications Regulatory Package*.

OECD, *Purchasing Power Parities – Comparative Price Levels*, June 2004.

The Communication and Media Policy Institute and AAS Consulting Pty Ltd, *Review of Telstra's ULLS-specific costs*, Draft Report.\*

The Communication and Media Policy Institute and AAS Consulting Pty Ltd, *Review of Telstra's ULLS-specific costs*, Final Report, 12 October 2001.\*

\*contains commercial-in-confidence information.

## Appendix 2: Service description differences

Telstra has submitted an access undertaking in relation to the High Frequency Unconditioned Local Loop Service (the declared LSS). This Appendix compares the description of the service declared by the Commission to the description of the service that forms the basis of the undertaking.

First, the full description of both services is detailed in Table A2.1. Second, in Table A2.2, each element of the declared LSS is compared with the corresponding element of the service detailed in the undertaking (the Telstra Service). A brief description of any differences between these two services is noted.

**Table A2.1: The full descriptions side by side**

<b>The declared LSS</b>	<b>The Telstra service</b>
<p>The High Frequency Unconditioned Local Loop Service is the use of the non-voiceband frequency spectrum of an unconditioned communications wire (over which wire an underlying voiceband PSTN service is operating) between the boundary of a telecommunications network at an end-user’s premises and a point on a telecommunications network that is a potential point of interconnection located at, or associated with, a customer access module and located on the end-user side of the customer access module.</p> <p>(Note: From the above, each of the following are also defined terms: ‘boundary of a telecommunications network’; ‘communications wire’; ‘customer access module’; ‘public switched telephone network’ and ‘voiceband PSTN service’.</p>	<p>The Telstra Wholesale Spectrum Sharing Service is a service for the provision of access to the non-voice ADSL frequency spectrum (in accordance with the Telstra Splitter Specification) of a continuous metallic twisted pair between the SSS Boundary at the SSS End Customer Premises and a SSS POI associated with the TCAM serving that SSS End Customer that Telstra is currently using to provide an active PSTS voice service.</p> <p>(Note: This service description is at clause 2.2 of Attachment A of the undertaking. It is not the complete description, as many terms are further defined. These are incorporated below in Table 2.2.)</p>



**Table 2.2: Element by element comparisons**

<b>The declared LSS service description</b>	<b>The Telstra service description</b>	<b>Description of any differences</b>
‘The High Frequency Unconditioned Local Loop Service’	‘The Telstra Wholesale Spectrum Sharing Service’	These are different, which is reflective of the fact that the specific technical attributes of the two services are not identical.
‘the use of’	‘the provision of access to’	These appear substantively the same, especially when considering their context in an access undertaking.
‘non-voiceband’	‘non-voice’	The term ‘non-voice’ is used by Telstra, which is slightly different to the term ‘non voiceband’, as used in the declared LSS service description.
‘non-voiceband frequency spectrum’	‘non-voice ADSL frequency spectrum (in accordance with the Telstra Splitter Specification)’	<p>The declared LSS service description is quite broad, and includes frequency spectra other than the ‘voiceband’ frequency.</p> <p>The Telstra service, however, appears narrower than the declared LSS as it only applies to the ‘ADSL frequency spectrum’ (and not SDHL, VDSL, HDSL, for example.) This term is not defined in the undertaking, although ‘ADSL’ is (which is discussed below.)</p> <p>The phrase “in accordance with the Telstra Splitter Specification” is discussed below.</p>
-	‘ADSL’	This term is not a part of the declared LSS service description. In the Telstra service description, ADSL “means an Asymmetric Digital Subscriber Line service operated in accordance with the performance requirements of the Network Deployment Rules.”

		<p>The term ‘Network Deployment Rules’ is further defined. It “means the Industry Code entitled <i>Unconditional Local Loop Service – Network Deployment Rules</i> registered by the ACA under section 117 of the <i>Telecommunications Act</i>.”</p> <p>This in turn incorporates the detailed descriptions in those rules (which are not discussed in this paper.)</p>
-	“in accordance with the Telstra Splitter Specification”	<p>This term is not a part of the declared LSS service description. The term ‘Telstra Splitter Specifications’ means “the Telstra Splitter Specification for ADSL/POTS Spectrum Sharing Technical Reference RCIT.0004 as provided at <a href="http://www.telstra.com.au/adsl/equipment.htm">http://www.telstra.com.au/adsl/equipment.htm</a> from time to time.”</p>
‘unconditioned communications wire’	‘continuous metallic twisted pair’	<p>The declared LSS service description states that a “communications wire is a copper or aluminium wire forming part of a public switched telephone network”. The term PSTN is also defined. The undertaking is more general and refers to ‘metallic’ wires generally.</p> <p>The extra reference in the undertaking to a ‘twisted pair’ acknowledges that the LSS is not applicable to cable or coaxial fibres.</p>
“over which wire an underlying voiceband PSTN service is operating”	“that Telstra is currently using to provide an active PSTS (sic) voice service”	<p>There does not appear to be any practical difference here, although the undertaking uses ‘PSTS’ as opposed to ‘PSTN’.</p>
‘between’	‘between’	<p>There is no difference.</p>
“the boundary of a telecommunications network at an end-user’s premises”	“the SSS Boundary at the SSS End Customer Premises”	<p>The declared LSS service description states that the “<b>boundary of a telecommunications network</b> is the point ascertained in accordance with s. 22 of the <i>Telecommunications Act 1999</i>.”</p> <p>The Telstra Service description states that:</p>

		<p>“<b>SSS Boundary</b> means in relation to a line that enters a building on the SSS End Customer premises:</p> <p>(a) if there is an main distribution frame (MDF) in the building and the line is connected to the MDF - a two wire point on the side of the frame nearest to the Telstra network; or</p> <p>(b) if paragraph (a) does not apply but the line is connected to a network termination device located in, on or within close proximity to, the building - the side of the device nearest to the SSS End Customer; or</p> <p>(c) if neither paragraph (a) nor (b) applies - the network boundary point ascertained in accordance with s. 22 of the <i>Telecommunications Act 1997</i>.</p> <p>In comparison with s. 22 of the <i>Telecommunications Act 1997</i>, sub-section 22(4) first provides that the boundary may be mutually agreed upon but, failing agreement:</p> <p>(i) if there is a MDF in the building and the line is connected to the frame – the side of the frame nearest to the end-user; or</p> <p>(ii) if subparagraph (i) does no apply but the line is connected to a network termination device located in, on or within close proximity to, the building – the side of the device nearest to the end-user; or</p> <p>(iii) if neither subparagraph (i) or (ii) applies but the line is connected to one or more sockets in the building –the side nearest to the end-user of the first socket after the building entry point.</p> <p>Here, paragraphs (a) and (b) of the Telstra service description correspond to sub-sections 22(4)(i) and 22(4)(ii) of the <i>Telecommunications Act 1997</i>, except that for an MDF, the Telstra service defines the boundary on the side nearest the Telstra network, rather than the end-user’s side.</p>
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		<p>Otherwise, the Telstra Service description is in accordance with the <i>Telecommunications Act 1997</i>.</p> <p>Where a network termination device ('NTD') is present, then 'SSS End Customer' means an "end customer or proposed end customer to whom the Access Seeker supplies or proposes to supply a telecommunications service" using the Telstra Service.</p> <p>"<b>SSS End Customer Premises</b> means premises of a SSS End Customer to which the Telstra Wholesale Spectrum Service is or will be provided."</p>
-	'Options'	<p>Clause 2.3 of Attachment A of the undertaking states that the service is 'illustrated' in Figure 1 of the Attachment and the service "contains the options" as set out below it. As these relate to the discussion of the boundary point, they are included here.</p> <p>Options 2 and 3 in the undertaking appear to be two subsets or arrangements of paragraph (b) in the definition of 'SSS Boundary'. For each, the boundary point is at a Network Termination Device at a point nearest to the end customer's premises.</p> <p>Option 1 is a visual representation of paragraph (a) in the definition of SSS Boundary, where the end-customer premises has its own MDF.</p>
"a point on a telecommunications network that is a potential point of interconnection located at, or associated with, a customer access module"	"a SSS POI associated with the TCAM serving that SSS End Customer"	<p>POI</p> <p>"<b>SSS POI</b> means, in relation to a line, a point that is an agreed point of interconnection located at or with a TCAM and located on the SSS End Customer side of the TCAM."</p> <p>The declared LSS service description refers to a 'potential' POI, while the SSS POI refers to an 'agreed' point of interconnection (of which, it also must be on the SSS End Customer side of the TCAM.)</p> <p>CAM and TCAM are discussed next.</p>

