'yes' OPTUS

Optus Submission to

Australian Competition and Consumer Commission

on

Telstra's Undertaking for Domestic PSTN Originating and Terminating Access, Unconditioned Local Loop Service and Local Carriage Service

March 2004

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1. Executive summary

1.1 This submission sets out Optus' contentions in relation to Telstra's November Undertaking offer, released 14 November 2003, the application of Telstra's PIE II cost model (version 4.1.1 released in July 2003), the ACCC's *Assessment of Telstra's core services undertakings – preliminary view* issued 12 December 2003, and the ACCC's *Final Determination for model price terms and conditions of the PSTN, ULLS and LCS services* released in October 2003.

1.2 Optus contends that the price and non-price terms and conditions set out in Telstra's undertakings are not reasonable (under the terms set our in section 152AH of the *Trade Practices Act 1974)*. The undertakings should therefore be rejected by the ACCC.

1.3 The undertakings are examined in the context of PIE II and the ACCC's final determination on model prices. This is because Telstra's claimed costs are derived from its PIE II cost model, but adjustments have been made in an attempt to align the undertaking with the ACCC's final determination for model terms and conditions for the core services.

1.4 The ACCC has made the link between the model prices and the undertakings. It has indicated that its assessment of future undertakings would have regard to the model price terms and conditions. In its preliminary view on the undertakings the ACCC has not assessed the undertaking separately or on its own merits, it has stated that:

> *...the prices proposed in the Undertakings are similar on a disaggregated level to those set by the Commission in its model price terms and conditions determination. Therefore, it is the Commission's preliminary view that terms and conditions of supply of PSTN O/T service proposed in the Undertaking are reasonable.*[1]
>
> *Based on the evidence to date, including the information assessed by the Commission during its model price terms and conditions deliberations, it is the Commission's preliminary view that the terms and conditions in the Undertakings satisfy the relevant SAOs and are reasonable (as defined in s. 152AH of the Act). Therefore, it is the Commission's preliminary view that the Undertakings should be accepted.*[2]

1.5 Optus is concerned that the ACCC may fast track its assessment of the undertakings on the basis that Telstra claims the undertakings are consistent with the ACCC's model terms and conditions. Optus does not believe that the undertakings are consistent with those model terms and conditions. Our

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1 ACCC, *Assessment of Telstra's core services undertakings – preliminary view, 12 December 2003*, page 26

2 *Ibid*. page 28

concerns in this regard are dealt with in this submission and Optus' accompanying separate submissions to the ACCC. Further, Optus believes that in developing the model terms and conditions, the ACCC has used data and insights from Telstra's PIE II modelling (including the quantum of costs and the geographic structure of charges) which needs to be reconsidered in the context of accepting or rejecting an undertaking in accordance with the "reasonableness" criteria under the Act.

1.6 The ACCC indicated in its model terms and conditions that it rejected Telstra's modelling and for this reason Optus understands that the ACCC set upper bound prices. Further, it also needs to be recognised that an undertaking will be binding (as would an arbitration). Hence, if the ACCC believes that a fuller assessment of the model would be required before it could set binding prices by means of an arbitration, it follows that the ACCC would also need to conduct a fuller assessment of the model before it could set binding prices by means of accepting Telstra's undertaking. Optus therefore believes the ACCC must follow through with a more detailed review of models indicated in its final determination.

> *Should the Commission set binding prices in the context of an arbitration, it would consider using Telstra's, or any other model, only after a fuller assessment of the model is undertaken and industry participants have had the opportunity to analyse its modelling framework and assumptions in more detail than has been possible in the current processes.*
>
> *This said, the Commission has not ruled out the possibility of updating and improving the n/e/r/a model in the future.* (page 31)

1.7 This submission is structured around a number of the ACCC's original questions regarding PIE II and Telstra's January 2003 undertakings. We have focused on these original areas of ACCC concern, as we believe that many of these remain relevant and have not been addressed satisfactorily in Telstra's November undertakings, nor in the ACCC's preliminary view of the November undertakings.

1.8 Sections 2 to 4 of this submission outline Optus' views on each of Telstra's PSTN, ULLS and LCS undertaking offers respectively, whilst making reference to how the ACCC has dealt with these issues in its final determination for model price terms and conditions for these services.

1.9 Section 5 of this submission provides an assessment of what costs should be considered the efficient network costs incurred in providing PSTN OTA, ULLS and LCS. This includes references to how PIE II has performed these network cost estimates. Section 6 undertakes a more detailed assessment of the PIE II cost model, in particular the major areas of contention for PIE II. This section also examines the ACCC's suggested adjustments to PIE II and builds on these to present an Optus adjusted PIE II outcome and the access prices arising from these adjustments.

1.10 Optus concludes that Telstra's undertakings for each of the core services, PSTN, ULLS and LCS, are significantly above efficient costs. Prices above efficient costs will not promote competition because they will distort prices and competition in markets downstream of the undertakings services. They

will also distort the incentives for facilities based competition (when access seekers deploy their own infrastructure) and the efficient use of and investment in infrastructure.

1.11 Optus also concludes that the undertaking prices are above the existing access prices paid by access seekers. Increasing these prices will result in a margin (or price) squeeze for Telstra's competitors. This will prevent efficient competitors from contesting retail markets.

1.12 Moreover, Optus contends that the ACCC has given too much weight to Telstra's legitimate business interests. In particular, when setting PSTN prices the ACCC has set rates far in excess of conveyancing costs, notwithstanding the ACCC's decision that an access deficit is no longer appropriate. Optus contends that the increment above conveyancing costs allowed by the ACCC does not appropriately address the interest of access seekers and end-users of PSTN interconnect related services.

1.13 We note that the ACCC cannot accept the undertakings unless all the "reasonableness" criteria are considered and given due weight. These criteria are set out in section 152AH of the *Trade Practices Act 1974*. Optus does not believe the ACCC's preliminary view satisfies this requirement.

1.14 When assessed against the reasonableness criteria in the *Trade Practices Act 1974*, it is Optus' contention that the undertakings therefore are not reasonable. As such, they should be rejected by the ACCC.

1.15 In accordance with Section 152BV(2), Optus submits the following submissions that it request the ACCC have regard to:

- Optus Submission to ACCC on *Telstra's Undertaking for Domestic PSTN Originating and Terminating Access, Unconditioned Local Loop Service and Local Carriage Service* - March 2004
- Optus Submission to ACCC on *Telstra's Undertaking for Local Carriage Services is anti-competitive* - March 2004
- Optus Submission to ACCC on *Rural charges in Telstra's Undertaking for Domestic PSTN Originating and Terminating Access* - March 2004
- Optus Submission to ACCC on *Access Deficit For PSTN Originating Terminating Access (OTA)* - February 2003
- *Estimating Telstra's Avoidable Retail Costs for Local Calls and basic Access* - A Report for Optus prepared by NERA, August 2003
- *Competitive Neutrality in Access Pricing*- A Report for Optus prepared by NERA, July 2003
- *Role of TSLRIC in Telecommunications Regulation* - A report for Optus prepared by NERA, July 2003
- *Appropriate Measurement and Recovery of the 'Access Deficit'* - A Report for Optus prepared by NERA, March 2003

- *Assessment of PIE-II Model* - A report for Optus prepared by NERA, July 2003
- *Network Design* - A report for Optus prepared by NERA, March 2004

2. PSTN undertaking

PSTN claimed costs versus undertakings prices

2.1 Telstra's undertaking price offers are significantly lower than their claimed costs, as discussed in section 5 of this submission. Telstra states that the claimed costs come directly from PIE II and that these are the efficient costs of the network.

Telstra PSTN OTA costs versus its undertakings prices

[Start commercial-in-confidence]

Telstra's claimed network costs[3]						
cents	***2003/04***		***2004/05***		***2005/06***	
CCA category	Flagfall	Conveyance	Flagfall	Conveyance	Flagfall	Conveyance
CBD						
Metro						
Provincial						
Rural						

[End commercial-in-confidence]

Telstra's undertaking prices						
cents	***2003/04***		***2004/05***		***2005/06***	
CCA category	Flagfall	Conveyance	Flagfall	Conveyance	Flagfall	Conveyance
CBD	1.1132	0.4946	0.9891	0.4484	0.7583	0.3780
Metro	1.1052	0.6356	0.9827	0.5863	0.7534	0.5128
Provincial	1.2187	0.8472	1.0958	0.7922	0.8661	0.7131
Rural	2.5129	4.1244	2.3405	3.8610	2.0630	3.5863

2.2 We note that the undertaking prices are not supported by the cost estimates derived from PIE II, however, according to Telstra's submission in support of its undertakings, produce PSTN headline rates consistent with the ACCC's final determination on model prices. In its undertaking Telstra has presented its view on efficient network costs, as those estimated using the PIE II cost model, however, it has then put forward undertaking prices that reflect a discount on the claimed costs.

2.3 Telstra claims that its undertakings prices ought to be accepted by the Commission because they are:

> *(a) below the efficient costs of providing the UT Services;*
>
> *(b) below the prices which Telstra is entitled to charge pursuant to Part XIC of the Act;*
>
> *(c) below the prices which an access seeker ought fairly to pay for the UT Services;*
>
> *(d) not inconsistent with the legislative criteria set out in Part XIC of the Act, except to the extent to which they impose a greater burden on Telstra, as an access provider, than it would be otherwise expected to bear;*
>
> *(e) significantly less than those that an efficient operator could justifiably expect to receive under the TSLRIC pricing standard; and*
>
> *(f) in conformity with the prices specified in the Commission's Final Determination, the principal purpose of which was to provide clear guidance regarding the Commission's views as to what constitutes reasonable terms and conditions of access to the UT Services.*

2.4 Whilst the ACCC has provided a preliminary view that it agrees with Telstra's undertakings prices, it has stated that it disagrees with Telstra's claimed costs and the justifications provided in its undertakings submission (listed above).[4] There is no specific criterion in section 152BV that requires the ACCC to refuse the undertakings if the access provider's cost modelling does not support the actual prices in the undertakings. Nevertheless, the plain fact is that Telstra's modelling does not support the prices in the undertaking. If Telstra's prices are not supported by any modelling, where is the justification of their reasonableness? Put another way, if the true cost based price is x, the ACCC has no basis to accept a price of 2x simply because Telstra brings forward modelling which purports to justify a price of 4x.

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3 These claimed network costs include an access deficit contribution (ADC) allocated at 100:0 (flagfall to MOU), these are provided by Telstra on page 9-10 of its confidential submission.

4 ACCC, *Assessment of Telstra's core services undertakings – preliminary view, 12 December 2003*, pages 26-28.

2.5 That is, the ACCC should not reach a decision to accept the undertakings, because the criteria for acceptance were not satisfied on the material provided by Telstra.

2.6 Moreover, the ACCC must consider the direct costs of providing the service in the reasonableness criteria under section 152AH(1)(d). Optus contends that the undertakings fail the reasonableness test due to the fact that the ACCC must have regard to direct costs. The basis of Telstra's direct costs is not apparent from its own modelling.

2.7 In addition, the ACCC can take other matters into consideration under section 152AH(2). Optus submits that it is impossible for the ACCC to make a considered decision on the undertakings without understanding the basis of Telstra's cost modelling. The ACCC has stated in its final determination

> *At this stage, and without further analysis of the model, the Commission considers that these concerns combined with the model's lack of transparency limit the extent to which it can be directly utilised in determining indicative price terms and conditions or for other regulatory purposes.* (page 31)

2.8 If further work by the ACCC is not provided to support PIE II the undertakings cannot be accepted. If Telstra's cost modelling does not support its own prices, this would be a strong relevant consideration under section 152AH(2).

2.9 Telstra explains in its submission that its undertaking prices (which are significantly lower then its claimed costs) are based on its long-term goal to price at efficient cost, but that in the medium term a balance must be struck between short-term commercial impact and the longer term imperative of efficiency. Optus rejects this explanation for the following reasons:

- Telstra's claimed costs are in excess of efficient network costs.
- **[Start commercial-in-confidence] [End commercial-in-confidence]**
- Telstra has not demonstrated any inefficiencies resulting from current price levels or that the interests of end-users is currently being harmed. Telstra has continued to invest significant amounts in the PSTN, indicating current prices have not harmed Telstra's long-term "imperatives" to maintain and efficiently invest in its infrastructure. On the contrary, Telstra has invested significant amounts in digitising and broadening the scope of the PSTN.

Historic PSTN rates

2.10 Optus contends that its interests as an access seeker have not been taken into account by the ACCC in its decision on reasonableness in its final determination or its preliminary view on the undertakings. Section 152AH(1)(c) requires the ACCC to consider "the interests of persons who have a right to use the declared service".

2.11 Optus has historically agreed PSTN interconnect rates with Telstra on commercial terms. This historical aspect to interconnection pricing is

important because it suggests the price that Telstra, as the access provider, and access seekers are prepared to accept having regard to the access provider's legitimate business interests and the interests of access seekers. Hence, past agreements are directly relevant to the application of the legislative reasonableness criteria.

2.12 The ACCC has issued the following headline indicative prices for PSTN OTA services over the past few years (see below). Optus' commercial arrangements with Telstra have been influenced by these headline rates.

ACCC rates for PSTN OTA

cents per minute (CPM)	**National average rate**
1999/00	1.77
2000/01	1.53
2001/02	1.30 (provisional basis)

2.13 Each of the above rates proposed by the ACCC were based on the n/e/r/a-ACCC model or a roll-forward of that model. As indicated by these indicative rates, there has been a general downward trend in prices due to efficiency gains and Telstra's ability to recover CAN costs by increasing line rental charges in each year under the price controls.

2.14 The rates advised by the ACCC have fallen in large part due to the reduction in the access deficit component of the PSTN OTA charge. The ACCC has since decided in its final determination that the ADC should be removed from PSTN OTA but that this will be transitioned into the PSTN rates. Optus agrees that the levying of an access deficit is anti-competitive, unreasonable and unnecessary.

2.15 **[Start commercial-in-confidence] [End commercial-in-confidence]**

2.16 The above analysis indicates that the prices put forward by Telstra in its undertaking are significantly in excess of the rates that were likely to have been set by rolling forward the n/e/r/a-ACCC model. **[Start commercial-in-confidence] [End commercial-in-confidence]** The prices in the Undertaking are also inconsistent with the previous trend for PSTN rates to decline over time, having regard to efficiency gains and rebalancing over this period.

2.17 The ACCC needs to take account of the fact that the rates proposed in the Undertaking are significantly in excess of those prevailing in the market and carriers' expectations of the rates that are likely to be considered acceptable. In addition, the ACCC's indicative prices should have no bearing on any decision on specific undertakings, the undertaking must be justified on its own merits.

Efficient conveyancing costs

2.18 Optus believes that none of the modelling available, including the PIE II model prepared by Telstra or the ACCC - n/e/r/a model, provides an accurate and reliable estimate of the structure and level of conveyancing costs.

2.19 Without undertaking its own modelling, it is therefore unlikely for the ACCC to make an informed determination in relation to the undertakings

2.20 Optus contends that, at best, the ACCC – n/e/r/a model and the PIE II model can give an indication of the broad quantum of conveyancing. Optus has provided further details to support its view on how PIE II could best be adjusted to provide a quantum estimate for the remainder of this submission. Optus' adjusted PIE II results indicate a headline conveyancing cost of around 0.51 cents per minute. Note that Optus has not been provided access to the ACCC – n/e/r/a model. Also, note that Optus has in the past used the HAI model, an accepted US model to estimate conveyancing costs of Telstra's PSTN.

2.21 The ACCC, in its final determination, has also adjusted some of the assumptions made by PIE II to estimate the broad quantum of conveyancing costs. Optus has replicated the ACCC assumptions (outlined in its final determination) and run an adjusted - PIE II model scenario. The conveyancing costs produced are outlined below. The headline rate in 2003/04 is estimated to be **[Start commercial-in-confidence] [End commercial-in-confidence]**

PIE II output applying all ACCC adjustments[5]

[Start commercial-in-confidence]

2003/04 PSTN conveyance cost	**Flagfall**	**MOU cost**	**Headline rate***
CBD			
Metro			
Prov			
Rural			
National average^			
2004/05 PSTN conveyance cost	**Flagfall**	**MOU cost**	**Headline rate***
CBD			
Metro			

5 Using a WACC of 8.8% and adjusting for all other ACCC criteria discussed in its final determination on model prices.

Prov			
Rural			
National average^			

***** If average call is assumed to be 3.98 minutes in length.
^ Uses Telstra's geographic traffic breakdowns
[End commercial-in-confidence]

2.22 Optus believes that the similarity between the broad quantum of conveyancing costs produced by PIE II and the ACCC – n/e/r/a model provides some comfort, that with appropriate adjustments (as outlined by Optus below), either model can be relied on to produce headline rates for conveyancing costs.

2.23 However, Optus contends that the geographic cost structure produced by PIE II and the PSTN interconnect call traffic assumed are not reliable and should not inform the ACCC's decision. Optus' supplementary submission expands on the reasoning and evidence supporting this contention.

The access deficit

2.24 Optus considers that the rate tables put forward by Telstra in its undertakings are not reasonable and the undertaking should be rejected by the ACCC. The costs produced by PIE II are significantly greater than the costs that should be considered reasonable. They are inconsistent with a proper application of a TSLRIC methodology as set out in the ACCC's pricing principles.

2.25 One of the most significant components of the cost of providing PSTN OTA is the access deficit contribution (ADC). Optus does not consider that an ADC should be included in PSTN OTA charges. Optus has made extensive submissions to the ACCC in response to its discussion paper on *The Need for an ADC for PSTN Access Service Pricing - Discussion Paper - February 2003*. We would refer the ACCC to that report and a report prepared by NERA for Optus *Appropriate Measurement (and Recovery) of the 'Access Deficit' – March 2003*.

2.26 The ACCC, in its final determination on model prices, has unambiguously rejected the application of an ADC. The ACCC has deemed that an ADC is not in the LTIE nor is it required to serve Telstra's legitimate business interests.

2.27 However, the ACCC has retained an incremental cost in addition to the conveyance costs for a transitional period to June 2006. Whilst it is no longer referred to as the access deficit it essentially represents an ADC for a transitional period.

2.28 The ACCC has indicated that this increment above conveyancing cost (IACC) is included to enable Telstra to recover a transitional surcharge in order to assist in business planning and for the fulfilment of commercial contracts already in place.

2.29 Optus does not believe that the price path proposed by the ACCC in its final determination on model prices achieves the objectives of lessening the distorting effect of the ADC and therefore does not promote competition in downstream services, a key legislative criterion. This can be seen by comparing the rate at which the ACCC is proposing the ADC be phased out and the rate at which it was previously estimated to be removed.

2.30 The table below compares the ACCC's new proposed IACC path (with complete ADC removal by June 2006) to the current rebalancing ADC path (with complete ADC removal by June 2009). The size of the IACC in the first row of the table is estimated using the ACCC's indicative headline rates less the conveyance costs taking the ACCC-adjusted PIE II scenario (these are presented later in this section). The second row estimates the size of the original ADC, if its recovery was simply performed from rebalancing, in each year by plotting a straight-line glide path until June 2009.

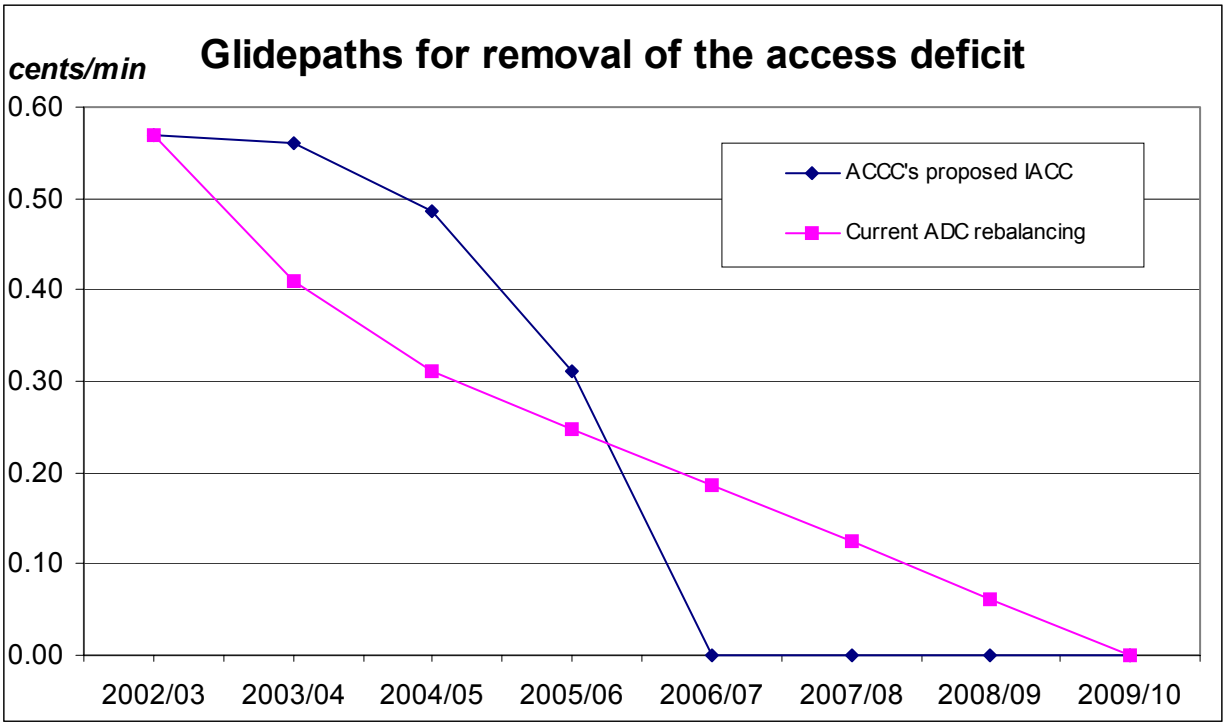
2.31 Optus' analysis shows that in net present value terms the level of access deficit paid by access seekers to Telstra will in fact be greater under the ACCC's decision to include an IACC and to remove the charge earlier.

2.32 The glidepaths in the graph below are plotted based on the headline rates of 0.41 and 0.31 provided in the ACCC's model prices draft determination for 2003/04 and 2004/05 respectively (page 53) and also on the assumption of a straight-line reduction path leading to complete ADC removal by June 2009.

Glide path for removal of the access deficit

ADC glidepath	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	*2003/04 NPV*
ACCC's proposed IACC	0.56	0.49	0.31	0.00	0.00	0.00	0.00	***1.18***
Current ADC rebalancing	0.41	0.31	0.25	0.19	0.12	0.06	0.00	***1.10***

2.33 The result is that access seekers (and hence all consumers of long distance services) would be worse off under the proposed IACC concave path in Telstra's undertakings and Telstra itself is considerably better off, in net present value terms because it receives 7% more in access deficit related revenue. Optus believes that, whilst the IACC might be removed earlier (by June 2006), the higher rates charged at the outset more than recover what would have been paid in the extra years until June 2009. Therefore, they are entirely inconsistent with the long-term interests of end users and inconsistent with the ACCC's underlying reasons for removal of the ADC in a shorter time



period in the first place.

2.34 In its final determination the ACCC indicates that, whilst it favours the immediate complete removal of the ADC, it must balance this against the legitimate commercial interest of Telstra, which has business plans based on currently negotiated or previously determined rates. Optus does not believe that increasing the ADC recovery in 2003/04, 2004/05 and 2005/06, to a point where in net present value terms more is recovered in total, is necessary to satisfy Telstra's commercial interest. Its plans would logically have been based on the existing glide path for the ADC. Optus therefore believes that indicative rates for these years should, at most, be based on the existing path for removing the ADC. The ACCC should no longer accept any ADC by June 2006 and there should be no incremental CAN compensation included in PSTN rates.

2.35 Further, the ACCC does not appear to have given due weight to the legitimate commercial interests of access seekers and the business plans that will be disrupted by the relative increase in prices in 2003/04 and 2004/05 over expected levels.

2.36 Using PIE II, Optus has attempted to estimate the size of this IACC based on Telstra's undertakings. Telstra's undertaking prices simply follow what the ACCC has allowed in its model prices to cushion Telstra against the impact of immediate removal of the ADC. We have estimated the size of the IACC based on the underlying conveyance costs that we estimate in our ACCC-adjusted version of PIE II.

2.37 Taking the difference between these PIE II conveyance costs in the table above (derived from PIE II) and Telstra's undertakings rate table (inclusive of the IACC) results in an IACC applied to each CCA as outlined in the table below.

Estimated size of the IACC - undertaking prices

[Start commercial-in-confidence]

2003/04 CAN increment	**Flagfall**	**MOU cost**	**Headline rate***
CBD			
Metro			
Provincial			
Rural			
National average^			
2004/05 CAN increment	**Flagfall**	**MOU cost**	**Headline rate***
CBD			
Metro			
Provincial			
Rural			
National average^			

***** If average call is assumed to be 3.98 minutes in length.
^ Uses Telstra's untested geographic traffic breakdowns
[End commercial-in-confidence]

2.38 The IACC in this case, unlike the previous ADC, is allocated unequally between CCAs, with a larger allocation to the rural CCA. There is no basis for rural PSTN calls to carry a greater burden of the transitional CAN increment on PSTN charges. This does not promote competitive neutrality across the CCAs.

2.39 Optus believes that this is not reasonable under the criteria in the Act. The resulting higher prices are not in the LTIE. If the ACCC has decided to

remove the ADC because it is not necessary for Telstra's legitimate business interests, then the headline rates of 1.25 c/min, 1.15 c/min and 1.0 c/min, which include this IACC, are above efficient costs and should be rejected by the ACCC. Removal of the inefficient IACC brings the efficient PSTN rate to well below **[Start commercial-in-confidence] [End commercial-in-confidence]** cents per minute.

2.40 Acceptance of the PSTN headline rates implied by the undertakings will have a serious detrimental impact on the commercial interests of access seekers. **[Start commercial-in-confidence] [End commercial-in-confidence]**

2.41 Optus believes that the ACCC, in it preliminary view, has also given too much consideration to deals entered into by other parties. This is not a relevant consideration and fundamentally conflicts with the principle that the access regime should support diversity within commercial agreements.

Calculating the size of the access deficit in PIE II

2.42 Whilst the ACCC has agreed to remove the ADC over a transitional period, Telstra has retained a full ADC in the claimed costs in its submission supporting the undertakings. Optus makes the following observations regarding Telstra's calculations, notwithstanding the general consensus that the access deficit should be removed in its entirety:

- Maximum subscription revenues have been underestimated in 2000/01.
- CPI has been underestimated in every year.
- Other CAN based revenues have been ignored.
- Retail PSTN CAN costs have been overstated, given the availability of Telstra's 2001/02 RAF accounts.

Maximum subscription revenues

2.43 The starting point for the calculation of maximum subscription revenues is the actual retail revenue received by Telstra in 2001/02 (equal to **[Start commercial-in-confidence] [End commercial-in-confidence]**) for line rentals. This is not consistent with the ACCC's previous access deficit calculations nor is it is consistent with Telstra's own estimate of $2.394 billion in its 2001/02 annual report.

2.44 Optus believes that a more appropriate starting point would be the maximum retail revenue as was allowable under the price cap for 2001/02. Optus estimates an additional $100 million could have been received by Telstra under the previous CPI-0 local call - line rental price cap regime. This implies a starting review figure of $2.494 billion.[6]

6 The ACCC is likely to be in a position to precisely calculate this figure when it assesses Telstra's compliance with its price control regime.

2.45 We also note that Telstra's estimates for actual and forecast lagged CPI rates appear to be low. ABS estimates for CPI for 2001/02, 2002/03 and Treasury forecasts for 2003/04 give consistently higher CPI figures. The result is that maximum subscription revenues should be much higher than those used by Telstra in their undertakings and in PIE II. Using these revised higher CPI estimates allows Telstra to recover more subscription revenue and would therefore reduce the size of the access deficit as shown in the table below by around **[Start commercial-in-confidence] [End commercial-in-confidence** over three years.

Re-calculated subscription revenues

	2001-02	*2002-03*	*2003-04*	*2004-05*
Net retail revenue ($m)	2,494.000			
CPI		2.90%	3.10%	2.25%
CPI + 4%		6.90%	7.10%	6.25%
Net retail revenue available ($m)		*2,666.086*	*2,855.378*	*3,033.839*
[Start commercial-in-confidence] Average number of retail SIOs				
Unit retail revenue per SIO ($/year)				
Wholesale discount ($/SIO/year)7				
Wholesale revenue ($/SIO)				
Average number of wholesale SIOs				
Wholesale subscription revenue ($m)				
Total maximum subscription revenues ($m)				
Telstra's calculated MSR ($m)				
Difference ($m)				

7 Telstra's updated RAF data shows that the wholesale discount would be **[Start commercial-in-confidence] [End commercial-in-confidence]**, however for the sake of simplicity in this analysis we have not incorporated this reduction in basic access retail costs at this stage. This adjustment would increase wholesale revenues, therefore causing a further reduction in the size of the access deficit.

[End commercial-in-confidence]

Other CAN based revenues

2.46 As outlined in Optus' past submissions Telstra has failed to attribute other CAN based revenues (and resulting monopoly profits) that Telstra derives from the following monopoly services. An appropriate access deficit calculation should also be net of the following:

(a) Revenue from value added services (VAS) - there is no regulation or restriction on the retail (or wholesale) price that Telstra can charge for VAS.

(b) Revenue from ISDN[8] and Bigpond xDSL (retail and wholesale) spectrum sharing - there is no regulation or restriction on the retail (or wholesale) price that Telstra charges for ISDN or xDSL. Telstra is allowed to recover revenue in excess of the full connection costs, annual access costs and call costs associated with ISDN and xDSL free of any price control.

(c) Revenue from local calls - the current access regime does not appear to be restraining Telstra's monopoly profits. Optus has shown that even when constrained by a retail price cap of 22 cents (GST inclusive), Telstra earns substantial monopoly profits on local calls.

Optus' view on PSTN CAN costs not recoverable from LCS

2.47 Optus holds the view that an access deficit does not exist, and as such, nor does a local call deficit. Optus believes that Telstra is not being constrained

8 We note that PIE II does allocate some of CAN costs to other services but does not allocate any revenues. Notwithstanding this point, the PIE II internal table that is used to define mapping between Demand Type and Access Deficit does not map Cable Trench and Lead-in for Primary Rate ISDN and excludes Lead-in for ULLS. Optus sees no reason for this and has adjusted the internal table (in bold) in its scenario modelling as follows.

[Start commercial-in-confidence]

Demand Type	Cable Trench	RAU	POTS Card	Lead-in	Conduit
ALRSIO					
ORBSIO					
ORPSIO					
ULLSIO					

[End commercial-in-confidence]

by the retail price controls to price below TSLRIC for local calls. The continual decline and increased discounting in Telstra's average retail prices for local calls demonstrate practical evidence of this. As such, there should be no local call surcharge incorporated in Telstra's claimed access deficit.

2.48 The ACCC agrees with this and has in its model prices final determination rejected any application of a local call deficit in Telstra's prices.

Methodology employed to calculate applicable USO revenue

2.49 With respect to USO revenues, Optus generally agrees with the approach taken by Telstra in its PIE II model in netting the USO revenues off against its PSTN CAN costs for the purposes of calculating the size of the access deficit. USO revenues represent a cash flow to Telstra and inflate the prices in the market (that is the price its competitors' charge for competing services because they are levied a USO contribution) generally and hence the revenue Telstra receives.

2.50 Telstra has claimed in the past that it reserves the right to recover its contributions towards the PSTN-related USO costs from both wholesale and retail prices. Optus believes that this is likely to be anti-competitive and a double recovery of supposed costs by Telstra. Access seekers must face the cost of USO contributions as part of their service obligations of being licensed carriers. Telstra should also bear these costs without trying to pass this expense off to access seekers.

Methodology employed to calculate efficient PSTN CAN costs

2.51 PIE II uses estimated retail PSTN CAN costs of **[Start commercial-in-confidence] [End commercial-in-confidence]** for each year of the undertakings. This estimate is based on RAF data from 2000/01. However, in the Regulatory account information sent separately to Optus, Telstra has used retail PSTN CAN costs of **[Start commercial-in-confidence] [End commercial-in-confidence]** for 2002/03. This is a significant reduction that has not been incorporated in the access deficit calculation.

2.52 Whilst Optus does not support Telstra's estimate for basic access retailing costs of **[Start commercial-in-confidence] [End commercial-in-confidence]** per SIO, applying this to the access deficit calculation would result in significantly lower total retail PSTN CAN costs than the **[Start commercial-in-confidence] [End commercial-in-confidence]** estimated in Telstra's undertakings.

Revised retail PSTN CAN costs

[Start commercial-in-confidence]

($ million)	*2002/03*	*2003/04*	*2004/05*
PSTN CAN costs in Telstra's undertaking			
PSTN CAN retail costs			

Difference ($m)			

[End commercial-in-confidence]

Impact of adjustments on the total size of the access deficit

2.53 Making the revisions to the maximum subscription revenue in 2001/02, the adjustments to the CPI estimates and the revisions to total retail PSTN CAN costs presented in this section would reduce the size of the access deficit by approximately **[Start commercial-in-confidence] [End commercial-in-confidence]** in 2002/03. This is a substantial change and is likely to eradicate the entire access deficit in the first year of the undertakings.

Level of unrecovered PSTN CAN costs and allocation between calls and call end minutes

2.54 Optus has argued extensively in the past that the ADC should be applied on a ratio of 20:80 (flagfall to call minutes). For more information on the reasons for this see Optus' February 2003 submission to the ACCC *Access Deficit of PSTN Origination Terminating Access (OTA*).

2.55 The table below summarises the impact of varying the allocation of the ADC to flagfall and MOU (leaving all other model parameters unchanged and excluding Telstra's claimed local call deficit).

Headline rates in PIE II applying different ADC allocations

[Start commercial-in-confidence]

ADC allocation in PIE II	*2002/03*	*2003/04*	*2004/05*
100:0 (flagfall:MOU) no local call deficit			
50:50 (flagfall:MOU) no local call deficit			
20:80 (flagfall:MOU) no local call deficit			

[End commercial-in-confidence]

2.56 The analysis shows that the allocation of the access deficit has a significant impact on the headline PSTN OTA rate. It also has a significant impact on the structure of PSTN OTA tariff because of the heavy weighting to flagfall. Both of these effects have a material impact on the distortions created by the ADC.

2.57 Optus is encouraged by the ACCC's statement in its final determination on model prices that it views 30:70 allocation of the ADC as most appropriate.[9]

9 ACCC, *Final Determination for model price terms and conditions of the PSTN, ULLS and LCS services, October 2003*, page 58.

Proposed structure between flagfall and conveyance charges

2.58 Optus does not support Telstra's proposed rate structure between flagfall and call conveyance. Telstra's rate structure in its access charges transfers a disproportionate amount of the PSTN costs to flagfall, which is not reflective of cost causation. Optus believes this is inconsistent with the LTIE because it is inefficient and does not reflect true costs as they are actually incurred in setting up and carrying the call.

2.59 Simply, such a pricing structure, which is not reflective of cost places PSTN service providers with shorter call hold times in a competitively disadvantaged position.

2.60 End-users also face retail prices for trunk calls that are economically inefficient, that is allocative efficiency is reduced because end-users consume a lower number of calls. This is consistent with Optus' arguments regarding the allocation of the ADC, where we have argued that the demand for minutes of use is less elastic than the demand for calls so that more of the ADC should be allocated to MOU, being the relatively more price inelastic service

2.61 Telstra's submission prepared by Professor Henry Ergas, *International Benchmarking of Telstra's Prices for PSTN Originating and Terminating Access Service*, supports this view. The table below is a reproduction from this submission. It shows that only 4 of the 15 international incumbent carriers surveyed charge access seekers a flag-fall for long distance PSTN interconnect surveyed.

Access charge structure

Country	Carrier	Call set up charge
Australia	Telstra	Yes
Canada	Bell Canada	Yes
Canada	Telus	Yes
France	France Telecom	Yes
Finland	Sonera	Yes (1)
Germany	Deutsche Telekom	No
Sweden	Telia	Yes
UK	BT	No
USA	Nevada Bell	No
USA	Verizon, Pennsylvania	No
USA	Verizon, Massachusetts	No
USA	Verizon, New York	No
USA	Cincinnati Bell	No
USA	Ameritech	No
USA	Sprint, Indiana	No
USA	Verizon Indiana	No

(1) Only for calls within the same teledistrict.

Allocation of costs to flagfall in PIE II

2.62 Telstra's submission in support of its undertakings provides limited detail on how the flag-fall component of PSTN OTA is calculated. The detail provided in Telstra's submission is not completely transparent, however, it appears that 4.8% of the cost pool associated with the following network elements is allocated to call set up:

- RAU
- LAS
- TNS
- RAU to LAS transmission
- LAS to LAS and LAS to TNS transmission
- TNS to TNS transmission

2.63 Optus believes this allocation is incorrect and does not reflect the costs that are associated with call set-up as they are incurred:

- Remote access units (RAUs) fit into the category of customer access modules (CAM) and include CMUX technology in the PIE II architecture. In previous network architecture they included IRIM and RSS/RSU network elements.[10] Regardless, RAU serve line concentration functions (eg. dial tone), they did not perform any low-level switching functions as incorrectly specified by Telstra. Therefore, no element of RAU costs should be allocated to call set up.
- Some elements of LAS costs are sensitive to call set up (the fibre related electronic costs), therefore only a portion of switching costs should be allocated, but not those costs related to ports and sites.
    i) Call processing is related to call set up because it decodes dialled numbers.
    ii) Interface trunks and subscriber lines are sensitive to the number of physical connections that the switch is required to terminate

10 Despite Telstra terminology that these are remote switching units, they do not undertake such functions. We refer the ACCC to its own report *Technical Advice in relation to Local Telecommunications Services*, prepared by John Fitzsimons, Cytec Pty Ltd in which is states "CAMs come in a range of sizes and examples include: S12 Remote Switching Unit (RSU); AXE Remote Switching Stage (RSS); Integrated and Non-Integrated Multiplexer (IRIM and RIM); Digital Pair Gain System (DPGS). The key feature that distinguishes a CAM from a LAS is that **CAMs do not undertake routing code analysis and therefore cannot switch a call to another customer**. The function of a CAM is to provide battery feed, ring current and dial tone to the telephone and to forward a call to the LAS for number analysis and switching." Therefore these CAM functions are unrelated to call set up.

but are not sensitive to the call origination rate or average call duration.

iii) Switched paths between lines and trunks are sensitive to call duration.

The call processing makes up a small proportion of switch components, including signalling. Optus believes that PIE II includes these signalling costs in the LAS costs, therefore it would appear that the 4.8% allocation may be appropriate to the LAS network element only.

- In terms of transmission costs, these are unrelated to call set up and none of these costs should be allocated to flagfall. There is a possible exception, which is LAS to TNS transmission, which might include some proportion of signalling costs.