CAM	TCAM	<p>CAM</p> <p>In the declared LSS service description, ‘CAM’ means:</p> <p>“<b>Customer Access Module</b> is a device that provides ring tone, ring current and battery feed to customers’ equipment. Examples are Remote Subscriber Stages, Remote Subscriber Units, Integrated Remote Integrated Multiplexers, Non-integrated Remote Integrated Multiplexers <i>and the customer line module of a Local Switch.</i>” (emphasis added.)</p> <p>TCAM</p> <p>In the Telstra Service description, ‘TCAM’ means:</p> <p>“Telstra Customer Access Module (TCAM) is a device owned by Telstra that provides dial tone, ring current and battery feed to customer equipment. Examples include RSS, RIMs an RSU and an IRIM.”</p> <p>The undertaking therefore specifies that the equipment must be owned by Telstra. Further, the examples of Telstra CAMs do <u>not</u> include the “customer line module of a Local Switch”.</p>
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### Appendix 3: LSS demand estimates

The Commission considers the assumptions made in relation to demand are the most critical for deriving an estimate of monthly LSS-specific unit costs and the resulting access prices. This is because of the sensitivity of the monthly unit cost to demand changes.

#### *Telstra and interested parties' views*

Telstra estimated demand for the LSS as is shown below in Table A3.1.

**Table A3.1: Telstra's demand estimates for the LSS, 2002/03 to 2006/07**

Year	2002/03 (actual)	2003/04	2004/05	2005/06	2006/07
Cumulative connections (net)*	6	1,426	4,751	8,171	[c-i-c 12,655]

\* assumes each connection has a limited life span.

In order to determine a monthly unit cost, Telstra's LSS cost model makes a number of adjustments to the raw demand estimates of new connections made each year. In particular, a net cumulative connections figure is calculated by **[c-i-c]**. To do this it is assumed **[c-i-c]**.

The LSS cost model also applies a further adjustment to the net cumulative connections figure. Specifically, **[c-i-c]**.

The Commission considers that an individual LSS is likely to have a limited life span and that 2 years is a reasonable estimate and basis on which to determine net cumulative connections.

In its Draft Report, the Commission considered that year-end net cumulative connections should be used to determine the LSS-specific unit cost rather than the 'year-average' approach proposed by Telstra. In its submission to the Draft Report, Telstra indicates its concern regarding this approach. In particular, it argues that:

While it is would be appropriate to use financial year-end estimates of demand if costs were incurred and revenues accrued at 30 June of each year, Telstra uses year-average demand estimates because demand generally rises over the course of a year and consequently so do the resultant cost and revenues.<sup>87</sup>

The Commission is of the view that while demand and revenues may rise over the course of the year, it does not agree with Telstra's statement that the resulting LSS specific costs also rises over the course of the year. In particular, it is noted that due to the nature of LSS specific costs being largely upfront capital costs, it is appropriate for the Commission to base its estimate of the LSS access price on costs and, therefore estimates of demand, accrued at financial year-end.

The Commission also notes the comments of its consultants employed to examine ULLS-specific costs who drew attention to a problem with using the average number of

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<sup>87</sup> Telstra's submission to the Draft Report, p. 14.

connections rather than end-of-year connections.<sup>88</sup> With the former approach, the effect on the implied per service cost is that some demand is shifted beyond the project period (of 5 years) and no account is taken of it. This effectively reduces the denominator in the calculation and increases the cost commensurately.

The Draft Report noted the problem of circularity regarding demand estimates and the calculation of a monthly per unit LSS access price.<sup>89</sup> This problem results as the demand estimate chosen inversely affects the LSS access price calculation and the calculated price further affects future demand for the LSS. Hence, a conservative estimate in relation to demand for the LSS service would, of itself, bring about that low demand because such an assumption raises the per unit LSS access price which serves to depress future demand.

A number of submitters argued that Telstra's LSS cost model used demand estimates for a number of years into the future that were too low. It was considered that a monthly per unit LSS access price based on weak expected demand into the future would be self-fulfilling and lead to exactly that outcome.

Telstra, for its part, has commented that industry forecasts of LSS take-up have been over-optimistic. Up to 25 September 2003, Telstra had supplied the LSS over only 28 lines to access seekers, while forecasts for the service had been as high as 17,000 for 2002/03, prior to the launch of the service on 1 July 2002.<sup>90</sup> Telstra noted that demand for the ULLS had also not lived up to expectations. Indeed, Telstra stated that its forecasts for the LSS were based on:

Interviews Telstra has conducted with its customers and on Telstra's experience with ULLS forecasts.<sup>91</sup>

In its submission to the Draft Report, Telstra contended that the Commission's approach to forecasting demand had not assisted take-up of the ULLS and that this approach should therefore not be applied to estimating demand for the LSS.<sup>92</sup>

However, in their submissions to the Discussion Paper, Network Technology<sup>93</sup>, PowerTel<sup>94</sup> and Primus<sup>95</sup> attributed the low LSS take-up to excessive access prices being sought for the service by Telstra. A common theme of the access seekers' submissions was that low monthly per unit LSS access prices would encourage demand for the service, implying that more optimistic forecasts than those supplied by Telstra should be used to generate the LSS access price and that such a price would generate sufficient revenues to recover costs by boosting demand.

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<sup>88</sup> The Communication and Media Policy Institute and AAS Consulting Pty Ltd, *Review of Telstra's ULLS-specific costs*, Draft Report, p. 35. This report was prepared for the ACCC and includes c-i-c information.

<sup>89</sup> ACCC, *A draft report on the assessment of Telstra's undertaking for the Line Sharing Service, June 2004*, p. 32 and p. 56.

<sup>90</sup> Telstra's first supplementary submission, p. 7.

<sup>91</sup> Telstra's first supplementary submission, p. 8.

<sup>92</sup> Telstra's submission to the Draft Report, p. 10, paragraph 4.15.

<sup>93</sup> Network Technology's submission to the Discussion Paper, p. 6.

<sup>94</sup> PowerTel's submission to the Discussion Paper, p. 11.

<sup>95</sup> Primus' submission to the Discussion Paper, p. 22.

Primus, through its consultant, Gibson Quai (GQ), developed demand forecasts that can be compared with Telstra's estimates.<sup>96</sup> Furthermore, these forecasts, as well as other alternative input parameters for Telstra's LSS cost model, were used by GQ to re-calculate a lower monthly per unit LSS access price. The GQ demand estimates and the implications for the monthly per unit LSS access price are discussed below.

GQ's demand estimates are detailed below in Table A3.2.<sup>97</sup> These are well in excess of those suggested by Telstra. These forecasts depend on a number of assumptions, including:

- forecast growth in broadband services, based on estimates provided by Paul Budde;
- the share of such growth that may be attributed to DSL connections (as distinct from cable-based services), based on estimates provided by Paul Budde;
- an ADSL share of DSL services of 85 per cent;
- a growing share of ADSL connections being provided by access seekers vis-a-vis Telstra, rising to 50 per cent by 2010, where that share only includes LSS and ULLS-based services (not those based on a Telstra wholesale service); and
- a share of the access seeker connections based on the LSS service, as distinct from those access seeker connections based on the access seekers' use of the ULLS, of 50 per cent.

Chime Communications also provided its own internal LSS demand estimates.<sup>98</sup> Even though these were estimates of the LSS it intends to acquire, these estimates exceed those Telstra submitted for the whole industry. On the basis of its [c-i-c] ADSL services in operation, as at 1 December 2003, Chime claimed it enjoyed 10 per cent of the ADSL market. While all of these customers were Telstra wholesale customers, Chime stated that it anticipated deploying its own infrastructure by the end of the March quarter 2004.