2.64 Given the low fraction of the total cost related to call set-up, which Optus believes is significantly less than 4.8%, then it is questionable whether any flagfall charge at all is reasonable. In the UK, Germany and the US there is no allocation of costs to flagfall, presumably for this reason.[11]

Unsuccessful call ratio

2.65 Telstra has used an unsuccessful call ratio of 33% in PIE II cost modelling. Optus believes this is too high, as Optus' own data estimates the proportion of unsuccessful calls to be closer to **[Start commercial-in-confidence] [End commercial-in-confidence]**. There is no reason why Telstra would have a higher proportion of unsuccessful calls.

2.66 A higher unsuccessful call ratio inflates the costs of the PSTN and leads to a particularly high flagfall cost in PIE II.

3. ULLS undertaking

3.1 Optus contends that the prices for ULLS are not reasonable and are above efficient costs.

3.2 Optus contends that the prices are not based on efficient network costs and are therefore likely to lead to inefficient decisions to invest in competing infrastructure. They will also harm competition in downstream services. Telstra has offered prices as follows.

Undertaking prices for ULLS (includes specific wholesale costs)

	2003/04 to 2005/06 $/month *
Band 1 (CBD)	13
Band 2 (Metro)	22

11 See Annexure D to Telstra's detailed submission in support of its undertakings dated 9 January 2003: Report of Henry Ergas "*International Benchmarking of Telstra's Prices for PSTN Originating and Terminating Access Service*", page 5

Band 3 (Prov)	40
Band 4 (Rural)	100

* These access prices are starting prices only and an adjustment mechanism will operate to either increase or decrease them for 2004/05 and 2005/06 financial years. Specifically, for every 10 per cent increase or decrease above or below forecasted demand, there will be a corresponding $1 decrement or increment to the prices for the subsequent period with a cap at a 60 per cent deviation from those forecasts.

3.3 Telstra supports, and the ACCC accepts, that ULLS prices are based on two components:

- Customer access network (CAN) costs.
- Specific wholesaling costs levied only on access seekers.

3.4 Optus contends that PIE II significantly inflates the cost of the CAN. As is demonstrated later in this submission and by expert economic advice from n/e/r/a London, the CAN architecture and the modelling approach, algorithms and assumptions used in PIE are error ridden, inappropriate and are not the best feasible approach to estimating efficient cost. The approach used by Telstra is also demonstrated to have an upward bias on CAN costs.

3.5 The prices proposed by Telstra in its undertaking:

- Are not supported by reliable costing provided by Telstra. The ACCC should not accept undertakings which it cannot be satisfied are reasonable on the material provided
- Are not reflective of Telstra's direct costs in providing ULLS.
- May create a price squeeze in outer metropolitan and rural areas for DSL services. The ACCC should satisfy itself that the interest of access seekers, and competition in those markets would not be affected by accepting the undertaking.

3.6 If the ACCC accepts the undertakings without such analysis and supporting material, Optus view would be that the ACCC has not had sufficient regard to the legislative criteria in assessing the network costs and prices in the ULLS undertakings.

3.7 Optus also contends that the specific wholesaling costs should be recovered over all CAN services, including where access seekers acquire ULLS and when Telstra using the CAN. Otherwise, Telstra will be competitively advantaged and competition will be lessened in downstream markets, such as broadband services. Notwithstanding this contention, Optus also contends that the total specific wholesale costs estimated by Telstra (and accepted by the ACCC) is overstated, and as such will inflate ULLS prices to the detriment of competition.

Averaging ULLS prices

3.8 The ACCC has determined that ULLS prices should be based on a geographically de-averaged basis. Optus strongly supports this view. Whilst

Telstra previously supported averaged prices in its original undertaking, its latest Undertaking now provides de-averaged ULLS access prices that are identical to the ACCC's model prices in each of the bands.

3.9 Optus is encouraged to see that Telstra now agrees with the merits of de-averaging arguments, which has the unanimous support of the industry, including the ACCC. To reiterate some of the themes that have been discussed, averaging was recognised to be associated with the following:

- The distortion of investment incentives;
- Use of inefficient technologies for delivering data services in low and high cost areas;
- The interests of access seekers and end users will be disproportionately harmed, as access prices in the most commonly used band, Band 2, will be increased;
- Averaging will harm the key national policy of stimulating rollout of competitive broadband; and
- Competitive neutrality would be breached as averaging would give Telstra a clear cost advantage over access seekers for delivery of data services to end users in Band 2 areas.

3.10 Telstra's proposed pricing structure will not encourage access seekers to take up ULLS in high cost areas. **[Start commercial-in-confidence] [End commercial-in-confidence]**

3.11 The undertaking offers of $40 and $100 in Bands 3 and 4 respectively are excessively above efficient costs and should be rejected by the ACCC. Optus believes that the network costs associated with the ULLS are overstated and should be rejected.

Historic ULLS access prices

3.12 **[Start commercial-in-confidence] [End commercial-in-confidence]**

3.13 Telstra's undertaking proposes to set prices that are identical to the ACCC's final indicative prices. However, Optus believes that these rates are in excess of efficient costs, particularly when considering the ULLS specific charge of $10 and the method in which this will be adjusted for fluctuations in forecast demand levels.

Efficient ULLS prices

3.14 An examination of the PIE II model that supports Telstra's undertaking indicates that the previous modelling by the ACCC may have significantly overestimated the network costs associated with the provision and maintenance of Telstra's access lines in Bands 1 through to Band 3.

3.15 Whilst Optus does not support Telstra's proposed ULLS prices or the use of PIE II, the ACCC should not ignore this recent analysis of Telstra's network

costs when setting its indicative prices, otherwise it risks setting prices far in excess of costs.

3.16 Optus has used an adjusted version of PIE II to produce more efficient estimates of ULLS network costs. It is important to note that due to the legal obligations imposed on Optus by Telstra and the structure of PIE II, Optus has been constrained in the degree of adjustments it can make. However, given more reasonable assumptions Optus estimates of more efficient network costs are outlined below.

Efficient ULLS prices ($ per month) RSS/RSU

[Start commercial-in-confidence]

	ULL network costs in PIE II model	ULLS specific costs
Band 1		$0.62
Band 2		$0.62
Band 3		$0.62
Band 4		$0.62

[End commercial-in-confidence]

3.17 Optus believes that the undertaking prices are in excess of efficient costs and should be rejected on that basis.

Treatment of ULLS specific wholesale costs

3.18 ULLS specific wholesale costs should be treated in the same way as PSTN wholesale costs. If these costs are charged to access seekers only then an equally efficient - access seeker faces additional costs that Telstra Retail does not face itself.

3.19 Optus believes that this places access seekers in a competitively disadvantaged position, for exactly the same reasons that the ACCC has applied to PSTN wholesale costs being recovered over all usage of the relevant infrastructure:

> *In this case Telstra fully recovers, say, the PSTN wholesale costs, however, as it does not face the PSTN wholesale costs when it supplies PSTN services to itself, it has a competitive advantage in providing both retail and wholesale services. Alternatively, Telstra can increase its retail prices to the level of its competitors by as much as the PSTN wholesale cost per minute, thus making an economic profit.*
>
> *An alternative methodology is to recover, say, PSTN wholesale costs (and the wholesale costs Telstra faces when it supplies the PSTN to itself, if any) over all PSTN end-minutes of use…In this case, Telstra and an equally-efficient access seeker would essentially face the same PSTN wholesale costs.*

Under this methodology, Telstra does not have a competitive advantage over an equally-efficient access seeker either in supplying retail or wholesale services. However, Telstra still recovers all its wholesale costs.

…it is the Commission's view that wholesale costs should be included in TSLRIC estimates and recovered over all lines and minutes of the relevant service (as outlined). Such an approach should best meet the relevant legislative criteria.[12]

3.20 The same logic and arguments applied by the ACCC for PSTN specific wholesale costs can be applied to the ULLS. Charging ULLS wholesale costs to access seekers only provides Telstra with a competitive advantage over access seekers for retail voice and DSL services.

3.21 Whilst Telstra might argue that the ULLS is provided to access seekers only, this is actually not the case. Telstra uses this infrastructure to provide voice and DSL services to its own retail customers. Hence, when applying the ULLS wholesale costs across users of the infrastructure the number of lines should be the forecast demand for all wholesale and retail use, along the same principle that is applied to PSTN.

Size of the ULLS specific wholesale costs

3.22 As discussed in Optus' May 2003 submission to the ACCC *"Model Price Terms and Conditions for PSTN, ULLS and LCS"*, Telstra significantly overstates the ULLS specific charges that would be faced by a forward-looking efficient network operator. To summarise the main points raised by Optus' submission:

- Optus believes a reasonable estimate of the total ULLS specific capital costs incurred by Telstra is $300,000.
- Mid frame and main frame processing costs are not necessarily and unavoidably incurred in the provision of ULLS. Telstra has set these costs at **[Start commercial-in-confidence] [End commercial-in-confidence]** over the period of the undertakings.
- There is considerable potential for ULLS charges borne by access seekers to reflect duplication, and therefore over-recovery, in the allocation of costs to specific cost categories.
- Telstra has factored into the ULLS costs associated with **[Start commercial-in-confidence] [End commercial-in-confidence]** FTE product managers to manage the sales of the ULLS product.
- The appropriate life of the assets used in the provision of ULLS is ten years; not **[Start commercial-in-confidence] [End commercial-in-confidence]** years as stated by Telstra.

12 ACCC, *Final Determination for model price terms and conditions of the PSTN, ULLS and LCS services, October 2003*, pages 25-26

3.23 In light of the above points, Optus has re-estimated the ULLS specific costs that would be faced by an efficient, forward looking network operator. Optus' calculations have derived an upfront once-off charge of $12.28 per SIO.

3.24 In order to facilitate comparison of these charges against the charges estimated by Telstra, we have also estimated a monthly ongoing ULLS specific charge. This was calculated to amount to $0.62 per month per SIO.

3.25 To derive this estimate Optus made use of information in Telstra's original submission to support its undertaking (9 January 2003). A methodological description of how this estimate was derived is as follows:

- The charge was based on capital costs of $300,000 and the capital cost base is assumed to have an asset life of 10 years;
- The capital costs have been annualised and grossed up using the same formulas as those set out in Annexure M of 'Telstra's Submission in Relation to the Methodology used for Deriving Prices Proposed in its Undertakings".
- The mid-frame and main-frame processing costs provided by Telstra and the product management component of the O&M costs have been omitted.
- The sum of the annual capital costs, O&M costs and indirect O&M costs are levelised using the formula set out in Annexure M of Telstra's original submission. For the once-off charge, we have used only the 'new' customers in the demand forecast component of the levelisation formula. This ensures that customers are not double-counted and therefore that the ULLS costs are not under-estimated. This methodology is appropriate because with the once-off charge, customers are only charged when they are 'new' to the service. The monthly charge was estimated using cumulative demand figures to ensure consistency with Telstra's costing methodology. Optus believes this approach to be appropriate when charges are ongoing;
- Optus' charges were estimated using the demand forecast figures outlined below.

3.26 We note that the charges as estimated by Optus are substantially below the charge estimated by Telstra. The majority of this difference can be attributed to the different capital cost base ($300,000 compared with **[Start commercial-in-confidence] [End commercial-in-confidence]**), and the higher demand forecasts estimated by Optus. The ultimate test for the reasonableness of Optus' forecast is that Telstra is simply churning a line. It charges around $90 as a connection fee for each new ULLS line, and it charges for services qualification – consequently the remaining churn costs should be negligible.

ULLS demand forecasts

3.27 Given the reliance on the demand forecasts provided by the ACCC in its final determination on model prices (page 83) in the proposed adjustment factor for ULLS specific charges, these forecasts become particularly important with far reaching consequences.

3.28 Telstra's original approach to forecasting ULLS demand forecasts was flawed as the model inputs were based on observed demand, and therefore encompassed a range of inefficiencies that gave rise to that level of demand. This has resulted in demand figures that are well below those consistent with a forward-looking efficient operator model.

3.29 The ACCC's demand forecasts have likely been influenced by Telstra's very low demand estimates and are therefore also well below an efficient forward-looking approach.

3.30 Optus has prepared ULLS forecasts for each of the periods of the undertakings that adjust for the inefficiencies imposed on the market by Telstra, through its inflated prices and low quality of service. Specifically, these inefficiencies encompass:

- Monopoly pricing of DSL services, evidenced by the high prices compared with international benchmarks.
- Delays and uncertainty about pricing of DSL access services, including ULLS and wholesale DSL.
- The well publicised problems with Telstra's initial DSL services.

3.31 Optus believe that, using DSL as a guide over a 10-year project life, the total number of ULLS provisions should be estimated at between 1.5 million and 2.7 million.

3.32 In order to derive values for the years of the undertakings, we have assumed that ULLS uptake growth follows a straight-line trend, but that growth has been delayed to date by the factors described above, as well as other more general factors including the downturn in the telecommunications sector. However, we have assumed that the long-term forecasts of 1.5 million to 2.7 million by 2011 still hold because the currently observed lag in ULLS uptake is due to demand being pent up and will be released onto the market through accelerated uptake in the near future, taking demand back up to previously forecast growth levels.

3.33 Where the delays in ULLS uptake have been caused by the actions of Telstra, Optus has adjusted the forecasts to remove that portion of the delayed uptake. Optus' demand forecasts therefore reflect the level of demand that would have been observed had Telstra not caused demand to fall below levels that would otherwise have prevailed. Optus has assumed that 50% of the delayed demand was caused by Telstra. This is a conservative assumption as worldwide evidence suggests that pricing is responsible for a very large proportion of demand lags.

3.34 Additionally, Optus' demand model assumes that the residual pent-up demand (i.e. the demand lag not caused by the actions of Telstra) will be released into the market over three years beginning 2004/2005. This assumption is reasonable in light of the ample evidence that suggests that this pent-up demand is already coming on stream.

3.35 Using the assumptions outlined above, Optus has derived significantly higher demand forecasts than those estimated by Telstra and the ACCC in their model prices final determination. These are outlined in the table below.

Cumulative demand forecasts for ULLS

	Telstra's revised ULLS demand	*ACCC ULLS demand estimate*	*Optus ULLS demand estimate*
2003/04	27,166	53,000	150,000 – 270,000
2004/05	37,511	140,000	337,500 – 607,500
2005/06	48,149	-[13]	565,500 – 1,012,500

3.36 Optus believes that Telstra's ULLS demand forecasts result in inefficiently high ULLS specific charges that will harm the long-term interests of end users by delaying broadband takeup. To compare, the ACCC previously (March 2002) agreed to $2.50 per month for ULLS specific costs. However, the ACCC has now changed its mind due to lower than expected initial broadband uptake.

3.37 The ACCC's pricing model includes demand forecasts for cost components of the ULLS that result in fixed costs being recovered over an inappropriately short period. If forecasts are not met, these costs increase, further slowing demand.

3.38 The ACCC released demand estimates in its final indicative prices for ULLS. These estimates form the basis for the undertakings prices because of the novel adjustment factor introduced by the ACCC and now adopted by Telstra in its undertakings.

3.39 The upward adjustment in ULLS specific costs poses some level of regulatory risk for access seekers only, whilst removing the risk from Telstra. Essentially, if forecast levels of demand are not realised in a particular year, the price of ULLS will be adjusted upward for the following year. Current ACCC estimates of forecast demand will result in the previously estimated $2.50 ULLS specific costs increasing significantly to an amount likely to exceed $10.

3.40 Optus believes this adjustment mechanism to be unreasonable and potentially anti-competitive. The result of such a mechanism is that access seekers carry all of the risk of lower than expected uptake, which may be caused by external factors (eg. a strong economic downturn) or by Telstra's inefficiencies. Even

13 ACCC has not provided demand estimates for 2005/06 because the demand adjustment factor is lagged and no adjustment is applicable for the 2006/07 period.

ignoring this distortion, it is not appropriate to take such a short-term view and recover all network costs from those customers who take-up broadband in the first few years. The recovery of these ULLS specific fixed costs should be spread across all customers over the longer term, otherwise a cycle of lower take-up leading to higher per unit prices will prevail. The adjusted higher prices then reduce take-up levels further and push prices higher in a vicious cycle.

xDSL demand estimates

3.41 If the ACCC accepts the application of an adjustment factor then the ULLS demand estimates upon which it is based must be revised upward. Further, Optus believes that the demand estimates should be based not only on the wholesale product (ULLS) but on the retail product that is sold to all retail end- users.

3.42 As discussed earlier in this section, Optus believes that the ULLS specific wholesale costs should be allocated consistent with the ACCC's decision regarding PSTN wholesale costs. That is, they should be allocated across all uses of the infrastructure and should be recovered in Telstra's own retail prices, rather than just from wholesale access prices.

3.43 There is also a clear risk that Telstra's retail DSL service will be priced at a more favourable level than the ULLS price. For example, it is highly unlikely that Telstra Retail, which markets DSL services at $29.95, has to bear an information systems cost of somewhere between $4 to $16 per month (taking into account the + or – 60% adjustment factor).

3.44 In order to apply this, the ACCC simply needs to include the demand for all DSL services in its forecasts. Not only would this remove the need for the application of the adjustment factor in ULLS price calculations and therefore provide certainty for the access provider and access seekers but it would mean that the ULLS specific charge is significantly less than the proposed $10 per month.

3.45 The ACCC's snapshot of broadband deployment estimates that as at 30 September 2003 the number of aDSL and other DSL customers was 361,000. Most of the growth in broadband to date has been in the take-up of DSL technologies, with annual growth of approximately 153%. This high growth is likely to continue over future years. However, even applying the September 2003 figure of 361,000 through to 2005/06 would spread the wholesale costs more efficiently and in a competitively neutral manner across all users of the infrastructure. Optus estimates that based on Telstra's overstated specific capital cost of **[Start commercial-in-confidence] [End commercial-in-confidence]** over 5 years for ULLS, using this DSL figure would amount to a relevant ULLS specific charge of $2 per service per month as a maximum for the period of the undertakings. This reduces ULLS wholesale specific costs significantly and in a competitively neutral manner, whilst leading to an increased uptake overall.

3.46 The ACCC should therefore reject Telstra's ULLS undertaking and should revise ULLS specific cost estimates and the reasonable demand estimates by including total DSL demand forecasts in its estimates.

4. LCS undertaking

4.1 Telstra's undertaking price for local carriage services (LCS) is supported by Telstra on a "retail price less retail cost" methodology (commonly known as "retail minus"). Telstra has simply adopted the LCS retail minus access price recommended in the ACCC's final determination on model prices.

4.2 Optus contends that a reasonable price for LCS should be the lesser of the TSLRIC (efficient cost estimate) and the retail minus price.

4.3 Optus believes that based on the ACCC assumptions for PSTN costing (as outlined in the final determination for PSTN) the TSLRIC for LCS can now be shown to be less than the retail minus based LCS price. The undertakings price of 13.61 cents is therefore above efficient costs and should be rejected by the ACCC.

4.4 As noted above, the acceptance of a price above cost is likely to be to the detriment of competition and will likely encourage inefficient investment in infrastructure to bypass the service.

4.5 Notwithstanding the above, if a retail minus approach is used Optus contends that the application of retail minus by the ACCC and Telstra is flawed. This is because:

- The starting price for the retail minus calculation is based solely on Telstra's unbundled prices for local calling services. Optus contends that this results in prices above cost for bundled services. Optus' reasoning is outlined in a submission supplementary to this submission.
- The retail costs used by Telstra is flawed and does not reflect either efficient costs or the direct costs Telstra incurs in relation to local calling services. The resulting prices lead to a price squeeze in local calling services.