Chimes' demand estimates are included in Table A3.2 and it claims this growth is based on it enjoying growth of [c-i-c] new customers a month until mid 2005. These estimates were provided in Chimes' submission to the Discussion Paper in January 2004. Chime has since commented that:

...the demand forecasts in our January submission ...now appears conservative given the installation program since put in train.<sup>99</sup>

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<sup>96</sup> Primus' submission to the Discussion Paper.

<sup>97</sup> Primus' submission to the Discussion Paper, p. 12

<sup>98</sup> Chime Communications' submission to the Discussion Paper.

<sup>99</sup> Chime Communications' submission to the Draft Report, p. 4.



**Table A3.2: Selected Demand Forecasts, Year end SIOs, 2002/03 to 2006/07**

Year	2002/03	2003/04	2004/05	2005/06	2006/07
Telstra (net )	6	1,426	4,757	8,171	[c-i-c]
Gibson Quai/Primus (gross)	0	10,000	150,000	240,000	350,000
Chime* (gross)	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]

\* Demand for LSS by Chime Communications only.

#### *Commission view*

The Commission has previously noted the significant effect of demand forecasts have in calculating per unit charges and it is conscious of the vicious circle brought about by the reinforcing effects that low demand and high prices have on further depressing future demand.<sup>100</sup> In an effort to break this cycle, the Commission examined what it loosely called ‘aspirational demand’. In its Discussion Paper, the Commission expressed a preliminary view that demand forecasts for the LSS should adopt a similar approach to that taken for the ULLS and that:

This could be implemented through projecting forward demand based on the objective of achieving broadband penetration rates on par with other developed countries and the assumption that LSS will become one of the key mediums for the delivery of ADSL by access seekers.<sup>101</sup>

In this regard, the Commission has used EU benchmarks as a guide to projecting forward demand for the LSS. The Commission has drawn on data supplied by the European Competitive Telecommunications Association (ECTA) as at the end of March 2004 to generate target DSL and LSS penetration rates. As can be seen in Table A3.3, the ECTA data includes total numbers of DSL and LSS lines for specific EU countries as well as an EU average. At the end of March 2004, the EU average DSL penetration rate was 11 per cent and, of DSL lines, 4 per cent were provided by access seekers using a LSS.

<sup>100</sup> See, in particular, ACCC *Final determinations for model price terms and conditions of the PSTN, ULLS and LCS services*, October 2003, p. 87-8.

<sup>101</sup> ACCC, *Telstra’s Undertaking for the Line Sharing Service – Discussion Paper*, December 2003, p. 17.

**Table A3.3 – EU broadband figures**

Country	Copper lines	DSL lines	DSL as percentage of copper (%)	LSS lines	LSS as percentage of DSL (%)
Austria	3,000,000	318,800	11	0	0
Belgium	5,200,000	868,876	17	2,690	0
Denmark	2,526,901	527,500	21	25,354	5
Finland	3,180,000	336,600	11	22,000	7
France	32,100,000	4,012,600	13	470,900	12
Germany	49,400,000	4,950,015	10	15	0
Greece	5,644,000	15,156	0	10	0
Ireland	1,700,000	39,380	2	1,100	3
Italy	23,700,000	2,855,092	12	92	0
Luxembourg	315,000	13,325	4	0	0
Netherlands	7,655,173	1,234,448	16	256,207	21
Portugal	4,036,649	238,347	6	0	0
Spain	17,266,520	1,870,616	11	133	0
Sweden	5,474,000	634,042	12	63,876	10
UK	29,300,000	2,315,500	8	4,100	0
Total	190,498,243	20,230,297	11	847,577	4

Source: ECTA, *Broadband Scorecard end of March 2004*

Using this data as a reference point, the Commission considers that a ‘Low’ (conservative) range demand forecast for the LSS of 4 per cent (of DSL lines) by 2006/07 is reasonable. A ‘High’ (more optimistic) range demand forecast of 5 per cent by 2006/07 is assumed.<sup>102</sup> The ‘High’ and ‘Low’ range demand estimates assumed by the Commission are detailed in Table A3.4.<sup>103</sup> It is noted that actual LSS demand figures are used for 2002/03 and, for 2003/04, the Commission has accepted Telstra’s forecast (made in September 2003) of 1,426 services. For 2004/05, 2005/06 and 2006/07, however, the Commission has applied the forecasting approach detailed above.

<sup>102</sup> OECD data is available that details broadband services per 100 inhabitants and breaks this down to give the number of DSL services per 100 inhabitants. This can also be used as a reference for establishing a demand estimate, although it is less useful than the EU data which provides data on LSS connections.

<sup>103</sup> It is also noted that these demand estimates are year end estimates, as opposed to average or mid year estimates. In its cost model, Telstra adopts an average approach, however, to ensure consistency in the treatment of costs and demand staff has used year end demand estimates.

**Table A3.4: Selected Demand Forecasts, Year end SIOs, 2002/03 to 2006/07**

Year	2002/03	2003/04	2004/05	2005/06	2006/07
ACCC – Low range	6	1,426	14,518	27,999	41,480
ACCC – High range	6	1,426	14,518	27,999	57,035

It is noted that, while Telstra used [c-i-c] as the first relevant year of demand, the Commission considers 2002/03, when the LSS was first offered commercially, to be a more relevant starting point, as discussed in Appendix 4.

For illustrative purposes, the data used to derive the ‘Low’ range estimates is shown in Table A3.5.

**Table A3.5: Derivation of Commission ‘Low’ range demand estimates, 2004/05-2006/07**

Parameter	Current data	2004/05	2005/06	2006/07
Incumbent’s copper lines in Australia	10,370,000*	10,370,000*	10,370,000*	10,370,000*
DSL penetration (% DSL/copper lines)	5.14	7	9	10
Implied number of DSL lines	532,500^	725,900	933,300	1,037,000
LSS penetration (% LSS/DSL lines)	0.15	2	3	4
Implied number of LSS lines	784#	14,518	27,999	41,480

\* as at 30 June 2004 (Telstra, *Full year end results and operations review*, 12 August 2004, p. 6)

^ actual number of DSL lines (ACCC, Snapshot of Broadband Deployment as at 31 March 2004)

# actual number of lines as at 30 April 2004 (Telstra’s fourth supplementary submission, p. 7)

The Commission’s forecast increase in LSS lines may seem to rise rapidly from the current very low base. However, the Commission has had regard to the rapid growth of LSS lines that can be observed in a very short time in the EU. Indeed, the Commission’s forecasts are conservative by comparison with the growth experienced in the EU, as Table A3.6 shows.

**Table A3.6: Number of LSS lines, EU**

Period	Number of LSS lines, EU
2001 (Q3)	1,284
2002 (Q2)	27,700
2003 (Q2)	180,023

Source: ECTA, *Broadband Scorecard end of December 2003*

*Telstra's submission to the Draft Report*

Telstra's submission to the Draft Report included criticism of the Commission's demand forecasting approach and the use of ECTA data on EU LSS take-up to generate a benchmark or target rate of growth for LSS take-up in Australia<sup>104</sup>.

*Low ULLS/LSS take-up*

Inter alia, Telstra argued that the Commission's forecasts were over-optimistic, having regard to the current low LSS (and ULLS) take-up rates. While take-up rates are clearly quite low at present in Australia, it is not apparent to the Commission that this undermines the possibility that demand can increase in the future, in line with the experience of a number of EU countries.

The Commission notes that EU experience does not suggest that low take-up of the ULLS implies low take-up of the LSS. Telstra has drawn attention to the experience of a number of EU countries, such as France and Sweden, which have experienced very low take-up of the ULLS, yet much higher take-up of the LSS.<sup>105</sup> In relation to France, it appears that 'complex market entry conditions' may have especially impeded take-up of the ULLS and this may have distorted take-up of the LSS.<sup>106</sup>

However, there are countries in the EU where there has been take-up of both the ULLS and the LSS (the Netherlands, Denmark, Finland), implying that one need not occur at the expense of the other, nor that take-up of these services need remain depressed, as Telstra suggests will occur in Australia.