4.6 On these basis the undertaking should be rejected.

Choice of LCS pricing methodology

4.7 Whilst other regulated services use a form of TSLRIC to determine an appropriate and efficient wholesale price, the ACCC has adopted a retail-minus pricing methodology for the calculation of LCS access prices. The retail-minus pricing principle delivers the highest possible access price for LCS that is consistent with promoting downstream retail competition in LCS. This is because any access price higher than this would preclude access seekers from profitably retailing LCS even if they had the same average retail costs as Telstra.

4.8 It is well recognised that the retail-minus pricing principle protects from competition any economic profits (be they positive or negative) embedded in the access provider's retail prices. The pricing mechanism has been applied to LCS, because of the specific LCS retail price control, to ensure competitive neutrality between providing services to end users and to access seekers, so that the access provider is not biased toward supplying either of these. That is, if the retail price (which has a price control ceiling) in the market were below

wholesale costs plus retail costs, then Telstra could only recover the full cost of supplying local calls when they were supplied to access seekers under a TSLRIC methodology, but could not recover its full costs when supplying to end users. The retail-minus pricing methodology prevents this bias as it would not enable the access provider to fully recover wholesale costs from its access sales. Conversely, if the access provider's retail costs are above wholesale plus retail costs then the access provider will be able to more than fully recover wholesale costs from sales of access under the retail-minus pricing principle.

4.9 Where the access seeker's retail prices are held below cost, due to price controls or similar, retail-minus has been internationally adopted as an appropriate access pricing principle. However, retail-minus has generally been rejected by regulators around the world as being inappropriate in a situation where retail prices are either unregulated or where the regulated price is set above the wholesale plus retail cost of providing that service. This is because in such circumstances access prices are set above wholesale costs and the access provider's retail sales are protected from competition based on the true costs of providing the service. The economic cost of this is that end customers' demand for the service is artificially restricted below efficient levels.

4.10 Ideally the retail-minus LCS access price will be set at the same level as the TSLRIC of the local call; over time these should converge. However, given the imperfections in both estimates, in particular Telstra's manipulation of its avoidable retail costs in the RAF, Optus is of the view that the access price for LCS should be based on the lesser of the:

- Wholesale cost of the LCS (being those costs identified as TSLRIC+); and
- Retail price minus retail costs of the LCS.

4.11 The ACCC has indicated in the past that retail-minus is a 'superior' methodology for local calls when having regard to the relevant legislative criteria and considerations above. That is, the ACCC believes that the adoption of retail-minus will serve the LTIE, will provide a stepping-stone for facilities-based competition and will serve Telstra's legitimate business interests. The main basis for the ACCC's decision relates to the level of costs relative to the retail price Telstra can charge under the 22 cents specific LCS price control. The ACCC notes that:

> *...due to the fact that retail price controls on Telstra mean that there is the possibility that the forward looking costs of a local call (including indirect and an access deficit contribution) may be above the maximum price allowed under the retail price controls.*[14]

4.12 Optus believes that the ACCC's current application of the retail-minus approach is a form of the efficient component pricing rule (ECPR) that

14 ACCC *Future Access Pricing Approaches for PSTN, ULLS and LCS: Discussion Paper, September 2002*

charges access seekers and end-users the "opportunity cost" to Telstra (being the lost profits earned by Telstra) when access seekers acquire a resale customer. The ACCC in its recent discussion paper on the access deficit contribution has acknowledged that Telstra earns monopoly rents for this service. The ACCC state that:

> *...had Telstra used the forward looking cost model to determine the directly attributable (incremental) production cost of a local call, ... the cost inclusive of the retailing cost is likely to be below the allowed retail price, while the cost exclusive of the retailing cost is likely to be below the price set under the Commission's retail-minus approach to LCS* (page 28)

4.13 Optus believes that there are substantial inadequacies in the way in which the ACCC has applied the retail-minus methodology. Optus believes:

- It is a form of ECPR that, contrary to previous claims by the ACCC, is inconsistent with the *Trade Practices Act 1974*. Optus contends that monopoly profits are earned by Telstra on its local call service and these should be netted off the LCS price.
- A precise and correct estimation of retail costs is essential in determining the correct LCS wholesale price which sends the right signals to access seekers.
- It does not allow or encourage access seekers to pass efficiency gains in retail costs on to the end-users. Nor does it force Telstra to pass on efficiency gains in network costs.
- The LCS wholesale price is driven by the choice of retail starting price rather than being cost based. If the regulator selects the wrong retail starting price it can make a considerable difference to the final LCS wholesale price.
- The retail-minus methodology allows the access provider the mechanism to price squeeze access seekers. This is particularly the case because the access price is based on only one standard retail price, whereas Telstra charges a range of retail prices to its customers .

4.14 Optus believes that Telstra is not being constrained by the retail price controls to price below cost (wholesale access plus retail) for local calls. The continual declines and increased discounting in Telstra's average retail prices for local calls demonstrate practical evidence of this.

TSLRIC+

4.15 Optus contends that the legislative criteria do not warrant an ADC. It is therefore not appropriate to include such an ADC when costing PSTN services (including LCS).

4.16 In its final determination on model prices the ACCC clearly states that,

> *The Commission's approach has been to use a TSLRIC++ estimate to determine the costs of a local call. It is noted, however, that this is a*

> *conservative approach and not one the Commission would likely take if it was to actually estimate the efficient costs of a local call. In this regard it is unlikely to incorporate an ADC in any efficient cost estimates and would therefore be likely to use a TSLRIC+ estimate.*[15]

4.17 Optus agrees with the ACCC's view presented here and, as such, any estimate of the cost of a local call should be based on TSLRIC+ and the undertaking should be rejected if the price is greater than the TSLRIC+ calculation.

4.18 The ACCC's own estimates state that even for the more conservative TSLRIC++ estimate of LCS, whilst not appropriate, is still likely to be below the retail-minus price:

> *…use of Telstra's PIE II model, modified to include the Commission's assumptions, to estimate the broad quantum of network costs associated with a local call indicates that the TSLRIC++ (along with the Commission's estimated retail costs) does exceed 20 cents for 2002-03, However, it also indicates that this cost may fall below 20 cents for 2003-04, depending on the estimate of retail costs, and is likely to be significantly below 20 cents for 2004-05* (based on Telstra's own average local call duration).
>
> *Given the uncertainties surrounding the PIE II model, however, the Commission remains of the view that the retail-minus approach should continue to be used to estimate the LCS price for 2002-03 and 2003-04. This said, the Commission considers there is no apparent reason why a TSLRIC++ approach should not be examined further once a robust costs model is developed, and the TSLRIC++ (plus retail costs) of a local call falls below 20 cents.*[16]

Estimating the TSLRIC+ of LCS access

4.19 Notwithstanding the deficiencies in PIE II, Optus has sought to estimate the TSLRIC+ of LCS using Telstra's model. Applying the routing factors presented in PIE II for 2003/04 and 2004/05, Optus has looked at two options for determining the TSLRIC+ of a local call. The two options are to apply the:

- Optus adjustments discussed in section 6 of this submission to PIE II
- ACCC adjustments to PIE II discussed in its final determination on model prices (summarised in section 6 of this submission).

4.20 PIE II provides an LCS call cost report output which applies local call routing factors to estimate the TSLRIC+ of a local call. Applying Optus' adjustments

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15 ACCC, *Final Determination for model price terms and conditions of the PSTN, ULLS and LCS services, October 2003*, page 91.

16 ACCC, *Final determination for model price terms and conditions of the PSTN, ULLS and LCS services, October 2003.* page 91-92.

and the ACCC's adjustments to PIE II provides the following estimates for the TSLRIC+ of a local call.

TSLRIC+ of LCS (using PIE II routing and Telstra's estimated call length)

[Start commercial-in-confidence]

TSLRIC+	***2003/04***	***2004/05***
Optus adjustments to PIE II		
ACCC simple adjustments to PIE II		

[End commercial-in-confidence]

4.21 Optus believes that the ACCC should revisit its position on LCS in the context of the current undertakings and it should reject Telstra's undertaking, which sets price above efficient cost.

Retail-minus LCS access pricing

4.22 Optus believes that the retail-minus price of 13.61 cents for LCS has been estimated incorrectly because Telstra has understated its avoidable retail costs. An examination of historic LCS retail-minus prices provides some indication of LCS retail-minus price movements over time.

4.23 In April 2002, the ACCC issued a report on "Local Call Resale pricing principles and indicative prices" in which the ACCC proposed that the following indicative prices should apply for LCS.

ACCC indicative price for LCS in April 2002

	Residential cents per call (GST inclusive)	**Business cents per call (GST inclusive)**
Standard LCS call price without LCS discount on line rental	13.81	13.81
Neighbourhood call price without LCS discount on line rental	9.54	8.04

4.24 Application of these prices resulted in an average LCS price of 11.58 cents per call (GST exclusive).

4.25 **[Start commercial-in-confidence] [End commercial-in-confidence]**

4.26 In its Undertaking Telstra has proposed that LCS rates should be set at 13.61 cents per call for the two years from July 2003 through to June 2005. **[Start commercial in confidence] [End commercial in confidence]**

4.27 In setting indicative prices for LCS the ACCC should ignore the claimed costs proposed by Telstra in its Undertakings because these include a UPCC allocation. The ACCC has unambiguously rejected the claimed UPCC.

4.28 In summary, Optus contends that the prices proposed in the Undertakings are materially above **[Start commercial-in-confidence] [End commercial-in-confidence]** previous indicative prices issued by the ACCC (prior to this most recent determination on LCS). Further, Telstra's proposed prices are inconsistent with both past and expected trends in prices.

4.29 **[Start commercial-in-confidence] [End commercial-in-confidence]**

4.30 On this basis alone the ACCC should reject Telstra's undertakings.

LCS retail costs

4.31 Telstra provided updated retail costs for basic access and local calling in July 2003.[17] These retail costs were based on Telstra's 2001/02 RAF account and were significantly lower than its previous estimates of **[Start commercial-in-confidence] [End commercial-in-confidence]** that were based on 1999/00 RAF accounts - as adjusted by NERA. The revised retail costs claimed by Telstra are as follows:

- **[Start commercial-in-confidence] [End commercial-in-confidence]** per call for local call retailing costs.
- **[Start commercial-in-confidence] [End commercial-in-confidence]** for the retailing costs associated with basic access.

4.32 The revised retail costs are significantly lower than the previous costs, in fact taken as a whole they represent a reduction in costs of approximately **[Start commercial-in-confidence] [End commercial-in-confidence]** from those retail costs accepted by the ACCC for 1999/00. This might result from an improvement in efficiency in retailing over the two years, however, this would represent a significant and somewhat unrealistic productivity improvement. Alternatively, it may be a result of a shift in the allocation of costs within Telstra's RAF – this seems a more likely explanation.

4.33 The ACCC has produced its own estimates of retail costs by replicating NERA's methodology for adjusting Telstra's cost allocations for the 2001-02 RAF accounts then projecting these costs forward. The resulting estimates for 2003/04 to 2005/06 are set at, including GST:

- **[Start commercial-in-confidence] [End commercial-in-confidence]** for local call retailing costs; and
- **[Start commercial-in-confidence] [End commercial-in-confidence f**or the retailing costs associated with basic access.

4.34 However, in providing these estimates the ACCC has made an important qualification that:

17 Telstra provided updated claimed retail costs in a letter dated July 2003.

> *...the Commission remains concerned about the somewhat arbitrary nature of the scaling up of retail and product and customer costs to be closer to the average of other RAF retail product categories. This issue is a further reason why the Commission is of the view that a review of local call pricing is likely to be necessary.*[18]

4.35 Whilst the ACCC's estimates are more reasonable for such retail costs, there is still considerable uncertainty in relation to these costs. Optus has provided detailed comments regarding retail costs in our submission to the ACCC on indicative prices and we have also engaged NERA to undertake an assessment of information provided by Telstra that summarises its retail costing analysis. A copy of NERA's report has been provided to the ACCC for its consideration.

4.36 NERA conclude that there remains considerable scope in the RAF allocation guidelines for misinterpretation, thereby providing ample opportunity for Telstra to potentially minimise the amount of RAF retail costs allocated to basic access and local calls. As such, they recommend that the allocations be tested using a range of checking mechanisms.

4.37 NERA also state that their original methodology applied to Telstra's 1999/00 RAF accounts is still largely valid, however the methodology was particularly conservative and, as such, a number of further adjustments should be incorporated in Telstra's 2001/02 RAF estimates.

4.38 Optus is of the view that retailing costs are unlikely to have decreased at such a rapid rate. A closer examination of Telstra's allocations within the 2001/02 RAF raises a number of concerns for Optus, these are:

- The methodology used by Telstra is not appropriate or reasonable. Telstra bases its general allocation between wholesale and retail on what proportion of costs can be directly attributed to certain activities. There may be some bias in this toward wholesale, resulting in an allocation percentage that is skewed toward wholesale generally.
- The use of a general allocation percentage is not appropriate. However, if Telstra is using such an allocation method, there should be varying allocation percentages for different costs categories.
- All marketing costs should be classified as retail (avoidable) costs. Optus is strongly of the view that Telstra does not need to undertake wholesale based marketing activity for LCS because it is the only supplier of these services to access seekers.

4.39 An analysis of PIE II indicates that the retail costs proposed by Telstra above have been understated. PIE II, for example shows that the total retail PSTN CAN costs used by Telstra to calculate the access deficit approximate **[Start commercial-in-confidence] [End commercial-in-confidence]** for each local

18 ACCC, *Final determination for model price terms and conditions of PSTN, ULLS and LCS services, October 2003*, page 97.

call.[19] Optus believes that these retail costs are largely consistent (completely overlap) with the definition of retail costs for the purpose of retail (price) minus cost access pricing. The ACCC has defined this as:

> *"What is sought to be measured, however, is not so much the quantum of costs that the access provider could conceivably avoid through its supply of wholesale services but rather the average retail cost of supplying a particular service (e.g. local calls). In this regard, the definition of avoidable costs provides a means of identifying and estimating retail costs. That said, the Commission acknowledges that the terminology 'avoidable costs' is capable of creating the impression that the access provider can avoid those costs, when in reality this may not occur. Consequently, the Commission has chosen to express the methodology as 'retail-minus retail costs'" (page 11, ACCC Local Carriage Services pricing principles and indicative prices).*

4.40 If we were to use the retail PSTN CAN costs of **[Start commercial-in-confidence] [End commercial-in-confidence]** presented by Telstra in PIE II, then the retail discount would be **[Start commercial-in-confidence] [End commercial-in-confidence]** for basic access (using **[Start commercial-in-confidence] [End commercial-in-confidence]** local calls) **plus** the **[Start commercial-in-confidence] [End commercial-in-confidence]** cents for local call retailing. This would lead to a retail minus LCS access price of 12.8 cents per local call.

4.41 There are inconsistencies between the data Telstra has put forward to support the different prices. Telstra also appear to be taking the 2000/01 RAF accounts (as shown in Annexure K of the 9 January 2003 undertakings) to calculate the retail PSTN CAN costs in the access deficit calculation whilst at the same time using 2001/02 updated retail costs for basic access and local call retailing to arrive at an access price for LCS. This selective application of costs by Telstra is curious and suggests regulatory game playing.

4.42 Optus also disputes Telstra's proposition that the undertaking price is lower than the TSLRIC cost of a local call. As indicated above, Optus believes the efficient TSLRIC+ of a local call is between **[Start commercial-in-confidence] [End commercial-in-confidence]**, using Optus' and the ACCC's adjustments to PIE II respectively. As such, the LCS price should be set at the efficient TSLRIC+ level of local call which is **[Start commercial-in-confidence] [End commercial-in-confidence]** because this is significantly lower than the calculated retail-minus price of 13.61 cents.

4.43 Optus has made numerous submissions in relation to LCS and refers the ACCC to Optus' submission in relation to indicative prices and the report

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19 This estimate takes the total retail PSTN CAN costs of **[Start commercial-in-confidence] [End commercial-in-confidence]** (Annexure K of Telstra's 9 January 2003 undertaking submission) for 2002/03 and divides this by the total number of local calls used in PIE II for 2002/03 (**[Start commercial-in-confidence] [End commercial-in-confidence]**).

prepared for Optus by NERA relating to *Competitive Neutrality in Access Pricing*.

4.44 Providing for competition in the retailing of local calls is necessary to promote competition in the wider market for fixed telephony services (including long distance and international call services). In determining an appropriate indicative wholesale price for LCS, the ACCC must remain mindful of:

- The limitations and risks of the retail-minus methodology.
- The underlying cost of an average local call.
- The historical trend local call prices locally and internationally.

4.45 These submissions and reports demonstrate that the undertaking price proposed by ACCC, and now adopted by Telstra in its new undertakings, is far in excess of an appropriate application of retail minus cost pricing.

4.46 Optus believes that LCS prices should be set at the TSLRIC+ price in the current undertakings because it more closely reflects the efficient cost of a local call.

5. Efficient network costs

Network costs in PIE II

5.1 Optus believes the costs presented by Telstra in its submission to support its undertakings are not efficient network costs. The costs presented by Telstra are far in excess of the reasonable level of network costs that would promote the efficient use of, and investment in, infrastructure.

5.2 Telstra has presented a network cost model, referred to as PIE II, for the purposes of estimating the TSLRIC of PSTN originating and terminating access (OTA) and ULL services.[20]

5.3 PIE II is presented as a scorched node model in the sense that it models an optimised PSTN network assuming that customer locations and Telstra's land and buildings (the nodes) are fixed (or scorched). In addition, Telstra has fixed a number of other features of the model including:

- The use of a trenched copper based customer access network (CAN) in all distribution areas (DA).
- The use of a trenched inter-exchange network and a trenched network to connect DA within 6 kilometres of an exchange building.[21]

[20] The issue of whether PIE II is a model based on TSLRIC versus TELRIC is addressed below. It should however be noted that PIE II incorporates organisational, common and indirect costs – consistent with a TSLRIC+ approach prescribed by the ACCC.

- The use of radio technology to connect DA beyond 6 kilometres of an exchange building.
- The size (and utilisation) of particular network elements, including pillars and main cables.

5.4 These additional fixed features mean that PIE II is not a pure scorched node model. It does not subject Telstra to the typical optimisation associated with TSLRIC modelling around the world. To the extent that critical features are not optimised, PIE II calculates the current cost of historic network architectures. This approach will not produce efficient network costs, as it is not based on the most efficient best-in-use technology or practices.

5.5 In addition, and contrary to the view expressed by Telstra, PIE II is not a flexible model because only a limited number of the assumptions can be modified. Alterations to the model are limited because of the model inherent design. Because of this, Optus believes PIE II lacks the level of independence necessary to make a complete assessment of the costs of providing PSTN OTA and ULL services.

5.6 PIE II is a very large and complex model and contains a significant amount of detailed assumptions and cost inputs. Telstra is putting the model forward to support the proposed costing analysis for the core access services. In addition, we understand that the ACCC has, to a large degree, relied on the conveyance cost structures, interconnect call durations and break-down of interconnection traffic provided by PIE II in setting its final indicative prices for PSTN and ULLS.

5.7 Optus believes that it would be best practice for such a model to be subject to independent verification to test its suitability as a basis for setting access prices for essential core services. Such a verification process would, at a minimum:

- Test the internal mechanisms of the model (test that it does what it claims to do).
- Assess the reasonableness and accuracy of inputs.
- Ensure there is no double counting of costs.

5.8 However, Optus is unaware of any audit process conducted on PIE II by Telstra (or the ACCC). As such, Optus is greatly concerned that the ACCC is accepting the output of the model for both the purposes of setting indicative prices and for assessing the reasonableness of Telstra's undertaking prices.[22]

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21 In the IEN module, a small number of exceptions (three) are made to connect exchange buildings in remote locations via satellite.

22 We note that ACCC has already accepted most of the elements of PIE II in arriving at its final determination on model prices for PSTN and ULLS (*Final Determination for model price terms and conditions of the PSTN, ULLS and LCS services, October 2003*).

Even some fairly basic data inputs appear to be inaccurate and unreasonable when subject to limited verification.

5.9 At face value, the costs that PIE II produces are highly questionable and a brief sensitivity analysis suggests the model is unstable and inflexible. Optus believes that before accepting PIE II, the ACCC should seek an independent expert audit of the model. In the interests of time, this could focus on a few key areas, such as the:

- internal integrity of the model;
- validity of traffic assumptions and inputs;
- appropriateness of cost input assumptions; and
- validity of high-level design rules.

ACCC's application of PIE II

5.10 In making a final determination on model prices and in making its preliminary view on Telstra's new undertakings, the ACCC has expressed serious doubts regarding PIE II's cost structure, however, it has accepted this cost structure for defining prices in both the model prices and the undertakings processes.

5.11 The ACCC appears to have undertaken only a very simple analysis of PIE II, presumably due to time and resource constraints and the inflexible nature of PIE II itself. The analysis of PIE II undertaken by the ACCC has been limited in its detail and, as such, the ACCC has claimed to reject the use of PIE II for the purposes of interconnect prices (the original intent of PIE II).

5.12 The ACCC has claimed that it has not made extensive use of the PIE II model for a number of reasons:

> *The Commission continues to have reservations over the appropriateness of Telstra's PIE II model. This has been reinforced following feedback from industry participants which question the model's underlying architecture, assumptions and methodologies. At this stage, and without further analysis of the model, the Commission considers that these concerns combined with the lack of transparency limit the extent to which it can be directly utilised in determining indicative price terms and conditions or for other regulatory purposes.* [23]

5.13 Optus is not aware of any detailed or independent analysis undertaken or commissioned by the ACCC to test the cost structures and assumptions underlying PIE II.

5.14 In spite of the ACCC's serious concerns, it has nevertheless applied the unaudited and untested cost structures from the PIE II model extensively to determine its model price terms and conditions for PSTN and ULLS. These

23 ACCC, *Final determination for model price terms and conditions of the PSTN, ULLS and LCS services October 2003*, p.31

have in turn then been referenced in providing its preliminary view on Telstra's undertakings. The result of this convergence is a significant implicit reliance on a flawed PIE II cost model for setting access prices.

5.15 The ACCC has addressed some areas of concern by making some specific adjustments to trench sharing assumptions, network planning costs, capital costs (WACC), the tax rate and most importantly the access deficit components (these are discussed in later sections of this submission). However, Optus does not believe that the ACCC's adjustments have gone far enough as they do not alleviate the major areas of contention and major flaws in the PIE II model. The result is that the model prices do not represent truly efficient network costs for these services.

5.16 Until significant adjustments are made to PIE II to rectify the inherent network and technological flaws of the model, in addition to rectifying the more simple assumptions, it should not be used to any degree in setting access prices.

NERA analysis of PIE II

5.17 On behalf of Optus, NERA has produced an assessment of the PIE II model, its construct, assumptions and inputs. A copy of NERA's report has been provided to the ACCC (page references below refer to the NERA report *Assessment of the PIE-II model: A Report for Optus, July 2003*). In terms of its construct and optimisation approach, NERA conclude that PIE II will always overestimate the cost of an efficient network because:

- The modelling technique, specifically the particular minimum spanning tree (MST) algorithm chosen by Telstra, is not a feasible nor efficient approach. Telstra's approach to defining distribution areas (DA) will likely lead to too many DAs – inflating the number of RAUs and resulting in a suboptimal utilisation of pillars. Both of these will inflate the network costs (page 8 and 9).

- The MST algorithm chosen by Telstra ignores copper costs (main cable costs). It only minimises the length of trenches. It therefore "does not create a least cost network" (page 12).

- The setting of pillars into the centre of urban distribution areas will lead "to a significant overstatement of trench and cable lengths" (page 14).

- Network element size is driven directly by engineering rules rather than being used to set efficient levels of utilisation in the network (page 14). A failure to optimise network elements will lead to a higher cost.

- The use of a reference DA is undefined in PIE II and seemingly inconsistent with the stated complexity of Telstra's modelling. It is difficult to determine whether the results are biased as a result of this (page 16).

5.18 Overall, NERA's assessment is that PIE II has "not used sufficiently careful assumptions and good operations research algorithms that would merit the consideration of the model for access cost regulation" (page 16).

Optus' analysis of PIE II

5.19 Optus has undertaken its own analysis of PIE II. Details of this analysis and our critique are provided in the answers to the ACCC's original questions relating to PIE II answered in the sections below .[24] We believe that these specific questions remain relevant for the new undertakings because the ACCC has not adequately dealt with these areas of contention in its final determination on model prices. Telstra has adopted these prices in its new undertakings, therefore the ACCC's model prices become directly relevant in the context of the new undertakings.

5.20 Consistent with the view of NERA and the claims by the ACCC, Optus believe that PIE II is not fit for the purpose of setting regulated access prices, nor any other cost estimation for that matter. We have attempted to go further than the ACCC in adjusting the PIE II model for the large number of unreasonable assumptions and errors we believe Telstra has made in its construction, assumptions and inputs. We note that this has been greatly restricted by the construct of PIE II that limits the variables that can be changed within the model.

5.21 Nevertheless, Optus has developed a scenario based on the principles it believes are appropriately adopted in estimating a scorched node TSLRIC for PSTN and ULL services. The adjustments include:[25]

- Revising the weighted average cost of capital to reflect an appropriate return for a PSTN business. Optus estimates that without significant volume risk, the return on capital employed in providing PSTN and ULL services should be 5.12%. The ACCC made a similar adjustment in coming up with its model prices, however, they retained a very high WACC of approximately 8.8%.[26]

- Telstra's compensation for tax has been adjusted to reflect Telstra's effective tax rate, estimated to be 20% rather than the **[Start commercial-in-confidence] [End commercial-in-confidence]** applied by Telstra in PIE II. Imputation credits are fully valued to reflect the full implementation of business tax reforms. This is consistent with the ACCC's adjustments applied in setting its final model prices.

- Telstra should have optimally shared trenches throughout the entire construction of the PSTN. This would reflect Telstra's ability to share trenches with utilities in new estates. Optus believes that new estates represent 20% of the network. The ACCC applied an adjusted trench sharing rate of 13%, this is a significant improvement on PIE II's base

24 These are the specific questions asked by the ACCC in relation to Telstra's original undertakings.

25 Each adjustment is discussed and justified in the following sections of this submission, in particular, in the responses to questions related to PIE II.

26 Optus has estimated that the ACCC applied a WACC of 8.8% by using a risk-free rate of 5.8%.

case of only **[Start commercial-in-confidence] [End commercial-in-confidence]**.[27]

- Amending PIE II to service all exchange service areas (ESA) with tele-density below 0.15942 SIOs per square kilometre with satellite services. Telstra's model considers only some **[Start commercial-in-confidence] [End commercial-in-confidence]** with tele-density below 0.15942 SIOs per square kilometre. Optimising service delivery in these areas gives Telstra the incentive to move to the most efficient technology and improving allocative efficiency.[28] The ACCC made no adjustments to incorporate this issue in PIE II.

- Adjusting the cost per Satellite SIO should be $8,775 per SIO. This figure is based on ACA report entitled Forward Looking Technologies for USO 2000-2003, Table 5.13 – Technology Input Table 2002/2003. The ACCC did not make any adjustments in respect of satellite usage.

- A number of material adjustments have been made to the planning assumptions in PIE II to reflect optimal network architecture and more appropriate utilisation and provisioning. These are outlined in detail in Optus' response to specific questions on PIE II below, but include increasing the maximum number of SIOs per DA to accommodate Telstra's pillar choice[29], improving the efficiency of CMUX and basing the proportion of main cable fed (MCF) SIOs in geographic areas on more realistic tele-densities. The ACCC did not apply any of these type of adjustments in setting its model prices.

- Network planning costs have been excluded from the model costing. This is consistent with the ACCC's decision in its model prices final determination.

- A number of asset lives have been adjusted to reflect NERA benchmarks and Optus' experience with the economic life of particular assets. The ACCC made no adjustments for asset lives in its final model prices.

- The price trends for key assets have been adjusted. In particular, the price trend for land and buildings has been made positive to reflect the

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27 Alternatively, Optus might have estimated the historic depreciated cost of the trenches and included those in PIE II and made a determination as to whether Telstra has recovered these costs from CAN services. This was not possible given the constraints of the model.

28 Optus believes this is a correct application of the scorched node approach because on an historic cost basis Telstra is likely to have fully recovered the cost of rural copper and trench costs and should be no longer be protect from optimisation.

29 PIE II assumes only one pillar size (900 pairs). This assumption is restrictive and will inflate network costs. It is worth noting that NERA models and the previous ACCC/NERA model allow the choice of pillar size to be optimised.

appreciating value of the land component of this asset.[30] The ACCC did not make any adjustments for this in its final model prices.

- The distribution of ULL services presently reflects the distribution of basic access services. This was amended to reflect Optus' take up of ULL services. The ACCC did not make this adjustment in its final model prices.

5.22 It is Optus' view that the ACCC has adjusted the model for only the very simple assumptions. However, these minimal adjustments performed by the ACCC are inadequate. They minor adjustments do not alleviate enough of PIE II's flaws to enable the model prices to be based on its cost structures as the ACCC has done.

5.23 Unlike the ACCC's results from PIE II, the combined effect of Optus' changes is to yield network costs that are substantially below that posited by Telstra and to date accepted by the ACCC in its model prices. Optus' estimates are much closer to a level of efficient network costs.

5.24 The efficient network costs arising from Optus' scenario are presented in the table below. Notably, a more efficient structure and more appropriate assumptions within PIE II eradicated any access deficit.[31] [32]

5.25 Optus' scenario results in significantly lower ULLS network charges and conveyancing costs for PSTN OTA than the costs presented by Telstra in its new undertaking.

5.26 Optus' scenario also produces an LCS cost estimate (using TSLRIC+) that is significantly lower than the ACCC's final retail-minus based price of 13.61 cents.

5.27 Optus believes that this scenario is much closer to efficient network costs and should be used as the basis for the ACCC to reject the undertakings on the grounds that pricing above efficient costs is not in the LTIE. Additionally, the above efficient cost access prices will result in inefficient (too much) investment in new, alternative PSTN infrastructure that may bypass the PSTN (often referred to as 'inefficient build').

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30 Ideally, Telstra's capital appreciation on land should reduce the return it receives given it is a scorched asset in its TSLRIC calculation.

31 This is in part because of the more efficient servicing of rural SIOs and more efficient distribution of SIOs within DA and improvements in the proportion of SIOs that are MCF. However, as discussed below, a lower WACC and revised asset lives and price trends has a significant impact on the size of the access deficit.

32 Specific access deficit issues are discussed in detail below, but it should be noted that this result comes before any CAN costs are attributed other services that use the infrastructure including xDSL, and other value added services such as call waiting.

5.28 Applying Optus' adjustments to Teltra's PIE II model yields efficient network costs for PSTN OTA of **[Start commercial-in-confidence] [End commercial-in-confidence]** cents per minute at most. The efficient network costs for ULLS at most **[Start commercial-in-confidence] [End commercial-in-confidence]** in metropolitan areas and at most **[Start commercial-in-confidence] [End commercial-in-confidence]** in the CBD. An examination of the table below shows how this estimate compares to Telstra's claimed costs from PIE II, the ACCC final indicative prices and Telstra's subsequent identical new Undertakings.

Network costs for PSTN, ULLS and LCS 2003/04

PSTN (cent per min)	*Optus scenario (using adjusted PIE II)*	*Telstra's claimed costs (PIE II)*	*ACCC's final model prices*	*Telstra's new undertaking*
Total flag-fall cost	**[Start commercial-in-confidence]**	**[Start commercial-in-confidence]**	1.26	1.23
Total EMOU cost			0.93	0.94
Headline rate/EMOU [33]			1.25	1.25
ULLS ($ per month) [34]				
CBD			$ 3.00	$ 3.00
Metropolitan			$12.00	$12.00
Provincial			$30.00	$30.00
Rural			$90.00	$90.00
LCS (cents per call) [35]				
LCS			**[Start commer**	13.61

33 Each of the scenarios assumes an average call length of 3.98 minutes and applies Telstra's geographic profile consistent with PIE II.

34 For ULLS the price compared is the network component of the price, excluding ULLS specific costs.

35 This is the TSLRIC+ of a local call using PIE II routing factors and PIE II's local call average length of **[Start commercial-in-confidence] [End commercial-in-confidence]** minutes.

	[End commercial-in-confidence]	**[End commercial-in-confidence]**	**cial-in-confidence]** [36] **[End commercial-in-confidence]**	

5.29 The scenario presented above does not fully represent Optus' view on efficient network costs for PSTN OTA, ULLS and LCS. Due to the inherent inflexibility of PIE II the following important changes have not been made:

- NERA's recommended amendments to the MST algorithms.
- Optimisation of the size and provisioning of many network elements.
- Greater sharing between the IEN and the CAN. PIE II only allows the maximum level of sharing to be changed, although we were able to improve the level of sharing by making the number of SIOs that are main cable fed (MCF) more realistic[37] – PIE II only allows sharing of main cable.
- Basing the asset cost of land and buildings, trenching, copper and other scorched assets on historic costs.[38]
- Using forward-looking efficient operating and maintenance costs rather than Telstra's operating and maintenance costs.[39]
- Trench sharing between Telstra, FOXTEL and other utilities such as power companies and gas.
- Sharing of copper CAN between Telstra ADSL and PSTN.

5.30 Optus believes that these factors would yield even lower efficient network costs. On that basis the Optus scenario might be considered an upper bound estimate of efficient network costs.

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36 This is not what the ACCC have estimated in their model prices, this is Optus' estimate using the ACCC's criteria to adjust PIE II. The model prices instead use a retail-minus price of 13.61 cents.

37 MCF is where the customer is directly serviced from the main feeder cable and does pass through a pillar or distribution cable.

38 As discussed later in this submission, basing scorched assets on historic costs would convert PIE II into a true scorched node model and provide more efficient investment signals and increase allocative efficiency, whilst adequately addressing Telstra's legitimate business interests.

39 In a novel approach to TSLRIC modelling, Telstra appears to have scorched operating and maintenance costs.

5.31 NERA is working on a refined selection of the more contentious factors on behalf of Optus and we will incorporate these in our supplementary submission on Telstra's new undertakings.

Non-network costs claimed by Telstra

5.32 PIE II is presented as a total *element* long-run incremental cost (TELRIC) model. That is, it produces the costs of network elements rather than the cost of providing the complete access service, as is indicated by total *service* long-run incremental cost (TSLRIC). However, Optus believes that PIE II incorporates costs in addition to TSLRIC. These include Telstra's non-network, organisation and indirect costs. This is consistent with the ACCC's TSLRIC+ access pricing approach where the + indicates these additional costs.

5.33 Notably, PIE II does not in any way optimise these indirect costs. They are simply summed across Telstra's general ledger and allocated to the access services as a percentage of the historic capital base.[40]

5.34 Optus believes that there is no evidence that this approach will yield efficient indirect costs and no benchmarks have been provided by Telstra to support the belief that they are efficiently incurred costs. Indeed, compensating Telstra for these costs in this manner inherently reduces Telstra's incentive to reduce these costs. On this basis Optus believes that they are likely to overstate efficient non-network costs.

5.35 In addition, Telstra has provided little information on these wholesale costs and appears to be claiming that these indirect costs do not include other costs incurred in providing access services, including wholesale billing, marketing, and administration. Optus is unable to comment on the quantum of these costs as they have not been provided in Telstra's submission in support of its undertaking.

5.36 We would note however, that Telstra's calculation of indirect costs (outlined above and included in PIE II) includes sales and marketing costs (for examples see ledger account 62000, 62500, 63000, 63500, 69000)[41], access costs (ledger account (68000), general administration (ledger account 81500) and information systems costs (see ledger 82000).

5.37 As a result, Optus believes that adding such costs to the prices presented would create a significant risk of double counting. The position taken by Telstra that its prices are below costs and therefore reasonable, even without calculating these additional costs, is therefore unfounded and that reasoning should be rejected.

5.38 It is more likely that these costs have already been allocated to access seekers. We note generally that whilst Telstra has presented price terms for these core

40 The procedure is outlined in Annexure I of Telstra's submission in support of its undertakings.

41 Optus would strongly dispute the necessity for Telstra to claim wholesale marketing costs for a monopoly service.

access services in its undertakings, in practice access seekers may pay additional charges to connect customers to these services. For example, Optus pays additional connection charges for ULLS and incurs charges relating to churn on LCS customers.[42]

5.39 In its estimates of costs for PSTN, shown in the tables on page 11 of its submission to support its undertakings, Telstra has included an increment of **[Start commercial-in-confidence] [End commercial-in-confidence]** cents for 'other costs'. These are the local call wholesale costs that Telstra claims are relevant to be collected in PSTN charges as part of the UPCC. Optus does not accept the UPCC and therefore does not accept these additional wholesale costs being included in PSTN rates.

5.40 Similarly, Optus does not accept Telstra's claims that there exist additional non-network costs to be added to the LCS price. Telstra has not advised the quantum of these costs, nor provided any detail of these additional costs, therefore limiting the extent to which we can provide specific comment on these costs.

5.41 More importantly, Optus believes that it is not appropriate or reasonable under retail minus cost pricing to add these types of costs onto the access price. The underlying premise for adopting retail minus dictates that access seekers face an access price that allows them to compete on an equal basis with the access provider, otherwise the regime is ineffective in promoting efficient competition and the LTIE. The ACCC has indicated that:

> *Under a retail-minus methodology, access seekers will be able to compete with the access provider over the retail functions of a local call, as they receive the LCS at a price equal to the access provider's retail price minus retail costs. Hence, if access seekers are more efficient than the access provider at retailing local calls, they will be able to survive in the local telephony services market and pass on the benefits of their greater efficiency to end-users.*[43]

5.42 As such, adding additional costs to retail (price) minus LCS prices would undermine the retail-minus methodology and would be detrimental to competition in downstream services where LCS is an input.

5.43 The ACCC has confirmed this in its final determination on model prices, where it has rejected any application of LCS-specific wholesale costs being added to the LCS price.[44]

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42 Though we note that number portability costs are included in PIE II.

43 ACCC, *Local Carriage Service pricing principles and indicative prices, April 2002*, page 14

44 ACCC, *Final determination for model price terms and conditions of the PSTN, ULLS and LCS services, October 2003*, page 102

General PSTN and ULLS issues

5.44 Optus believes that TSLRIC is an appropriate approach to calculate the efficient cost of supplying PSTN OTA and ULLS. Optus has in the past (particularly in response to Telstra's previous 1999 undertakings) advocated a scorched earth approach to modelling. However, it has been informed by advice from NERA and others that this position should be revised.

5.45 Optus believes that a scorched node TSLRIC model may serve to address dynamic efficiency issues and to some extent address the legitimate business interest of the access provider. It should be noted that in terms of allocative and productive efficiency (that is, the appropriate signalling of efficient investment in the PSTN and appropriate build – buy choices) a scorched node TSLRIC of the incumbent's network has no role.[45]

5.46 This understanding of the rationale for using TSLRIC is critical to an appropriate application of the methodology. In particular, the decisions regarding which elements of the network to retain (not scorch) and the costing of those elements depend on:

- What specific elements of the incumbent's network the regulator seeks to protect from optimisation; and
- The incentives that are promoted as a result of using forward-looking costs on protected, incumbent (historic) network choices.