Arguably, as the degree of investment is lower with LSS, there may be greater take-up of the LSS than has been experienced in Australia for the ULLS. It is also not apparent to the Commission that take-up of the ULLS and/or the LSS will remain depressed as broadband take-up of service is now beginning to accelerate at the retail level, largely through growth in copper-based broadband.<sup>107</sup>

With greater price certainty in relation to the LSS and ULLS, made possible by the Commission making its views known on the pricing of these services through its current assessment of undertakings processes, it does not seem unreasonable to anticipate that LSS and the ULLS-based provision of these services can be part of that likely growth.

For growth to occur in LSS-based services, implying greater competition for the provision of broadband services, the Commission has pointed to the need to project demand forward to a reasonable level of demand so that the entry price does not retard take-up. Forecasting rates of take-up already being reflected in EU average rates (a 'Low range' demand estimate of 4 per cent by 30 June 2006) or likely to be experienced shortly (a 'High range' demand estimate of 5 per cent by 30 June 2006) is, in the Commission's view, a conservative approach to the matter.

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<sup>104</sup> Telstra's submission to the Draft Report, p. 10-4.

<sup>105</sup> Ibid, paragraph 4.19.

<sup>106</sup> Ibid, p. 11.

<sup>107</sup> As at 31 March 2004, there were 829,300 broadband services, including over 500,000 copper-based services.

### *Commission's use of EU benchmarks*

Telstra contended that the Commission's use of EU data in its Draft Report to generate a target for LSS take-up in Australia was crude and relied on a distortion of the extent of LSS take-up in the EU.

In particular, Telstra contended that the Commission's 'crude averaging' of LSS take-up rates in all EU countries leads to an artificially high and distorted benchmark measure because, *inter alia*, this involves including extraordinary demand numbers which have the effect of boosting the arithmetic average. Telstra argued that France should be excluded from EU average calculations because LSS take-up has been artificially boosted by low ULLS take-up in that particular country.<sup>108</sup> As LSS lines in France account for 56 per cent of all the LSS lines counted in the EU<sup>109</sup>, the inclusion of France in the average calculation is significant.

The Commission notes that excluding France from the LSS average calculation would cause total EU lines to decline to 375,577 lines, and this would mean LSS-based services would represent 2.3 per cent of all EU DSL lines, compared to 4.2 per cent of DSL lines if France was to be included.

The Commission's Draft Report forecast that LSS lines in Australia would reach 3 per cent of DSL lines by 30 June 2006 ('Low' range scenario). The average figure for the EU, *after excluding France*, has reached 2.3 per cent. This measure, by 30 June 2006, is likely to be higher than this, implying that the Commission's forecast of 3 per cent is not unreasonable and still conservative.

Telstra submitted that removal of 'outliers', from the averaging process, that is, figures from countries with extraordinarily high or low LSS numbers, would yield a more realistic (and lower) EU benchmark figure. For example, Telstra notes that the exclusion of the top two and bottom two EU countries from the ECTA list would reduce the LSS/DSL percentage to 0.7 per cent.<sup>110</sup>

However, the Commission notes that different adjustments to the averaging basket can be made which yield quite different results. For example, the logic involved in excluding France, on the grounds that LSS take-up has been excessive relative to ULLS take-up, can be used in reverse. Arguably, countries with high ULLS take-up compared to LSS take-up should be excluded on the grounds that the inclusion of such countries artificially depresses the LSS measure. For example, excluding Germany from the sample of countries on the grounds that its provision of DSL services by access seekers is overly distorted toward use of the ULLS – it has 550,000 ULLS access lines that are used to supply DSL services compared to only 15 LSS lines and its share of ULLS lines for DSL services is 52 per cent of all EU lines – would cause the LSS percentage to rise to 5.5 per cent.

Excluding 'outliers', defined to include France ('too many LSS compared to ULLS') and Germany ('too many ULLS compared to LSS') yields an average of 3.3 per cent, which is almost identical to the Commission's forecast for the end of 2005/06 of 3 per cent.

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<sup>108</sup> Telstra's submission to the Draft Report, p. 11.

<sup>109</sup> As at the end of the March 2004, ECTA scorecard.

<sup>110</sup> Telstra's submission to the Draft Report, p. 13. The Commission's calculation is 0.8 per cent.

The Commission also notes that a weighted average LSS/DSL take-up rate for the EU, where each country's LSS/DSL rate is weighted according to each country's share of total EU copper lines (where the number of copper lines is a proxy measure of the size of each country's telecommunications sector), also yields a figure of 3.3 per cent.<sup>111</sup>

In conclusion, the Commission is not persuaded that its use of EU data is seriously flawed, in terms of forming a basis for generating demand forecasts.

#### *Commission's failure to use non-EU data*

Telstra also submitted that the Commission's forecasts should not have been totally reliant on EU data but should have taken into account the experience of other countries, such as the US and Canada.<sup>112</sup>

The Commission noted in its Draft Report that broader OECD data were examined for the purpose of establishing demand forecasts but that EU data were preferred because these included explicit data on LSS lines.<sup>113</sup> While aggregated DSL services per 100 inhabitants is available for a host of countries, to use these data as a basis for establishing a benchmark LSS penetration rate requires speculative assumptions to be made about what share of DSL consumption could be attributed to supply using the LSS compared to other forms of supply, namely, wholesale DSL or the use of the ULLS.

The Commission considers it is preferable to establish a benchmark LSS rate based on explicit and known LSS rates which, to its knowledge, extends only to data on EU countries provided by ECTA.

#### *Rapid EU take-up of the LSS*

Telstra also criticised the Commission's reliance on EU data with respect to justifying its forecast of a rapid take-up of LSS based on rapid take-up in the EU.<sup>114</sup> In its Draft Report, the Commission drew attention to the apparent rapid LSS take-up in the EU.

The Commission recognises that the absolute number of lines encompasses a large number of EU countries and it would be inappropriate to target a particular absolute number for Australia in this way. However, the rate of change experienced across the EU as a whole can be used as a guide to the rate of change that might reasonably be expected to apply to growth in LSS take-up in a particular country, such as in Australia. In this respect, the Commission's forecasts for LSS take-up in Australia are not out of line with the EU experience in terms of growth rates.

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<sup>111</sup> Based on the ECTA scorecard data provided for the end of March 2004.

<sup>112</sup> Telstra's submission to the Draft Report, p. 11.

<sup>113</sup> ACCC, *A draft report on the assessment of Telstra's undertaking for the Line Sharing Service*, June 2004, p. 58.

<sup>114</sup> Telstra's submission to the Draft Report, paragraph 4.26.

## Appendix 4: LSS-specific cost estimates

### *Description of the Telstra LSS cost model*

Telstra states that its LSS cost model seeks to estimate the TSLRIC of providing the LSS.<sup>115</sup> This is the additional cost, net of line costs, to Telstra over the long-term of providing the LSS to access seekers while keeping the costs of all other services unchanged. The LSS cost model has a number of elements. The main cost elements include:

- capital expenditures required to provide the LSS over the 5 years [c-i-c];
- direct operational and maintenance expenditure required to provide the LSS over the 5 years [c-i-c]; and
- a loading on operational and maintenance expenditures to allow for an allocation of common indirect costs to the LSS.

The above costs are determined for each year and from this a monthly cost per unit (LSS) is ultimately calculated by adding into the model actual or forecasted demand for the LSS. The LSS cost model provides for the calculation of a net present value for these incurred and forecasted costs and for the number of actual and forecasted SIOs. These present value calculations are then used to calculate a fixed monthly per unit access price which would allow for the full recovery of all the costs incurred and estimated.

The Commission notes that the categories of costs claimed by Telstra for providing the LSS are essentially the same as those put forward and examined by the Commission in ULLS-specific costs context. These cost categories were rigorously examined by the consultants employed by the Commission to assist it in arbitrating disputes over the provision of this service by Telstra to a number of access seekers. Also, this work was used to inform the development of the Commission's model ULLS price terms and conditions.<sup>116</sup>

This said, the LSS cost model is slightly different from that proposed by Telstra in 2001 for estimating ULLS-specific costs. The main differences between the cost models relates to the use of a tilted annuity formula, rather than a straight line depreciation model used for the ULLS-specific costs. A further difference is the estimation of after-tax returns on capital rather pre-tax returns used in the ULLS-specific cost model.