5.47 This is discussed in further detail in section 6 of this submission.

5.48 In practical terms Optus believes that PIE II has been constructed to estimate a TSLRIC+ of PSTN and ULLS services. It is constructed to allow all costs relevant to the provision of the access services to be calculated and to indicate significant allocations of indirect costs.[46]

6. PIE II issues

The Commission seeks the views of interested parties on whether a scorched earth or scorched node approach to modelling is appropriate for the purpose of calculating the efficient costs of supplying the PSTN OT and ULLS access services, and on whether Telstra's model network is the result of a proper application of a scorched node approach.

6.1 PIE II appears to be a particular application of a scorched node approach. Telstra presents the model on the basis that the nodes in PIE II (that are not scorched) are the customers' locations and the location of Telstra's land and building. The remainder of the network is apparently scorched.

45 Refer to the NERA submission on behalf of Optus *Role of TSLRIC in Telecommunications Regulation.*

46 Optus of course disputes the particular way that TSLRIC+ has been applied within the PIE II model.

6.2 However, whilst the remainder of the network is scorched, highly constraining planning, technology, trenching, and provisioning rules have been applied in designing the "optimised" network. Many of these are discussed in more detail below and in an expert report prepared by NERA for Optus and submitted to the ACCC for its consideration. These rules mean that in reality PIE II is not a correctly specified scorched node model and will likely overestimate the costs of an efficient network.

6.3 More specifically, Optus believes that PIE II contains the following errors in applying the scorched node approach.

Trench sharing

6.4 Telstra's level of trench sharing does not reflect its past ability to share trenches. We note that the ACCC has recognised this failure in its indicative prices and increase the "new estates" assumption to reflect the sharing of trenches in estates where developers have had responsibility for trenches. However, the rate of 13% applied by the ACCC in its final model prices still does not fully reflect Telstra's past ability to share trenches.

6.5 For much of its history, Telstra has enjoyed what could be described as "soft" budget constraints. It historically made large losses, which the Government absorbed, in the belief that the social benefits of a ubiquitous network were worth the cost. As such, Telstra had no incentive to share trenches, or minimise costs. It did however have the capacity and ability to share trenches. It is this ability to share that should be reflected in PIE II in a proper application of a scorched node approach.

6.6 In addition, the level of trench sharing between the CAN and IEN within PIE II is significantly less than Telstra's capacity to share. For example, main cable sharing is only allowed within PIE II when main cable extends for more than 1000 m. Optus believes that Telstra already shares main cable below this level.

xDSL and other services

6.7 There is a range of other services such as broadband delivered using xDSL (Bigbond retail and wholesale) that not only share the trenches with voice services but also the copper wire in the trench. A proper application of scorched node TSLRIC modelling recognise Telstra's *capacity* to share both the trench and the copper wire costs between voice services and xDSL broadband services.

6.8 The order in which services have been rolled out (voice services being developed before data services) is immaterial in a scorched node model. This problem has been identified by the ACCC in its pricing principles for Line Sharing. The ACCC pricing principles for line sharing indicate that only incremental costs should be charged to access seekers for this service because Telstra is already recovering the cost from voice services.

6.9 The same issue is relevant for xDSL services because it is unregulated. Telstra's wholesale and retail BigPond services are not costed on an

incremental basis thereby allowing Telstra to recover the cost of the CAN it already recovers from basic access and access deficit charges.

Copper versus satellite in rural areas[47]

6.10 Optus believes that protecting Telstra from some level of optimisation in the provision of rural voice services would harm efficiency. This is because access prices in rural (and non-rural areas as a result of the ADC) are being based on highly inefficient technology choices costed at forward-looking prices.

6.11 If Telstra continues to be compensated in this manner it will have no incentive to invest in more appropriate technologies, such as satellite, and allocative efficiency and bypass incentives will be distorted. Optus believes the two alternative resolutions are to:

- Cost the rural CAN on depreciated historic costs basis. This would remove the inefficient investment signals whilst not harming Telstra's commercial interests (it will be fully compensated for its historic and protected investment decisions).
- Cost the rural CAN on the basis of satellite costs.

6.12 Telecommunications networks use a variety of technologies to design and cost an efficient CAN. A number of options are available such as: copper cables laid in conduits in trenches, copper cables that are buried underground, copper cables strung on poles, optic fibre, hybrid-fibre-coax (HFC), radio, satellite, CDMA, WLL etc. There are several examples of such technologies in current Australian telecommunications networks including Telstra. Technologies that are particularly suited to Australian conditions in areas of low Tele-density areas are summarised in the Australian Communication Authority's (ACA) report entitled *Forward Looking Technologies for USO 2000-2003*. These technologies are summarised as follows:

- CAN underground copper unloaded cable and optical fibre cable.
- CAN Narrowband Digital Radio 1 Wireless Local.
- CAN Narrowband Digital Radio 2 Point to Multipoint Microwave.
- CAN Satellite Geo stationery KU band.
- GSM (with Enhanced Full Rate codec).

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47 Optus has made representations in the past that an aerial network may be the most efficient forward-looking technology. New environmental controls may mean this is no longer possible. However, if electricity cables are assumed to be underground in a forward looking model, then a sensible construction will include the electricity network in shared trenches with the telecommunications network. In addition, current aerial Cable TV networks (FOXTEL and Optus Vision) would also be put underground in these same (shared) trenches.

6.13 An analysis of the underlying exchange service areas (ESA) data in PIE II shows that in Telstra's network ESA vary widely in terms of their areas, and number of SIOs, resulting in a very wide variation in ESA tele-density (the number of SIOs per square kilometre)

6.14 The table below summarises this analysis. PIE II appears to be unsophisticated in the manner in which access technologies can be nominated for different ESAs. The default technology choice for all ESA is copper cables laid in trenches. The only exceptions are: a) where customers are more than 6 km away from an ESA in which case radio access is selected or b) when there are fewer than a certain number of SIOs, satellite access can be selected.

SIOs by tele-density in PIE II

[Start commercial-in-confidence]

SIO Limit	*No of ESA*	*Total SIOs*	*Tele-density (min)*	*Tele-density (max)*
15			6.78 x 10Exp-5	0.15942
-			6.78 x 10Exp-5	0.15942
100			-	-
No Limit			6.78 x 10Exp-5	34541.3081

[End commercial-in-confidence]

6.15 PIE II ignores an array of excellent work that has been done in many jurisdictions including Australia that allow for very cost effective alternate technologies to be used in CAN design for low tele-density areas. An example of one such body of work is ACAs USO report entitled *Forward Looking Technologies for USO 2000-2003*.

6.16 In PIE II, the parameter *ESA SIO Limit for Satellite* is used to select satellite access technology for all ESAs that have SIOs less than or equal to this limit. This means that when the number of lines in an ESA exceeds this limit, copper based CAN would be selected without regard to the tele-density of the ESA.

6.17 In its base model Telstra have *ESA SIO Limit for Satellite* at 15 SIOs. This means that SIOs in ESAs with 15 or less SIOs will be served by satellite - all other ESAs will be copper based. An analysis of the Telstra base data (the data underlying Telstra PIE II) shows that there are 40 ESAs with 15 or less SIOs, with a grand total of 464 SIOs being served by satellite. The Tele-density of these ESA is between 6.78 x 10Exp-5 to 0.15942 SIOs per sq km. An analysis of the same data reveals that there are another 956 ESAs with tele-density less than 0.15942 with a grand total nearly 106,000 SIOs that should be serviced by satellite.

6.18 PIE II is not able to nominate satellite as the access technology based on tele-density. This results in a large proportion of tele-density ESAs being excluded from optimisation based on satellite. Instead of defining access technology

based on an SIO limit, if PIE II were to select access technology by tele-density, and if we were to set the tele-density implied by the 15 SIO limit set by Telstra, then a total of 996 ESAs with a grand total of 106,649 SIOs will be served by satellite access.

6.19 Optus believes that at a minimum, it is appropriate to use satellite access for all ESA with a Tele-density below the threshold implied by Telstra's choice of the 15 SIO limit (0.15942 SIOs per sq km). PIE II does not have the facility to nominate the access technology for an ESA therefore as a proxy; Optus suggests that the ESA SIO limit be set to 100 SIOs. This would mean that a total of 86,310 SIOs would be served by Satellite. This is well within the 106,649 SIOs that are implied by the Telstra tele-density.

6.20 Further, this figure is also consistent with the costing for Satellite based SIOs used in the ACA report entitled *Forward Looking Technologies for USO 2000-2003*, Table 5.13 – Technology Input Table 2002/2003. In that report, the costing for USO SIOs using satellite technology is based on 86,000 SIOs.

6.21 Telstra has also used a cost of **[Start commercial-in-confidence] [End commercial-in-confidence]** per SIO for the delivery of satellite services. This is an extremely high. Optus suggests that the cost per satellite SIO should be $8,775 per SIO. This figure is consistent with the ACA's report entitled *Forward Looking Technologies for USO 2000-2003*, Table 5.13 – Technology Input Table 2002/2003.

6.22 The ACA estimate is based on 86,000 SIOs and includes capital costs for the CAN including ground station equipment, gateways, network management modules, modems, switch interfaces and integration and CPEs including antenna & shelter, internal electronics, handset, power supplies and installation.

Further, the Commission seeks views on whether Telstra's network as it would look if it were optimised, or a pure forward-looking network should be modelled.

6.23 These issues have in part been addressed above and further evaluation of PIE II is given below. In terms of an overall view on an appropriately optimised network this is provided in developing the Optus scenario in section 6 of this submission.

6.24 In terms of Telstra's approach, we would make the general observation that PIE II takes very little consideration of the tele-density of SIOs. This is in contrast to TSLRIC modelling around the world. For example, in TSLRIC modelling undertaken by the FCC, tele-density is a critical factor in network design.[48] The table below presents a summary of the Telstra data.

48 Further details are given in the NERA report on the *Role of TSLRIC in Telecommunications Regulation.*

PIE II tele-densities

[Start commercial-in-confidence]

Tele-Density Range	*(SIO/Sq Km)*	*>0 to 1*	*>1 to 10*	*>10 to 100*	*>100 to 1000*	*>1000*	*Total*
SIOs	(lines)						
ESA	(Count)						
ESA area	(Sq Km)						
Trench Length	Km						
%Trench							
% SIO							
% Area							

[End commercial-in-confidence]

6.25 The table above shows that some 35% of the total trenches are used to serve less than 3.5% of total SIOs. These SIOs are in ESAs where the Tele-density is less than or equal to 1 SIO per sq km. In Optus' view, this represents an extremely inefficient CAN design.

6.26 It can also be seen that over 65% of the trenches are used to serve just over 11% SIOs in ESAs with tele-density less than or equal to 10 SIOs per sq km. As a result, the total trench length required by Telstra's forward-looking model explodes to over 570,000 km.[49]

6.27 As part of its justification of its new undertakings Telstra has now provided, in Annexure J, a comparison of trench lengths used in PIE II versus actual road lengths in Australia. Optus does not support Telstra's calculations in Annexure J where it has calculated total trench length to be **[Start commercial-in-confidence] [End commercial-in-confidence]** including a 40-60% uplift factor for road-crossing. Assuming that the average household block frontage is 17 metres, this would equate to **[Start commercial-in-confidence] [End commercial-in-confidence]** dwellings. This is considerably larger than recent census estimates by the Australian Bureau of Statistics which put the figure of households in Australia at approximately 9 million.

6.28 In conducting our review, Optus would also recommend other specific "architectural" revisions to PIE II. These are largely based on implementing more appropriate rules for optimising the network. They include:

- Increasing the number of CBD addresses or SIOs that are main cable fed (MCF) to 30. This is consistent with Telstra having selected 30 as the value of this parameter for Metro and Provincial areas. Optus

49 This is the distance from the earth to moon and half way back!

believes the average number of MCF addresses in CBD areas may be higher than metropolitan areas in an optimised network.

- Amending the proportion of addresses that are MCF to match Telstra's previously disclosed information on the pattern of services within 2 km of an ESA.[50] According to the Telstra information, the percentage of SIOs within 2 km (by cable distance) of an exchange is as follows:

  i) CBD > **[Start commercial-in-confidence] [End commercial-in-confidence]** Metro and Provincial > **[Start commercial-in-confidence] [End commercial-in-confidence]** and Rural > **[Start commercial-in-confidence] [End commercial-in-confidence]**

  ii) PIE II sets a limit of **[Start commercial-in-confidence] [End commercial-in-confidence]** as the maximum distance for a MCF address.

Amended MCF address proportions

[Start commercial-in-confidence]

Parameter	*Telstra Value*	*Optus Value*
Proportion of MCF Address - CBD		90%
Proportion of MCF Address - Metro		50%
Proportion of MCF Address - Provincial		20%
Proportion of MCF Address - Rural		10%

[End commercial-in-confidence]

- Increasing the maximum number of SIOs in a DA from **[Start commercial-in-confidence] [End commercial-in-confidence]** to 300. Telstra has used a 900 pair pillar throughout the design of the access network. This cannot be optimised.[51] A 900-pair pillar can easily

50 In March 2000, when the ULLS Deployment Rules were defined in ACIF, Telstra provided the HCLL Network Deployment Group with information regarding the SIO percentages at different distances from the exchange. The ACIF Network Deployment Code (ACIF C559:2002 Unconditioned Local Loop Service (ULLS) Network Deployment Rules) is based on this information.

51 We note that NERA modelling allows such network elements to be optimised.

support a maximum of 300 SIOs, leaving 500 terminations for cable towards the exchange and 100 spare terminations.[52]

- Reducing the number of SIOs per lead in to one for all areas. Telstra had values of **[Start commercial-in-confidence] [End commercial-in-confidence]** in CBD; **[Start commercial-in-confidence] [End commercial-in-confidence]** in metropolitan areas; **[Start commercial-in-confidence] [End commercial-in-confidence]** in provincial areas; and **[Start commercial-in-confidence] [End commercial-in-confidence]** in rural areas. By definition, one lead-in pair can only support one SIO. Any level above 1 is likely to relate to future demand for new services, such as broadband.
- Amend the distribution of ULLS to reflect Optus' take up of ULLS.[53]

Routing factors

6.29 Optus has not extensively reviewed the routing factors in PIE II within the available time. We did however note that PIE II assumed interconnection at the transit network switch (TNS) in the Australian Capital Territory. Optus has a point of interconnection (POI) at each local areas switch (LAS) in the ACT.

6.30 Curiously, amending this routing factor and re-running PIE II has no impact on the costing. Optus was unable to explain this result

Traffic and provisioning assumptions

The Commission seeks the views of interested parties on the appropriateness of Telstra's methodology for deriving customer locations, traffic volumes and the number of access services.

The Commission seeks the view of industry parties on their own estimates for traffic volumes and service volumes for the period of the Undertaking.

The Commission is also interested in forecasts for interconnect traffic volume for the period of the Undertakings. That is, the Commission would welcome carrier's estimates for PSTN traffic and services in operation across the whole market, and on the carriers' estimates for its own carriage services that it intends to supply by way of the domestic PSTN OT service or the ULLS.

6.31 Optus is submitting a separate submission to the ACCC that will address these very important matters of the geographic breakdown of traffic, the estimated average call lengths and the significant impact that these have on the claimed headline rates.

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52 We note that PIE II produces a significantly greater number of DA than exist in Telstra's actual network and the network modelled by the ACCC/NERA to assess Telstra's 1999 undertaking.

53 Details of these changes are provided in an earlier section.

The Commission seeks the views of interested parties on the appropriateness of Telstra's provisioning rules.

6.32 Optus has not had sufficient time to review all of the provisioning rules within PIE II. We have however amended some obvious under-provisioning problems including[54]:

- Improving the *maximum* capacity utilisation of CMUX units. The minimum **[Start commercial-in-confidence] [End commercial-in-confidence]** spare capacity in CMUX has been reduced to 10%.
- Similarly, improving the capacity utilisation of SCAD LICs per SIO from **[Start commercial-in-confidence] [End commercial-in-confidence]** spare capacity to 10%.

6.33 We would also refer the ACCC to NERA's assessment of PIE II and its conclusion that "Telstra appear to have overestimated the proportion of busy hour traffic in its network" (page 36). An adjustment of this factor is not possible within the construct of PIE II.

Trench sharing

Commission seeks the views of interested parties on Telstra's approach to trench sharing and assumptions in relation to the issues of:

- ***Duct sharing within the Telstra network;***
- ***Trench and duct sharing with others; and***
- ***Open trenches (New Estates).***

6.34 Optus notes that Telstra appears to have underestimated the benefits of duct sharing. Optus' annual charges for duct access include a minimum charge of **[Start commercial-in-confidence] [End commercial-in-confidence]** for each additional metre or part thereof beyond the first 100 metres. PIE II assumes that Telstra receives revenue of **[Start commercial-in-confidence] [End commercial-in-confidence]** per km for duct sharing. Optus has an effective rate of **[Start commercial-in-confidence] [End commercial-in-confidence]** per km and given its scale will likely be at the lower end of Telstra's prices.

6.35 As discussed briefly above, Optus has significant issues with the level of trench sharing allowed for in PIE II. These issues arise in all aspects of sharing, including sharing:

- Trenches in new estates (open trenches).
- Trenches with other Telstra networks (for example transmission between mobile towers or Telstra Multimedia).
- Between the CAN and IEN.

54 These amendments have been included in the Optus' scenario.

New estates

6.36 Trench sharing is an important aspect of any TSLRIC model, since sharing of trenches by the incumbent and other telecommunications companies and utilities significantly reduces costs.

6.37 Optus agrees in principle with the assessment of Telstra's approach to open trenches outlined by the ACCC in its Draft Determination on model price terms and conditions for PSTN, ULLS and LCS when it notes that:

> *"The Commission believes that the scorched-node methodology that is considered appropriate in determining TSLRIC prices dictates that the level of trenching in new estates should reflect both Telstra's past ability to share trenches with utilities in new estates, and its ability to share over the regulatory period. In contrast, a scorched-earth approach would reflect the level of trenching in new estates in a given year." (page 30)*

6.38 The ACCC has stated in its final determination on model prices that an appropriate rate of trench sharing is 13% (compared to Telstra's estimate of **[Start commercial-in-confidence] [End commercial-in-confidence]** in PIE II), however, Optus believes that in practice the ACCC approach remains too low because:

- The ACCC calculation of the accumulated stock of new estates is too conservative.
- The ACCC has failed to account for Telstra ability to share trenches prior to property developers becoming responsible for new estates.

6.39 Prior to new developers being responsible for open trench, Optus believes that Telstra had the ability to share trenches. Its historic practices are irrelevant because they were likely the result of insufficient cost cutting incentives (as a government own monopoly under effective rate of return regulation) rather than its ability to share trenches. The lack of cost cutting initiatives should be scorched from the node and not retained and costed on a forward looking basis. This would be inconsistent with a scorched node approach.

6.40 Optus believes that the current trench sharing as occurs in new developments[55] provides a more reliable guide to Telstra's capacity or ability to share trenches in the past. This would be reflected in PIE II by setting the proportion of new estates to 100%.[56]

6.41 It is worth noting that in the past Optus supported a TSLRIC aerial network. This is entirely consistent with this approach as the economic and institutional factors strongly supported reliance on pole sharing arrangements at the time. This is no longer the case and there is a requirement to bury cables.

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55 Telstra shares trenches with 1.5 other companies on average.

56 Optus' scenario presented in section 1 is highly conservative and only assumes sharing at 20% (of which 13-15% reflects new estates under the open trench regime).

Sharing with other Telstra networks

6.42 A prudently operated multiple network business would take advantage of its capacity to share trenches and cables between its various networks. Telstra has such a capacity and will actually share trenches and transmission capacity between its fixed, mobile and even IP networks.

6.43 Telstra's network is extensive and multi-layered. This allows a significant ability to share systems and infrastructure. For example, transmission capacity between mobile towers will likely be shared infrastructure with the fixed network (both the IEN and the CAN). This ability should be reflected in an appropriately specified scorched node model.

Sharing between the CAN and IEN

6.44 In NERA's assessment of PIE II it notes "the proportion of total trench shared (in both the CAN and IEN) has fallen compared to the pervious NERA/ACCC model" (page 34). In addition, NERA note that PIE II shares only **[Start commercial-in-confidence] [End commercial-in-confidence]** of trenches between these networks. This compares with NERA's international models where trench sharing between these networks ranges between 15% and 70%.

6.45 Clearly the level of inter-network trench sharing allowed in PIE II is inadequate and does not reflect international best practice or Telstra's ability to share (the principle appropriately proposed by the ACCC as the basis for modelling a scorched node network). We note that Optus is able to and does share its IEN trenches with third parties including electricity utilities.

6.46 Modelling greater trench sharing between the CAN and IEN in PIE II is problematic as it only allows the maximum level of inter-network sharing to be changed. Modifying this parameter yields insignificant changes in conveyance or access network costs. Optus believes that 70% sharing is a conservative estimate of sharing between distribution and IEN networks and that PIE II costs should be rejected unless adjusted for this change.[57] NERA notes that such a changes will likely "have a small but significant impact on the costs of interconnection (conveyance cost)" (page 43).

The Commission seeks the views of interested parties on current prices of assets, and the appropriateness of the asset price trends and asset lives used by Telstra in its PIE II model.

6.47 Optus refers the ACCC to NERA's assessment of the asset prices used for land and buildings in PIE II model[58]. NERA notes that the total investment cost for land and buildings used in PIE II is more than double that used in the NERA model.

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57 We note that HAI consulting has recommended that the sharing parameter should probably be closer to 95 per cent.

58 NERA, *Assessment of the PIE-II model: A Report for Optus, July 2003*, page 22.

6.48 In order to test the sensitivity of PIE II to changes in the value of land and buildings Optus decreased the value from **[Start commercial-in-confidence] [End commercial-in-confidence]** to **[Start commercial-in-confidence] [End commercial-in-confidence]** (as per the NERA model). When the ADC is set at 50:50 and the local call cap set to 0, the charges in the table below were derived.

Headline interconnect cost comparisons: reduced land & building values versus PIE II 2002/03 Base Case

[Start commercial-in-confidence]

Cost category	*Land and buildings adjusted*	*PIE II (base case)*
Call conveyance flagfall cost		
Access deficit flagfall cost		
Call conveyance per EMOU cost		
Access deficit per EMOU costs		
Headline interconnect per EMOU cost		

[End commercial-in-confidence]

6.49 As shown in the table, the PIE II model is fairly sensitive to changes in the value of land and buildings, with a $1.54 billion reduction in their value leading to a 5.8% reduction in the heading interconnect rate per EMOU.

6.50 With respect to asset price trends, the value placed on these trends play an important role in the costing element of PIE II. This is because price trends comprise the "tilt" used in Telstra's annuity formula use to account for the higher depreciation costs of assets towards the beginning of an assets life.

6.51 Optus believes that the price trends presented in PIE II are not representative of the actual price trends that are faced by Telstra or any other network operator. We believe that the price trend values set by Telstra generally underestimate the impacts of inflation. Further, it appears that some of the downward price trends may have been based on ABS price trend categories that are too broad to capture the true nature of the price movements for the specific assets.

6.52 Optus submits that the following price trends are more reflective of the actual price trends than those used by Telstra:

- Optical fibre - the FCC benchmarks as discussed by NERA[59] yield an average price trend of –2.3% for optical fibre, as opposed to **[Start commercial-in-confidence] [End commercial-in-confidence]** as set by PIE II.

59 *Ibid*.

- Network management - NERA's FCC benchmarks suggest an international average trend for network management of –4.4%, as opposed to **[Start commercial-in-confidence] [End commercial-in-confidence]**

- Land and buildings - PIE II assumes that land and building prices are stable. Clearly, land and building prices are not stable – land is an appreciating asset. Optus submits that land and buildings appreciate by at least 4% per year.

- Lead in - PIE II has lead in prices falling by **[Start commercial-in-confidence] [End commercial-in-confidence]** each year. According to internal Optus data, lead in prices actually increase by around 3% annually.

- Optus notes that many of the asset categories were assumed by Telstra to have price trends of **[Start commercial-in-confidence] [End commercial-in-confidence]**, which appears to be a default percentage. Optus believes that a more appropriate default price trend is the CPI rate of 2.3%.

6.53 Further, Optus submits that the ACCC should err on the side of caution when selecting price trend parameters. This is because pricing decisions for previous regulatory periods have already reflected the full extent of the tilt incurred by Telstra. Therefore, Optus argues that prices under subsequent regulatory periods should reflect depreciation costs with a lower degree of front-loading than previous periods. We recognise that use of a pure forward looking approach might suggest this approach in favour of resetting the depreciation costs at the beginning of each regulatory period to reflect the full costs accruing to a firm with new optimised assets. However, if the asset base is reset and the annuity tilted, Telstra will in effect be able to over-recover its return on capital.

6.54 Further, in many instances, PIE II attaches unreasonably short asset lives to the various elements of the network. Indeed, it appears that Telstra has adopted an accounting approach to depreciation rather than an economic approach. The correct approach when using a TSLRIC model is to use economic depreciation where assets are depreciated on the basis of their true reduction in value of the physical assets from year to year. Accounting depreciation values are not necessarily indicative of the true reduction in asset values over time.

6.55 Optus has identified a number of specific asset categories where PIE II has significantly underestimated efficient asset lives. Our views on the appropriate asset life spans have been informed by internal Optus information, SingTel information, and NERA FCC benchmarking figures[60], include:

- Alarms and network support - PIE II attaches a depreciation lifespan of **[Start commercial-in-confidence] [End commercial-in-confidence]**

60 For description of these benchmarks, refer to: *NERA, Assessment of the PIE-II model: A Report for Optus, July 2003*, pg 22

years for this asset category. Optus does not understand the rationale of this approach and therefore assumes that this is an error in the model. Optus refers the ACCC to NERA's view that the asset life of this asset category be extended to 8.5 years - a figure consistent with the FCC cost model benchmarks[61].

- Radio spectrum - PIE II depreciates radio spectrum over a period of **[Start commercial-in-confidence] [End commercial-in-confidence]** years. Optus submits that radio spectrum should be depreciated over 15 years to match the period of the spectrum licence.
- Land and buildings - PIE II attaches a life span of **[Start commercial-in-confidence] [End commercial-in-confidence]** years to land and buildings. Optus believes that it is inappropriate to consider land and buildings as a single asset category, given that buildings depreciate at a significantly faster rate than land. Notwithstanding this deficiency in PIE II, Optus suggests that the depreciation span for this category be set to no less than 55 years.
- Local switching and transit switching - the NERA FCC benchmarks suggest that local and transit switches have useful lives of 9.7 years.
- Signalling transfer point - according to the NERA FCC benchmarks, the useful asset life of signalling transfer point is 9.1 years; not **[Start commercial-in-confidence] [End commercial-in-confidence]** years as suggested by Telstra.
- SDH, LAS and TNS software - PIE II assigns asset lives of only **[Start commercial-in-confidence] [End commercial-in-confidence]** years to each of these assets; an unjustifiably low figure. Optus believes the efficient life span for this switch software aligns with the useful lives of the related switches. Therefore, TNS and LAS software should be reset to 9.7 years, and SDH software should be reset to 9.1 years.
- Conduits and trenches - the asset lives for conduits and trenches should be set to 40 years in order to be consistent with NERA's FCC benchmarks.
- Main cable - PIE II estimates a life span of **[Start commercial-in-confidence] [End commercial-in-confidence]** years for the main cable. The FCC benchmarks suggest that the useful life of main cable is actually 17 years. Optus therefore submits that this figure should be reset accordingly.
- Miscellaneous transmission - Optus believes that this asset category should be covered by the optical fibre category, and have asset lives of at least 25 years.

6.56 The table below displays the costs obtained from adjusting the PIE II model to reflect the asset price trends and asset lives as set out above. Note that the

61 NERA, *Assessment of the PIE II Model: A Report for Optus, July 2003*, page 24

ADC allocation has been set to 50:50, and the local call cap has been turned off. Note that the asset prices have not been adjusted in these calculation

Adjusted asset price trends and asset lives

[Start commercial-in-confidence]

Cost category	*Asset price trends and asset lives adjusted*	*PIE II (base case)*
Call conveyance flagfall cost		
Access deficit flagfall cost		
Call conveyance per EMOU cost		
Access deficit per EMOU costs		
Headline interconnect per EMOU cost		

[End commercial-in-confidence]

6.57 As the table shows, the PIE II model is particularly sensitive to the asset lives and asset price trends. For this reason it is imperative that the parameters proposed by Telstra in PIE II are not accepted without first examining each in detail.

6.58 The ACCC, in its adjustments to PIE II, has not mentioned any analysis of these factors and has therefore made no adjustments to asset lives and asset price trends. Optus believes that if adjustments had been made, which would be appropriate then the underlying rate tables in the ACCC's indicative PSTN rates would be significantly lower.

WACC parameters

The Commission seeks the views of interested parties on the appropriateness of WACC (including WACC parameters) used by Telstra for the calculation of PSTN OT and ULLS services.

6.59 The PIE II model uses a nominal post-tax vanilla WACC of **[Start commercial-in-confidence] [End commercial-in-confidence]** in 2002/03 and **[Start commercial-in-confidence] [End commercial-in-confidence]** for each year of the undertakings. Optus believes this value of the WACC to be excessive. Using a WACC of this value will result in an over-recovery by Telstra of the efficient network costs.

6.60 Optus has re-estimated the WACC using parameters that better reflect current market conditions. The table below compares the values of the individual WACC parameters as estimated by Telstra and Optus.

WACC parameters

Parameter	*2003-04 (Telstra new Undertakings)*	*2003-04 (Optus estimates)*	*2003-04 (ACCC final model prices)*
Risk-free rate	**[Start commercial-in-confidence]**	4.58%	5.80%[62]
Debt risk premium		0% - 0.5%	0.80%
Issuance costs		0.12%	0.40%
Cost of debt pre-tax		4.7% - 5.2%	7.00%
Debt beta		0.00	0.00
Asset beta		0 - 0.25	0.50
Gearing		60% debt	40%
Equity Beta		0 - 0.40	0.83
Market risk premium		3% - 5%	6%
Imputation factor		100%	50%
Corporate tax rate		20%	20%
Nominal post-tax 'vanilla' WACC	**[End commercial-in-confidence]**	**5.12% (mid-point estimate)**	**8.8%**

6.61 Where a range of parameter values is given in the table, Optus has taken the mid-point of each range in order to derive the nominal post-tax vanilla WACC of 5.12%.

6.62 As shown above, Telstra has proposed an issuance cost factor of **[Start commercial-in-confidence] [End commercial-in-confidence]**. In Optus' view, **[Start commercial-in-confidence] [End commercial-in-confidence]** is excessive for a firm of Telstra's size. Optus notes that in the past the ACCC has adopted issuance cost factors of around 0.12%. Optus submits that for the purposes of Telstra's undertakings, the ACCC should not accept a figure of greater than 0.12%. The ACCC should revisit its assumptions in the indicative prices.

6.63 The appropriate value of the individual WACC parameters has been discussed in detail on many separate occasions and the ACCC has taken a position on the WACC parameters in its final determination on model prices as well as its assessment of Telstra's previous Undertaking and in its role in the regulation of other utilities (including electricity transmission).

62 The ACCC did not provide the relevant risk-free rate estimate in their final determination on model prices. We have estimated it conservatively at 5.8% based on the government's current 10 year bond rate.

6.64 Nonetheless, market conditions change over time and the WACC parameters need to be updated on an ongoing basis to reflect these changes. While many of our arguments remain unchanged from previous submissions, Optus believes that the impact of most of the Ralph Business Taxation Reforms should now be realised, and this should be reflected in the ACCC's approach to compensating Telstra for the cost of tax. Further, we suggest a number of minor adjustments to the WACC parameters.

6.65 The following sections traverse some of the relevant issues that the ACCC should give regard to in its analysis of the WACC rate used by Telstra in its undertakings.

Compensation for the cost of tax

6.66 Access prices must provide a sufficient return to cover the real cost of financing the regulated asset base (the WACC multiplied by the asset base) plus all other costs – including operating expenses, depreciation and the cost of company tax; that is, the return on assets required be investors after they have incurred (and paid) all other costs associated with running the business. However, unlike the costs of doing business, estimating the cost of company tax to equity investors in a business involves:

- Establishing the amount of company tax paid.
- Estimating the proportion of that tax which is actually a cost to equity investors.[63]

6.67 There are a number of approaches to establishing the tax paid by the business. These include:

(a) A simple transformation approach which grosses up the regulatory return on equity in the WACC equation by the statutory (or effective) tax rate multiplied by 1-γ.

(b) A direct pass through of the actual tax payments multiplied by 1-γ.

(c) A post tax model involving direct modelling of the expected tax paid multiplied by 1-γ.

6.68 Telstra's most recent Undertakings uses a post tax modelling approach that uses a statutory tax rate of **[Start commercial-in-confidence] [End commercial-in-confidence]**. The cost of tax is then treated like all other cost building blocks in arriving at the access prices within the Undertakings.

6.69 Optus argues that the simple transformation approach (using either a statutory or effective tax rate) is inappropriate as it assumes that regulatory and taxable profits are identical. This is unlikely to be the case because nominal interest is deductible for tax purposes, and because the tax and regulatory depreciation rates differ.

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[63] This second component is dealt with below in the discussion of imputation credits and their value.

6.70 A direct pass through of tax is intuitively appealing, but to be applied in practice would require a forecast of the tax paid and may require a correction mechanism. This could not be incorporated into either the indicative prices or the Undertakings.

6.71 It is therefore appropriate, in Optus' view to adopt a post tax modelling approach to the expected tax costs. In undertaking the tax modelling, consideration should be given to a number of parameters including

- Taxation rate.
- Gearing ratios.
- Asset values.
- Asset lives.

6.72 Optus believes that a statutory rate of taxation is not reflective of a competitive PSTN operator, and that using the statutory rate will over-estimate the WACC because of the effects of gearing, interest rates, operating expenses, and in particular the continued benefits received from accelerated depreciation. Use of the effective rate of taxation has a strong precedent in regulatory decisions worldwide, and the efficiency benefits of doing so are well known.

6.73 With respect to accelerated depreciation, the recent Ralph reforms removed the ability of firms to use accelerated depreciation on assets acquired after 21 September 1999. Use of a pure forward looking approach to estimating a reasonable return on capital would mean that any benefits received by Telstra through accelerated depreciation would have to be ignored, given that if the network was to be rebuilt today, accelerated depreciation could not be used.

6.74 However, Optus strongly urges the ACCC to recognise that in reality, Telstra has in the past and will continue to reap significant advantages from accelerated depreciation. Indeed, the vast majority of Telstra's long-lived assets were acquired pre-Ralph, meaning that Telstra has received the benefits of accelerate the depreciation of these assets. We also note that even post-Ralph, the tax depreciation rates (based largely on accounting lives) continue to provide a tax benefit to infrastructure owners given the economic lives of assets will generally be longer. Ignoring this reality would enable Telstra to receive a return in excess of a fair and reasonable rate. This would directly harm the interests of access seekers, and ultimately, end users.

6.75 Gearing ratios describe the capital structure of the firm. The tax deductibility of the cost of debt means that on an after-tax basis, substituting debt for equity within the capital structure can reduce the WACC. By the same token, investors can also use the gearing ratio as a means for estimating the risk of an investment. The higher the proportion of the company funding by debt, the higher the perceived financial and bankruptcy risk exposure of the business. By corollary, with high debt levels investors will demand higher return on their investment capital.

6.76 The optimal gearing ratio can vary substantially amongst firms. Key elements in determining the optimal gearing ratio of an individual firm are the ability of the firm to repay debt, and the ability of the firm to raise debt in capital

markets. Therefore, a firm backed by sound financial fundamentals can be expected to have a relatively high optimal gearing ratio.

6.77 In the context of the Australian telecommunications market, an optimised access provider will have an excellent credit rating and therefore its ability to raise capital will be high. Further, the debt risk of the firm will be low, particularly in light of the high profitability of Telstra. This debt risk will be further reduced when the time frame for the debt risk is viewed only in terms of the period that the indicative prices will be current is taken into account, and the favourable interest rate outlook.

6.78 It could also be argued that Telstra's status as being partially government owned will give some reassurance to investors and probably allows it to withstand higher gearing ratios than comparable companies in private ownership.

6.79 As alluded to earlier, the relevant risk factors should not relate to Telstra in its current state, but rather Telstra in an optimised state. Optus submits that this would be relatively low. On balance, the advantages associated with funding an optimised Telstra through debt are more than likely to outweigh the increased risks to a very high gearing ratios. Telstra's book ratio is irrelevant to the extent that:

- It may fail to fully utilise the available tax advantages of debt funding; and
- The risks of high debt of Telstra in its current form will be higher than the risks of a fully efficient firm with an optimised network.

6.80 Optus notes that the ACCC has used a gearing ratio of 60% in the past with respect to Transgrid, Adelaide Airport and CWPipeline. We believe that the risks faced by these firms would be higher than those faced by an incumbent telecommunications carrier. Consequently, we believe that Telstra could withstand a gearing ratio of greater than 60%.

6.81 In summary, Optus recommends that the appropriate gearing ratio is at least 60% for the purposes of estimating the appropriate WACC. The ACCC should revisit the assumption made in its indicative prices.

Imputation factor

6.82 The imputation factor represents the degree to which imputation credits are valued by equity investors. It attempts to remove double taxation from the calculation of the cost of capital formula by accounting for the implementation of the imputation tax credit system. Franking credits effectively represent, at the company level, personal tax collected or withheld.

6.83 Since July 2000, changes to the Australian taxation system through the Ralph reforms have made all tax credits refundable. It is therefore reasonable to posit that investors will now place a greater value on imputation tax credits than previously. Further, awareness amongst Australian investors of their ability to take advantage of these tax credits has grown, and is most likely to be at, or very close to, 100%.

6.84 There are a number of factors that could reduce the imputation factor to below one, as follows:

- The firm may decide not to pay all profits out as dividends, leading to the deferral of payment of imputation credits.
- Investors are unable to take advantage of imputation credits because the investor is based in a country that does not allow the use of Australian tax credits to offset taxation liabilities.

6.85 Optus believes that these factors should have little impact on the return Telstra is able to receive on its capital.

6.86 With respect to the first point, Optus would argue that the average investor is sufficiently rational to recognise that the failure of a firm to pay out all profits as dividends is generally due to profits being put back into the business in an attempt to enhance future profits. To this extent, investors will recognise that deferral of imputation credits may increase future dividends, and therefore increase the value of future imputation credits over and above what would have been received if all profits had been paid out as dividends immediately. We observe that the value of shares will rise by the full value of imputation credits retained.

6.87 With respect to the second point regarding the inability of some investors to utilise their tax credits, Optus again argues that this should have minimal impact in reducing the imputation factor below one. Optus believes that the proportion of investors based in countries that do not recognise Australian tax credits is low. International tax treaties have expanded the base of investors able to enjoy the benefits of Australian tax credits. Notably, taxation treaties exist between Australia and it's most prominent investor markets: the United States, the United Kingdom and Europe.