While recognising these differences, the Commission considers the work undertaken in relation to the ULLS-specific costs to be highly relevant to an examination of the LSS-specific costs. Some of the conclusions drawn in respect of the ULLS-specific cost analysis have been incorporated, where appropriate, into the Commission's consideration of the LSS undertaking.

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<sup>115</sup> Telstra's first supplementary submission, p. 1.

<sup>116</sup> The consultant's work also informed the Commission's previous ULLS pricing principles paper, issued in February 2002, following the completion of the ULLS arbitrations.

However, unlike the ULLS-specific cost assessment, at this stage the Commission has not conducted a separate audit of the proposed LSS-specific capital costs. The Commission notes that, in the event it was satisfied that all other aspects of Telstra's proposed access price were reasonable it would have likely conducted such an audit to establish the appropriate efficient forward looking estimate. However, in this case the Commission has, in the first instance, considered the reasonableness of the access price based on an assumption that the proposed LSS-specific capital costs are appropriate. On this basis, the Commission has formed the view that the proposed price is unreasonable (see section 7.1.6). Consequently, it has been unnecessary, in this instance, to conduct an audit to consider whether the LSS-specific capital costs proposed by Telstra were appropriate. In the event the Commission was required to undertake that additional step, or, if it was required to determine an actual access price (e.g. in an arbitration), it would give consideration to undertaking an audit of the proposed LSS-specific capital costs.

#### *Capital costs*

The capital costs detailed in the Telstra LSS cost model are comprised of payments made to contractors to develop software for network and front-of-house systems needed to establish the LSS. The Commission understands these systems represent modifications to:

- Telstra's Linx Online Ordering (LOLO) system which is also used to support the sale of wholesale DSL and other services to access seekers; and
- the common core ordering and provisioning systems.

The Commission understands the model does not include any line-related capital costs.

The costs incurred to develop the IT systems were incurred over [c-i-c]. However, the model seeks to annualise these costs using a tilted annuity formula over the 5 years commencing [c-i-c].

#### *Direct operational and maintenance costs*

In the Telstra LSS cost model, the direct operational and maintenance costs are divided into two components, namely, labour for front-of-house operations (that is, labour for handling enquiries from access seekers and for processing orders for the LSS service) and wholesale product management costs. These costs include incurred costs and forecasted costs.

In relation to front-of-house costs, these depend on an estimate of an 'efficient' annual labour cost and forecast demand for the service.

For wholesale management costs, this is a fixed cost of \$240,000, incurred annually each year to cover the cost of deploying a single executive staff member for the development and ongoing management of the LSS.

#### *Indirect operational and maintenance costs*

In addition to direct ongoing operational and maintenance costs, a contribution to Telstra's common indirect operational costs is included in the LSS cost model's estimation of the TSLRIC+ of the LSS. This contribution is determined by application of a loading to direct front-of-house costs of 20.78 per cent and a loading to wholesale product management costs of 29.2 per cent. Telstra advised that these loadings were



derived from a cost study undertaken by Telstra in 2001 to assess the extent to which indirect costs could be attributed to data products.<sup>117</sup>

#### *Telstra comments on the model*

In its submission in support of the undertaking, Telstra noted that:

Telstra's model indicates that the efficient service specific costs of the UT Service [LSS] is in excess of \$57 per UT Service per month.<sup>118</sup>

However, notwithstanding this output from the cost model, Telstra has proposed a monthly price of \$15 for the period of the undertaking (to 31 December 2004) in order to prevent 'rate shock' having regard to the prices that currently exist in the market place, which range from [c-i-c] a month.<sup>119</sup> Telstra stated that the LSS access price of \$15 per SIO per month is "similar to those prevailing at the upper end of the market for the UT service". Telstra considered this price to be "significantly below efficient costs."<sup>120</sup>

#### *Interested parties' comments on the Telstra model*

In relation to Telstra's cost model Optus commented that: [c-i-c]

However, the Commission notes that the concerns expressed by Optus (and others) on the Telstra cost model largely relate to the inputs used in the model rather than how the model calculates a TSLRIC estimate of Telstra's LSS, in terms of a fixed monthly charge for the period proposed. Indeed, Gibson Quai (who has examined the model on behalf of Primus) state that it has:

...formed the opinion that the model is functionally sound, and given appropriate inputs offers a reasonable basis for calculating the TSLRIC for [the] LSS.<sup>121</sup>

#### *Commission's view*

The Commission has examined the LSS cost model and in broad terms considers it is technically sound. This said, it has concerns with the specific input parameters and assumptions in the model and its treatment of depreciation and timing of cost recognition, as outlined below. These concerns are significant and mean the model should be modified in specific ways from that proposed in the Telstra LSS cost model to provide for a more reasonable estimation of the LSS-specific unit costs and the resulting access price. The main changes to input parameters relate to the demand estimates (discussed in Appendix 3). There are also changes to other input parameters which also have a bearing on the estimation of a TSLRIC-based LSS monthly charge. These aspects are each discussed in turn.

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<sup>117</sup> Telstra's first supplementary submission, p. 3.

<sup>118</sup> Telstra's supporting submission, paragraph 8. However, in the soft and hard copy of the model provided with Telstra's second supplementary submission, the monthly cost was \$67 (rounded to the nearest dollar).

<sup>119</sup> Telstra's first supplementary submission, Annexure C.

<sup>120</sup> Telstra's supporting submission, paragraph 10.

<sup>121</sup> Primus' submission to the Discussion Paper, p. 15.

## *Capital costs*

### *Asset life*

GQ submitted that the asset life of 5 years proposed by Telstra for the systems to support the LSS was too short and that a longer period would be more appropriate:

We are of the opinion that a period of 7 to 10 years is more appropriate for Telstra's operational systems.<sup>122</sup>

As noted by GQ, changing this assumption has a substantial effect on the monthly access price.

The Commission takes the view that simply changing the asset life to 7 years in the model would violate the integrity of the Telstra cost model, as it currently stands, which allows for the recovery of costs over 5 years only. However, the integrity of the model would be kept intact if all costs were modelled to be recovered over 7 years and demand for the LSS over a further 2 years were to be included.

In the ULLS-specific cost context, the Commission formed the view, based on the advice of the consultants that a 5 year project or asset life for ULLS-specific IT systems and software was reasonable.<sup>123</sup> In this light, it is the Commission's view that this should also be the case for the LSS-specific costs relating to IT system development expenditures.

It is important to note that, in the ULLS-specific cost context the consultants advised, and the Commission agreed, that the recovery period for IT capital expenditures, and depreciation for those assets, should encompass the 5 year period from when the ULLS was first sold.<sup>124</sup> The consultant's considered that the 5 year cost recovery period should not start from any earlier time, such as when capital expenditures were first incurred. Thus, the Telstra ULLS-specific cost model was modified and the modelling of costs and revenues extended by one year to accommodate a project or asset life of 5 years commencing in the year from when the ULLS assets first yielded revenues.

Applying this approach to LSS, and specifically the LSS cost model, means that capital (and other) expenditures should be modelled to be recovered in the 5 years starting 2002/03 and ending 2006/07.<sup>125</sup> This also implies that demand estimates are required for 2006/07. A result of this modification is that the monthly unit LSS access price is lowered quite significantly.

In this submission to the Draft Report, Telstra contended that IT assets specifically used to supply the LSS are subject to obsolescence from the time they are installed and should therefore be depreciated from 2001/02 when expenditures were first incurred rather than from when the LSS was first sold in the next year, 2002/03, as suggested by the Commission.<sup>126</sup>

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<sup>122</sup> Primus' submission to the Discussion Paper, p. 19.

<sup>123</sup> ACCC, *Pricing of unconditioned local loop services (ULLS)*, March 2002, p.45

<sup>124</sup> Ibid, p. 40 and 45.

<sup>125</sup> Telstra first offered the LSS commercially in July 2002.

<sup>126</sup> Telstra's submission to the Draft Report, paragraphs 4.28-4.31.

However, as noted, the issue of when the depreciation of similar IT-based assets should commence was addressed by the expert consultants employed by Commission to examine the costs incurred by Telstra in supplying the ULLS in the context of the Commission's arbitration of a number of disputes over access to the ULLS in 2001. It is the Commission's final view that this principle should apply to the LSS-specific costs. Consequently, the Commission considers the Telstra LSS cost model needs to be modified to allow for this.

In its submission to the Draft Report, Telstra also submitted that, should depreciation commence in 2002/03, it should be the present value of capital expended in 2001/02 that should be depreciated, not its nominal value<sup>127</sup>, implying that Telstra should enjoy a return on the capital expended on the LSS assets before revenues are earned from 2002/03. The Commission considers that there should be an adjustment to the cost model to allow for this. This has the effect of increasing the access charge by a small amount at the upper end of the range (from \$8 to \$9).

#### *Depreciation of capital assets*

As noted above, in Telstra's LSS cost model, capital costs are annualised using a tilted annuity formula. In a supplementary submission, Telstra states that this is the Commission's 'preferred titled annuity formula'.<sup>128</sup>

The Commission used a tilted annuity formula, similar to that employed by Telstra in the LSS cost model, in its assessment of the 1999 PSTN undertakings.<sup>129</sup> In that context, it noted that, for telecommunications infrastructure, technological advances might reduce the future replacement costs of some assets. Using the tilted annuity, therefore, means that where an asset has a long life, the access provider is unlikely to suffer from depreciation being back loaded – the cost of capital will be recovered early in their life.

In relation to this issue the consultants considered that, for ULLS-specific capital costs, straight line depreciation over 5 years was to be preferred over a tilted annuity approach because the ULLS assets being depreciated had a relatively short life and the need for a tilted annuity approach, which was more suited to long-lived assets, such as the PSTN, was seen as less significant.

The Commission is of the view that the capital assets being considered in this context are quite different from telecommunications infrastructure and, additionally, have a much shorter asset life. In this regard, it appears that straight line depreciation would adequately establish the return of capital and that a tilted annuity formula, bringing these costs forward, is not required.

Accordingly, the Commission considers the LSS cost model should be modified such that straight line depreciation is used rather than a tilted annuity approach.

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<sup>127</sup> Ibid, paragraph 4.31.

<sup>128</sup> Telstra's first supplementary submission, p. 2.

<sup>129</sup> ACCC, *A report on the assessment of Telstra's undertaking for the Domestic PSTN Originating and Terminating Access services*, July 2000, p. 96-7.

### *Quantum of capital costs*

An issue raised by many of the access seekers making submissions was the extent to which the capital (and other) costs claimed by Telstra were reflective of costs needed to provide the LSS service to access seekers and that service only.

Optus claimed that ordering and provisioning for the LSS is performed using the LOLO system which supports the provision of all of Telstra's wholesale services.<sup>130</sup> It considered any additional incremental costs needed for the LOLO system to support the LSS would be very small to non-existent, given the low volumes expected for the LSS.

Optus stated that it was unaware of any additional LSS-specific software needed to enhance the LOLO system for LSS purposes. Moreover, it claimed that, in the event that Telstra could demonstrate that such software had been developed, this should not be accepted as efficient given the low numbers of services this investment was required to support.<sup>131</sup> In a similar vein, GQ claimed that Telstra, had it been operating efficiently and been forward looking, as required by the TSLRIC principles, it would not have been required to engage in an expensive 'retrofit' of current systems and that it would have developed a more appropriate system at an earlier time and at a much lower cost.<sup>132</sup> GQ contended that system upgrade costs for the LSS would have been 50 per cent less had Telstra's upgrade for provisioning for the ULLS also accommodated provisioning for the LSS.

In commenting on the provisioning of wholesale services to access seekers, PowerTel suggested there was significant commonality between how Telstra provides wholesale DSL offerings and the LSS.<sup>133</sup> Indeed, it stated that the commonality implied that a combined demand forecast for all of these services was needed to arrive at an appropriate per unit service LSS cost.

PowerTel also contended that Telstra was effectively accessing the LSS for itself by offering wholesale and retail ADSL services over its copper lines while simultaneously offering PSTN voice services.<sup>134</sup> Hence, it enjoyed a powerful 'first mover' advantage over access seekers which needed to be recognised in assessing the costs Telstra is seeking to impose on access seekers for provision of the LSS. PowerTel claim these costs would represent barriers to entry to access seekers.

In the light of the above comments made by access seekers, the Commission sought further information from Telstra seeking to establish and clarify whether the claimed LSS-specific capital expenditures could be justified as solely LSS-specific and whether they were excessive.<sup>135</sup> In regard to the concerns expressed over the magnitude of the capital expenditures claimed, relative to the small number of LSS that this investment was intended to support, the Commission sought information from Telstra on the total cost of the LOLO system. It also sought information on costs of other modifications made to LOLO, if any, for the provision of other wholesale services.

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<sup>130</sup> Optus' submission to the Discussion Paper, p. 2.

<sup>131</sup> Ibid, p. 2.

<sup>132</sup> Primus' submission to the Discussion Paper, p. 17.

<sup>133</sup> PowerTel's submission to the Discussion Paper, p. 6.

<sup>134</sup> Ibid, p. 5.

<sup>135</sup> Specifically, the Commission made an information request under s. 152BT of the Act.

In a supplementary submission Telstra stated that the costs claimed for the LSS were entirely LSS-specific and would not have otherwise been incurred had the service not been developed.<sup>136</sup> It noted that these costs related to modifications of LOLO and the underlying common core systems used to support the LSS. Telstra confirmed that the LOLO system was developed to service all of its wholesale products and that it had cost in excess of [c-i-c]. Also, Telstra stated that it spends, in approximate terms, [c-i-c] a year on the LOLO system to support the range of products and services that can be ordered and provisioned through it.

The Commission notes that a capital investment of [c-i-c] on LSS-specific modifications to LOLO and other core systems is not inconsistent with the estimates provided by Telstra on the total cost of LOLO. However, the Commission has not separately audited or verified this amount as the TSLRIC for LSS-specific costs. On this matter, it is noted that the independent audit of ULLS-specific costs, conducted by the consultants in 2001, found a large difference between costs Telstra was seeking to claim and what it considered to be both incremental and efficient ULLS-specific costs.

The Commission, in looking more closely at the various inputs to the model and demand estimates, has formed a view that the proposed access price of \$15 per SIO per month cannot be substantiated under the reasonableness criteria and that, using a modified cost model and different inputs, a significantly lower charge can be estimated. This is even on the basis of no material change to the LSS applicable LOLO costs (LSS-LOLO). The Commission would likely look at the need for verifying and auditing these underlying LSS-LOLO costs were it required to arbitrate a charge for this service.

#### *WACC*

Primus, through GQ, submitted that Telstra's WACC assumption of 11.69 per cent per annum was too high and that the figure of 9.71 per cent applied by the Commission in its June 2000 assessment of the then Telstra PSTN undertaking should be used.<sup>137</sup> It noted that the Commission's figure included an allowance for a government bond rate of 6.4 per cent, higher than the current rate, implying that 9.71 per cent could be discounted still further.

In relation to model ULLS access prices, the Commission determined that the WACC used for the PSTN, adjusted for an appropriate 5 year risk-free rate, should be used. The Commission considered the 5 year rate applying at the time of the July 2000 starting date was appropriate as this corresponded to the estimated project life of the ULLS-specific systems. Accordingly, the Commission used a pre-tax nominal WACC of 9.59 per cent.<sup>138</sup>

The Commission considers for LSS-specific costs the same general approach to using an adjusted PSTN WACC should be taken. This reflects the similarities between provision of the LSS and the ULLS, in terms of risk. Accordingly, the Commission considers that its 9.71 per cent figure for the PSTN, adjusted for the 5 year risk-free rate applying at 1 July 2002 should be used. This results in a (pre-tax) WACC of 9.73 per cent per annum.

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<sup>136</sup> Telstra's third supplementary submission, p. 1-2.

<sup>137</sup> Primus' submission to the Discussion Paper, p. 28.

<sup>138</sup> ACCC, *Final Determination – Model Non-price Terms and Conditions*, October 2003 p. 87.

In suggesting an adjusted PSTN WACC for the calculation of a LSS price, the Commission refers to its discussion of the WACC in its report on the model price terms and conditions for the ULLS.<sup>139</sup> This discussed the issue of whether there should be a greater allowance for risk given uncertainty over demand for the ULLS. The Commission considered that it is not appropriate for these form of adjustments, which relate to specific or non-systematic risks, to be reflected in any adjustment to the asset beta to reflect any greater risk associated with the ULLS compared to PSTN services.

The report also noted it may be appropriate for any such adjustments to be reflected in the cash flows. Since then, however, the Commission has been reviewing its approach to the form of the adjustment mechanism (see section 7.1.3). It is noteworthy, for example, that to the extent Telstra is able to diversify such risks, because of changes in the demand of other broadband retail or wholesale services, it does not seem apparent that any discrete adjustment of the kind proposed by Telstra for the ULLS is required.

The Commission would expect it may need to address this issue more directly in any subsequent undertaking if an adjustment approach was proposed or were it required to determine an access charge in an arbitration.

### ***Operating expenditure***

#### *Front-of-house costs*

Primus, through GQ, submitted that the annual cost per staff member for front-of-house labour of \$105,000 was too high and a figure of \$70,000 should be used.<sup>140</sup> Furthermore, it submitted that these costs should be recovered in connection charges levied on access seekers (not covered by the Telstra undertaking) rather than the monthly access rental charge.<sup>141</sup>

In addition to processing new orders from access seekers, the Commission presumes there would be a need to provide ongoing administrative support for the maintenance of a particular LSS, albeit at a much smaller cost than at the time a particular LSS is first made available to an access seeker. Nonetheless, the Commission notes that the estimation of front-of-house labour costs in the Telstra model is based on the number of LSS connections, implying that connecting the service is the driver of front-of-house labour costs.

The Commission understands that the connection (and disconnection) charges not covered by the undertaking are intended to largely cover line-related labour costs incurred in exchanges. These labour cost can be distinguished from the front-of-house labour costs associated with operating the LOLO-based computer system set up to supply the LSS.

While the Commission acknowledges that front-of-house costs could be recovered in connection charges, it notes that the Telstra cost model spreads these costs over the 5 year asset life and recovers them in the monthly charge on an ongoing basis. This implies that access seekers will effectively pay less than actual labour costs in the early years and more than actual labour costs in the later years. This, albeit in a very small

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<sup>139</sup> Ibid, p. 85-7.

<sup>140</sup> Primus' submission to the Discussion Paper, p. 19.

<sup>141</sup> Ibid, p. 20.

way, will assist access seekers to take-up the service in the critical early years, thus promoting competition without impeding Telstra's ability to recover front-of-house costs labour costs in the longer term.

For this reason and because front-of-house costs can be distinguished from other connection costs, the Commission does not object to the recovery of these costs in the way proposed by the Telstra model. However, should it be required to arbitrate a connection charge, the Commission would need to ensure that front-of-house costs are not also recovered in connection charges if these costs are modelled to be recovered in the monthly access charge.

Telstra's model also allows for front-of-house labour to become more productive over time, in terms of the number of connections made per day, rising from 11 connections in 2001/02 to 20 in 2006/07. However, the Commission notes the views of its ULLS consultants on the relation between greater efficiencies from greater automation at higher demand levels that led them to conclude that connections for the ULLS service could be performed more efficiently at rates of around 20 connections per day (where total connections for the year were less than 25,000) and still higher rates of around 40 connections per day (where total connections exceed 25,000 per year).

The Commission considers these more efficient connection rates should be used in preference to Telstra's connection rates for costing the LSS service. However, this, of itself, has only a marginal effect on reducing the monthly access charge.

#### *Wholesale product management costs*

A number of interested parties take issue with Telstra's estimate of wholesale product management costs of \$240,000 each year for the LSS.

Optus stated that Telstra has no interest in promoting this product as declaration has been required to facilitate access to this product.<sup>142</sup> This implies that the manager's salary of \$240,000 should be discounted to some extent to reflect a reduced need to promote the LSS product.

Primus argued that it is likely that a single person could likely jointly manage both ULLS and LSS sales given the synergies and similarities with respect to these products.<sup>143</sup> It considers that a proportion of an annual salary of \$240,000 could be attributed to the LSS, starting at \$120,000 and falling to \$50,000 as the task becomes easier over time and a lesser skilled person can be deployed.<sup>144</sup>

The Commission notes that, in the ULLS-specific cost context, the consultants advised that wholesale product management costs supplied by Telstra should be discounted on the grounds that those submitted were not consistent with efficient provision.

The Commission has concerns with the Telstra LSS cost model assumption that management costs are constant throughout the entire provision of the service. For the ULLS-specific costs, the Commission's consultants concluded that there was a greater need for management in the start-up phase with a reducing need as the ULLS product became more established. Application of this principle to Telstra's LSS model would

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<sup>142</sup> Optus' submission to the Discussion Paper, p. 2.

<sup>143</sup> Primus' submission to the Discussion Paper, p. 20.

<sup>144</sup> Primus' submission to the Discussion Paper, p. 20.

suggest some scaling down of that cost. In this regard, the Commission considers there should be some scaling down of Telstra's claimed costs for management of the LSS, in line with that proposed by the consultants in the ULL-specific cost context. It is noted that these reductions are somewhat less than those proposed by GQ.

#### *Indirect operation and maintenance factors*

In addition to direct ongoing operational and maintenance costs, a contribution to Telstra's common running or operational costs is included in the LSS cost model. This gives a TSLRIC+ estimate of LSS-specific costs.<sup>145</sup> This contribution is determined by application of a loading to direct front-of-house costs of 20.78 per cent and a loading on wholesale product management costs of 29.2 per cent. Telstra advised that these loadings were derived from a cost study undertaken by Telstra in 2001 to assess the extent to which indirect costs could be attributed to data products.<sup>146</sup>

Primus, through GQ, submitted that Telstra's estimation of indirect operational costs was not reflective of an efficient operator and should not therefore be used as part of a TSLRIC-based access price.<sup>147</sup>

Optus also made the point that the use of Telstra's historic costs to determine loadings for indirect costs is inappropriate as these costs would not reflect efficient practice.<sup>148</sup> Furthermore, Optus claimed that any such loading applied to the LSS should approach zero as very few staff are or will be dedicated to providing the LSS and individual service contributions to indirect common costs should reflect staffing levels that can be attributed to particular products as it is total staffing levels which drive operational overheads.

In relation to ULLS-specific costs, the Commission accepted the consultants' recommendations that loadings on operational costs for indirect costs should be those applied for PSTN services, as determined by the Commission in its July 2000 determination on Telstra's 1999 PSTN undertaking.<sup>149</sup> These loadings were a substantial discount on those proposed by Telstra in the ULLS-specific cost context.

This resulted in a discounted loading of only 6 per cent on wholesale sales and marketing costs, as developed for PSTN services by the National Economic Research Associates (n/e/r/a).<sup>150</sup> Similarly, for the loading on ULLS connection (or operational and maintenance) costs, the consultants argued for a discounted loading, namely, 24.8 per cent, which was derived by n/e/r/a from the ratio of indirect to direct PSTN costs rather than the ratio applying across all of Telstra's services.

The Commission considers the same approach should be applied for the loadings used in the Telstra LSS cost model. Including these PSTN-based percentage loadings and applying these to the adjusted direct operational and maintenance costs, as outlined

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<sup>145</sup> For example, ACCC, *Pricing of Unconditioned Local Loop Services (ULLS)*, March 2002, p. 16.

<sup>146</sup> Telstra's first supplementary submission, p. 3.

<sup>147</sup> Primus' submission to the Discussion Paper, p. 20.

<sup>148</sup> Optus' submission to the Discussion Paper, p. 3.

<sup>149</sup> ACCC, *Pricing of unconditioned local loop service (ULLS)*, March 2002, p.41 and 45.

<sup>150</sup> ACCC, *A report on the assessment of Telstra's undertaking for the Domestic PSTN Originating and Terminating Access services*, July 2000, p. 54.



above, would reduce the monthly access charge, as calculated by the modified Telstra cost model, by a small amount.

***Modified LSS cost model***

The Commission has proposed several modifications to Telstra's LSS cost model in order that, in its view, it might more reasonably reflect the TSLRIC with respect to Telstra's LSS-specific costs.

A further cost modelling issue not raised by the Commission in its Draft Report, nor addressed in this Final Report, may need attention in any subsequent undertaking assessment or access arbitration.

The Commission's attention was drawn to a deficiency in the then cost modelling of the ULLS-specific costs by its then consultants with respect to the fact that, since each service was assumed to generate revenues over 2 years, revenues earned on services in the final year of the cost model were not taken account of yet the costs of connecting such services were.<sup>151</sup> Hence, the monthly access charge was higher than it needed to be to fully recover costs to the extent that revenues earned on services connected in the final year of the model were not captured by the model. This same issue would also seem to arise with the current LSS cost modelling.

The cost model may, therefore, need a further adjustment to ensure that this imbalance between total costs and revenues is corrected.

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<sup>151</sup> The Communication and Media Policy Institute and AAS Consulting Pty Ltd, *Review of Telstra's ULLS-specific costs*, Draft Report, p. 7. This report was prepared for the ACCC and includes c-i-c information.

## Appendix 5: International price comparisons

Table A5.1 details the monthly rental and the connection charges for LSS services in each of the EU countries. It is based on the *Ninth Report on the Implementation of the Telecommunications Regulatory Package* (the EU report) as provided by the European Competitive Telecommunications Association (ECTA).

**Table A5.1 EU pricing and uptake of the LSS**

Current at: Jul 2003		LINE SHARING SERVICES					
Country	Incumbant's PSTN lines	LSS Lines	Price in Euros		Price in \$AUD		Monthly Average (24 mths)
			Monthly Price	Connect-ion fee	Monthly Price	Connect-ion fee	
Australia	10,310,000	26			\$15.00	\$93.00	\$18.88
Austria	3,090,000	0	€ 5.5	€ 109.0	\$9.9	\$195.3	\$18.0
Belgium	4,620,560	2,307	€ 2.3	€ 54.9	\$4.1	\$98.4	\$8.2
Denmark	3,115,303	10,812	€ 4.1	€ 104.4	\$7.3	\$187.1	\$15.1
Finland	2,848,000	21,500	€ 6.7	€ 105.0	\$12.0	\$188.2	\$19.8
France	34,000,000	60,274	€ 2.9	€ 78.7	\$5.2	\$141.0	\$11.1
Germany	39,500,000	20	€ 4.8	€ 74.9	\$8.6	\$134.2	\$14.2
Greece	5,485,020	0	€ 5.3	€ 47.0	\$9.5	\$84.2	\$13.0
Ireland	1,700,000	715	€ 9.0	€ 123.4	\$16.1	\$221.1	\$25.3
Italy	27,079,000	19	€ 2.8	€ 44.5	\$5.0	\$79.7	\$8.3
Luxembourg	247,000	0	€ 7.5	€ 196.2	\$13.4	\$351.6	\$28.1
Netherlands	8,000,000	64,738	€ 2.3	€ 44.1	\$4.1	\$79.0	\$7.4
Portugal	4,092,000	0	€ 3.0	€ 88.2	\$5.4	\$158.1	\$12.0
Spain	16,884,000	0	€ 3.5	€ 27.0	\$6.3	\$48.4	\$8.3
Sweden	5,530,000	8,787	€ 5.4	€ 119.7	\$9.7	\$214.5	\$18.6
United Kingdom	29,300,000	2,305	€ 6.4	€ 170.5	\$11.5	\$305.6	\$24.2
<b>Median Value</b>			€ 4.8	€ 88.2	\$8.6	\$158.1	\$14.2
<b>EU Average</b>			€ 4.8	€ 92.5	\$8.5	\$165.8	\$15.4
<b>Weighted Avg</b>			€ 4.2	€ 83.0	\$7.5	\$148.8	\$13.7
<b>TOTALS</b>	<b>185,490,883</b>	<b>171,503</b>					

Exchange Rates € 0.5580

Source: Ninth Report on the Implementation of the Telecommunications Regulatory Package ECTA, <http://www.ectaportal.com>

It is noted that the exchange rate used in Table A5.1 is \$A1 : euro0.5580. This is the average rate for the first half of 2003 and was used as it represents the same methodology employed by Telstra in its international price comparison (provided in its first supplementary submission).

In comparison, a purchasing power parity (PPP) conversion could have been calculated. Using OECD PPP estimates an implied PPP conversion rate can be determined. Using data for 2003, again to be consistent with the approach employed by Telstra, this is \$A1 : euro 0.6584.<sup>152</sup>

<sup>152</sup> OECD, *Purchasing Power Parities – Comparative Price Levels*, June 2004. In particular, the following PPPs for 2003 were used: Australia 1.37 and Euro areas 0.902 (per US dollar).

Table A5.1 shows two averages for the EU. The first average, titled 'EU Average', is simply a numerical average of the values in a given column. The second average, titled 'Weighted Average', incorporates a weighting based upon a particular country's proportion of PSTN lines from total PSTN lines in the EU.

It is not clear what method of averaging was used in the EU Report. The EU Report states an EU average rental of €4.2, which is identical to the average calculated using the PSTN weighting method in Table 5.1. However, the EU Report states an EU average connection charge of €80.6 compared to €83.0 calculated in this report. It therefore appears that the PSTN weighting may slightly overstate the correct value.

#### *Assumptions about charges*

The Telstra charges incorporate the monthly rental charge and a connection charge. It does not appear to include a disconnection charge. It is not clear from the EU Report whether disconnection charges are charged in any or some EU country estimates but it has been assumed that they are not.

This assumption does not necessitate changes to the calculations in Table A5.1, however, because it appears Telstra has not assumed a disconnection fee. In the EU Report, however, the following qualifications were made to their data:

In Belgium, a supplementary fee of 28.33€ for disconnection is also charged. It should be noted that a disconnection fee is not charged for the incumbent's own retail market.

The connection fee in Denmark decreases to 35.3€, when taking over an existing shared access connection.

Data for the connection fee in Germany refer to a unique payment option.

Data for the monthly rental in Luxembourg do not include the price of the splitter.

Data for Finland refer to a weighted average of 44 SMP operators providing shared access to local loop. Generally the monthly rental is 50 % of the monthly rental of the full ULLS and the prices for the connection fee vary between 42 - 260€.

Data for Sweden for connection fee refer to the first access. Charges for the following access is 86€.

Data for France includes the price of the splitter.

Data for the United Kingdom refer to an average based on a price of 77.24€ per annum for the monthly rental and on a price of 170.5€ per annum for connection fee.<sup>153</sup>

From these comments, it is still not clear whether a disconnection fee is charged at all for most countries (other than Belgium) in relation to the LSS but it has been assumed it is not charged unless specifically mentioned.

### **Comparison of EU and Telstra prices**

It is immediately seen from Table A5.1 that Telstra's proposed access price of \$15 per SIO per month is approximately 100 per cent higher than the weighted EU average. By contrast, however, Telstra's connection fee \$93 is around 60 per cent lower than the corresponding EU equivalent. If Telstra were to incorporate its disconnection fee in its analysis, then Telstra's total fees relating to disconnection would be approximately 20

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<sup>153</sup> ECTA, *Ninth Report on the Implementation of the Telecommunications Regulatory Package*, p. 61.

per cent higher than the EU average, assuming that no EU disconnection fees are charged other than in Belgium.<sup>154</sup>

Further, where a PPP conversion rate is used, the EU average monthly price is \$7.29 while the EU weighted average monthly price is \$6.37. Again, by this comparison Telstra's proposed access price of \$15 per SIO per month is significantly higher than either of these measures.

Finally, it is important to note that the average monthly prices presented by Telstra in its first supplementary submission differ significantly to some of the figures determined by the Commission. For example, Portugal and Greece are claimed by Telstra to charge average monthly fees of around \$20 and \$23 respectively. By contrast, in Table A5.1 they are calculated to be \$12.00 and \$13.00 respectively.

Such differences may result because of slight differences in exchange rates, however, as Telstra has not referenced any of its information, it is difficult to identify these differences.

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<sup>154</sup> See discussion of disconnection fees, above.