6.88 Telstra has previously argued that its shareholders have a lower ability to utilise imputation credits relative to the market average, and that therefore the imputation factor should be set closer to zero rather than one. Using the logic set out above, it is clear that this argument is entirely inappropriate and would result in a distortion of Telstra's investment returns relative to other investments. This, in turn, would distort investment patterns of the 'average' investor in the market.

6.89 Optus submits that the imputation factor of the investor is one. This reflects the fact that the equity investor is able to fully utilise imputation credits, and that investors are sufficiently rational to value the deferral of imputation credits insofar as it may lead to increase future returns.

6.90 If the ACCC were to decide that the inability of the non-domestic investor to utilise imputation credits was sufficiently significant to justify an imputation factor of less than one, then the ACCC may need to adopt other WACC parameters that reflect conditions in the international market place; not the Australian market. In particular, the market risk premium, beta values and the effective tax rate would need to be lowered.

6.91 Finally, it is clear that in light of the Ralph reforms the imputation factor adopted by the ACCC should be higher than levels adopted in previous

regulatory decisions. The ACCC should revisit the assumption made in its indicative pricing decision.

Risk-free rate

6.92 The risk-free rate used in the calculation of the WACC should correspond with the length of period that the indicative prices will remain current, that is, 3 years. Optus notes that the PIE II model derives the risk free rate from the 10-year Government bond. It is entirely inappropriate to base the risk free rate on a 10-year bond because this would compensate pricing risk beyond the three-year period of the Undertaking. The period should correspond to the period Telstra is bearing the risk.

6.93 The practice of selecting a risk free rate that matches the duration of the regulatory determination has precedent in recent regulatory determinations.

6.94 Further, the PIE II model appears to fail to average the bond rate. Averaging is important as it corrects for on-the-day bond fluctuations, and manages the risk of under or over estimating the risk-free rate. Optus notes that in the past the ACCC has adopted a 40-day moving average. This would appear to be an acceptable alternative Telstra's approach.

6.95 As at 28 April 2003, the 40-day moving average 3 year government bond rate was 4.58%. This was calculated by taking a weighted average of the 2-year and 5-year government bond rates for the past 40 days..

6.96 The ACCC does not comment on the appropriate risk-free-rate to use for the undertakings, however, it has suggested in its final determination on model prices that:

6.97 For the purposes of calculating indicative costs using the PIE II model, the Commission will estimate a risk-free-rate whose term equals the period over which the indicative prices are set, as a ten day average leading up to the beginning of the period.

6.98 This would suggest that a 3-year bond rate would be appropriate, given that this is the period of the undertakings.

Market Risk Premium

6.99 Telstra has set a Market Risk Premium (MRP) of **[Start commercial-in-confidence] [End commercial-in-confidence]** for the purposes of its most recent Undertaking. Optus is of the view that this rate is well in excess of the actual rates reflected in the market.

6.100 It is widely accepted that the MRP has fallen in recent years. This can, in part, be attributed to a more stable inflationary environment. Optus presented a wide of evidence in its 1999 submission on Telstra's PSTN Undertaking that the MRP is has collapsed to around 3% and is converging on its "proper" level of 0%.

6.101 In addition, better methods are emerging for estimating its value and the results from application of these new methods tend to suggest that the MRP

has been over estimated in the past. In this context, given that the appropriate focus for this review is to establish a forward-looking WACC, it should reflect the fact that the MRP has fallen and is continuing to do so.

6.102 As discussed above, if the ACCC decides that the imputation factor should, to some extent, reflect the inability of some non-domestic investors to utilise imputation credits, then the MRP should reflect the international market risk rather than the domestic market risk. The international MRP is likely to be lower to reflect the enhanced ability of investors to diversify across a wider range of investment products.

6.103 In light of these arguments, Optus submits that the ACCC should adopt an MRP of no greater than 3%. The ACCC should revisit its assumptions in setting indicative prices.

Asset Beta

6.104 In theory, the only risks that are captured by beta are those risks that cannot be eliminated by the investor through diversification. Such risks are referred to as systematic, undiversifiable and uninsurable risk.

6.105 If the net returns from an asset are correlated with the returns from the general market then the beta associated with that asset will be positive. The greater the correlation (covariance) the higher the asset beta. However, if there is a zero covariance the asset beta will be zero and if there is a negative covariance (ie, the returns on the asset increase as the returns on the market decrease) the asset beta for that asset will be negative.

6.106 Clearly, the asset beta is a function of the variability of revenues with general market conditions. The main source of any such covariance in the case of Telstra's assets is through an output factor. If general economic conditions are good then demand for Telstra's PSTN is likely to be higher than when general economic conditions are poor. To the extent that Telstra as a pure wholesaler of PSTN services (ie, abstracting from any other services Telstra provides including downstream services) would have net revenues that vary with demand for the PSTN then it is appropriate for Telstra to have an asset beta that is greater than zero.

6.107 However, the regulation of Telstra's PSTN prices is such that any change in actual volumes results in a commensurate change in prices – with revenues largely unchanged. Given the form of regulation of PSTN prices largely protects Telstra's PSTN revenue stream from the affects of changes in demand for PSTN services it is not obvious why an asset beta of greater than zero is being contemplated.

6.108 Optus submits that unless the regulation of PSTN revenues exposes Telstra to significant volume risk its PSTN asset beta should be set equal to zero. The ACCC should revisit its assumptions in setting indicative prices.

Cost of Debt

6.109 The cost of debt is calculated as the risk-free rate-of-return plus a debt premium. The debt premium is added to cover investors for the specific debt

risk of the firm in question. Optus submits that the debt premium should be set to zero or very close to zero. The ACCC should revisit its assumptions in setting indicative prices.

Option value

6.110 In Telstra's Undertakings, the WACC does not include an allowance for asymmetric risks that are systematic and non-diversifiable.

6.111 Telstra comments that the WACC should be adjusted to allow for the implicit insurance costs of the various asymmetric risks. Telstra says that it is currently working on quantifying this parameter, which will most likely involve a percentage mark-up applied to the nominal post-tax vanilla WACC. It is unclear whether this parameter is going to be included in the current Undertaking once it has been quantified.

6.112 Optus submits that there is very little evidence that Telstra does face any risks over and above those accounted for by the risk parameters included in the general WACC equation. As such, we would strongly oppose any inclusion of an option value parameter in the WACC.

Annualised costs

6.113 In Telstra's Undertaking, the capital costs are converted into an annual capital charge that reflects the cost of capital and depreciation.

6.114 As discussed earlier, Optus believes that the ACCC should adopt an economic approach to depreciation rather than accounting approach. Optus notes that the value of the annual capital charges will be very sensitive to the useful life of the asset. To the extent the accounting asset life will not reflect the *true* useful life of the asset, the economic approach to depreciation will enable the derivation of significantly more accurate annualised costs. Under economic depreciation, assets are depreciated on the basis of their actual expected useful life spans

6.115 Optus is concerned with Telstra's use of a tilted annuity factor. A tilt is sometimes used to account for the higher depreciation costs of assets as a result of falling asset prices and the risk of obsolescence. For the purposes of setting indicative prices for the forthcoming regulatory period, Optus believes that it would be inappropriate to use a tilt as a means of front-loading costs.

6.116 Pricing decisions for previous regulatory periods have reflected the full extent of the tilt. Therefore, Optus argues that prices under subsequent regulatory periods should reflect depreciation costs with a lower degree of front-loading than previous periods. We recognise that use of a pure forward looking approach might suggest this approach in favour of resetting the depreciation costs at the beginning of each regulatory period to reflect the full costs accruing to a firm with new optimised assets.

6.117 However, if the asset base is reset and the annuity tilted, Telstra will be in effect over-recovering its return of capital. Optus believes the ACCC must establish a regime in which depreciation recovers precisely the difference

between the opening and closing values of the asset base. This will only be achieved by either:

(a) Setting indicative prices based on rolling forward the asset base (adding only prudently incurred capital expenditure) in the n/e/r/a-ACCC model.

(b) Adjusting the PIE II model to account for the additional depreciation component already received by Telstra as a result of the tilting of the annuity in past prices.

6.118 The table below shows the costs obtained from the PIE II model using a WACC of 5.12% as an input, an ADC allocation of 50:50 and no local call cap.

Optus WACC of 5.12% versus PIE II 2002/03 base case

[Start commercial-in-confidence]

Cost category	*PIE II (Optus' adjusted WACC)*	*PIE II (Telstra's base case)*
Call conveyance flagfall cost		
Access deficit flagfall cost		
Call conveyance per EMOU cost		
Access deficit per EMOU costs		
Headline interconnect per EMOU cost		

[End commercial-in-confidence]

6.119 As the table shows, the PIE II model is highly sensitive to the value of the WACC, with a reduction in the WACC from **[Start commercial-in-confidence] [End commercial-in-confidence]** resulting in a 60% reduction in the headline interconnect rate per EMOU.

6.120 Optus believes that the WACC used in the ACCC's indicative pricing decision and implicit in Telstra's undertakings, is unreasonable high. Accordingly, the undertaking should be rejected.

The Commission seeks the views of interested parties on the appropriateness of real options value used by Telstra for the calculation of PSTN OT and ULLS services.

6.121 The WACC used in PIE II does not include an allowance for asymmetric risks that are systematic and non-diversifiable (a so called real options allowance). However, Telstra suggests that the WACC should be adjusted to allow for the

implicit insurance costs of the various asymmetric risks[64]. Telstra indicates that it is currently working on quantifying this parameter, which will most likely involve a percentage mark-up applied to the nominal post-tax vanilla WACC.

6.122 Optus submits that there is very little evidence that Telstra does face any risks over and above those accounted for by the risk parameters included in the general WACC equation, and strongly opposes the inclusion of an option value parameter in the WACC on the grounds that:

- This is inconsistent with the theoretical foundations of the CAPM approach.
- Real option value mark-ups to the CAPM have not been applied by regulators world-wide.
- The real option theory is not applicable in the specific case of telecommunications assets.
- Demand for the CAN, based on experience with deregulation in telecommunications markets world wide, is highly unlikely to decline. Accordingly, any option value risk for plant used for interconnection would be nil.
- Demand for broadband connections has increased the value of embedded networks in recent years, demonstrating that technology risk is positive.
- There are first-mover advantages in rolling-out network and being the first firm to connect subscribers in a given servicing area. Therefore the option to delay is not a realistic choice for Telstra.

The Commission seeks the views of interested parties on the appropriateness of Telstra's methodology for grossing up for tax.

6.123 The application of a post-tax WACC in the tilted annuity formula results in an implied revenue stream, which is after payment of corporate tax. However, access prices need to be paid pre-tax to enable the access provider to meet ongoing taxation commitments. PIE II deals with this by "grossing up" the post-tax WACC to accommodate the tax burden.

6.124 The following equation sets out the approach by which PIE II grosses up for tax:

$$\Phi V_{pre\text{-}tax} = [\Phi V_{post\text{-}tax} - (V/N+I)*T_c*(1-\gamma)]/(1-T_c*(1-\gamma))$$

where:

$\Phi V_{pre\text{-}tax}$ = the grossed-up (pre-tax) annual capital cost;

64 *Telstra's Submission in Relation to the Methodology used for Deriving Prices Proposed in its Undertakings dated 9 January 2003*, Pg. 11.

$\Phi V_{post\text{-}tax}$ = the annual capital cost using the post-tax "vanilla" WACC;

V = the total build cost of the asset,

N = the useful life of the asset;

T_c = the statutory corporate tax rate,

γ = the imputation factor;

I = D*V*i and represents interest expense deductible for tax purposes;

D = the debt ratio; and

i = the interest rate applicable to the relevant debt.

6.125 This grossing up equation recognises:

- The tax deductibility of interest.
- The tax deductibility of depreciation.
- The benefits of imputation.

6.126 Optus agrees in principle with use of this formula for grossing up for tax. Nevertheless, PIE II uses parameters within this formula that Optus believes are not reflective of current market conditions, and therefore have the impact of inefficiently and unjustifiably increasing the estimated cost of providing access.

6.127 The table below outlines the parameters used by Telstra against those recommended by Optus. Other parts of this submission and our previous submission on Telstra's past undertakings outline the reasoning behind Optus' use of these specific parameters.

Changes to tax parameters

Parameter	*Telstra's undertakings*	*Optus*	*ACCC final model prices*
Tax rate	**[Start commercial-in-confidence]**	20%	20%
Imputation factor		100%	50%
Pre tax WACC		4.53%	8.90%[65]
Debt ratio	**[End commercial-in-**	60%	40%

65 Optus has estimated this WACC based on ACCC WACC inputs in their final model price terms and conditions.

	confidence]		

The Commission seeks the views of interested parties on the appropriateness of Telstra's methodology for the calculation of operational and maintenance costs

6.128 According to Telstra's description of its methodology for valuing the operational and maintenance costs, the O&M percentages are "derived using Telstra's audited general ledger accounts".

6.129 The approach of using historical accounting costs for the purpose of costing access price facilitates the derivation of inefficient access prices for two reasons. Firstly, it enables compensation by Telstra of the costs of operating and maintaining old and inefficient infrastructure, as opposed to new and probably less 'O&M intensive' assets.

6.130 Secondly, Telstra's methodology will result in access prices that reflect past inefficient O&M practices and expenditures. This is particularly relevant in the context of these undertakings because Telstra has historically enjoyed an institutional and regulatory environment that provided very few incentives for cost minimisation or operating efficiencies. To the contrary, economic theory maintains that public monopolies operating under rate of return regulation will tend to over capitalise and gold plate their operating practices.

6.131 Optus believes that the appropriate treatment for O&M costs comprises assessing the forward-looking costs that would accrue to an efficient operator utilising the best in use technology and operating practices.

6.132 Therefore, it is likely for the reasons outlined above that the O&M factors contained in the PIE II model are overestimated. In particular, Optus notes that the O&M factors assigned to each of the following asset categories appears to be very large, and well in excess of what Optus would consider to be efficient:

- DC power.
- Network management.
- Land and buildings.
- Customer radio.
- Local and transit switching.
- Signalling transfer point.

6.133 Notably, the NERA FCC benchmarks suggest that the appropriate O&M factor for DC power is 7.2%, as opposed to **[Start commercial-in-confidence] [End commercial-in-confidence]** as set by PIE II.

Indirect costs

The Commission seeks the views of interested parties on the appropriateness of Telstra's methodology for the calculating of indirect costs

6.134 The indirect costs contained in PIE II are made up of two categories:

- Indirect O&M costs.
- Indirect capital costs.

6.135 The indirect costs are those incurred by the corporate centre business unit. The corporate O&M costs are allocated into each of the business units that have caused those costs to be incurred. They are then divided into the various asset categories to derive the indirect costs.

6.136 It is likely for a number of reasons that the indirect costs contained in PIE II exceed efficient levels. Firstly, Telstra bases the level of indirect costs on historical costs incurred by Telstra in the provision of services. The use of historical costs can introduce significant distortions and cost overestimations.

6.137 Bearing these points in mind, Optus believes the fact that PIE II attaches indirect O&M factors in excess of **[Start commercial-in-confidence] [End commercial-in-confidence]** for the following asset categories reflects inefficient O&M:

- Alarms and network support.
- Radio transmission.
- Optical fibre.
- Common synchronised network.
- SDH transmission.
- Customer radio.
- Miscellaneous transmission.

6.138 Further, Optus notes that the indirect capital factors for alarms and network supports, and DC power appear to be particularly high.

6.139 Finally, Optus refers the ACCC to the section of NERA's paper that deals with indirect asset and operating costs, and in particular notes the concern that PIE II is potentially doubling up on the recovery of indirect costs.[66]

6.140 The ACCC does not claim to have taken any of these issues into consideration when making its adjustments to the PIE II model to derive the underlying cost structure of its rate table.

66 NERA, *Assessment of the PIE-II model: A Report for Optus, July 2003*, page 20.

Network planning costs

The Commission seeks the views of interested parties on the appropriateness of Telstra's methodology for the calculating any network planning costs

6.141 According to the ACCC, the PIE II model appears to define network planning costs as 'the costs Telstra estimates another network provider would incur in designing its PSTN network. These costs are in addition to the efficient annual network planning costs that Telstra incurs in the course of normal extensions to the PSTN.'[67]

6.142 Optus agrees with the ACCC's assessment that the inclusion of network planning costs is inconsistent with the TSLRIC approach, and concurs with the view that such costs should not be allowable for the purposes of setting access prices.

7. General issues with undertaking

7.1 Telstra has given no indication that it is prepared to negotiate prices below those set out those set out in the undertakings. This is inconsistent with the approach outlined in the ACCC's model terms and conditions, which set ceiling prices and the expectation that prices for individual carriers could be set below this the ceiling. Given this fundamental difference, Optus considers that the undertakings should be rejected.

The Commission seeks industry views on the reasonableness of the limited non-price terms and conditions, and the technical characteristics of the undertaking services.

The Commission seeks industry views on the approach that the Commission should adopt in assessing the reasonableness of the undertakings when all the terms and conditions of supply are not now known.

The Commission notes that a number of non-price terms and conditions are contained in several ACIF technical and operational codes. The Commission seeks parties' views on whether those codes should be considered in the assessment of the undertakings and whether they provide sufficiently detailed and exhaustive non-price terms and conditions.

The Commission notes that certain of the external documents that contain the technical characteristics of the undertaking services have been defined as they exist from time to time, and not at the time at which the undertakings are accepted. The Commission seeks industry comment on the reasonableness of this approach.

7.2 Optus considers that a number of the non-price terms and conditions set out in the undertakings for both ULLS and PSTN/LCS are unacceptable and should lead the ACCC to reject these Undertakings. These issues are set out below.

Common issues with the undertakings

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67 ACCC *Draft Determination for model price terms and conditions of the PSTN, ULLS and LCS services, June 2003*, pg. 32.

Incomplete nature of the undertakings

7.3 As the ACCC notes, not all the terms and conditions for the supply of ULLS and PSTN/LCS are actually included within the scope of the undertakings. In a number of instances the omission of detail is likely to be significant.

7.4 For example, Telstra makes reference to additional charges for Network Conditioning and Preselection as not being dealt with in the PSTN undertaking. Further, in respect of ULLS, connection charges for the "operational aspects of the service"[68] are not covered in the undertaking.

7.5 For an undertaking to be deemed acceptable it is necessary that all charges related to that service be outlined in the undertaking.

7.6 Again the ACCC notes that the undertakings include a number of non-price terms and conditions of supply that are referenced in several ACIF technical codes. For example, for ULLS Telstra includes within its service description a requirement that an "Access Seeker must comply with the ULL Fault Management Guideline, the Network Deployment Rules and the ULL Ordering & Provisioning code".

7.7 Optus does not believe it is reasonable to simply make provisions of the service dependent upon an Access Seeker's compliance with an ACIF code. Firstly, Access Providers and Access Seekers have an obligation to comply with registered industry codes. This obligation should not be extended by Telstra to a contractual condition through which it can cease supplying the service and take action for breach of contract. Secondly, ACIF codes do not set out prescriptive terms and conditions of supply. In most cases the codes simply set out principles for engagement, which need to be translated into terms and conditions of supply in bi-lateral agreements. If codes are to be referenced then it is essential that the particular terms of the code that are critical to the supply of the service are highlighted.

7.8 Optus also notes that the way the codes have been referenced in the Undertakings requires compliance by the Access Seeker and not the Access Provider. To the extent that references to ACIF codes are considered reasonable conditions of an Undertaking then compliance with those codes should be deemed to apply reciprocally.

Regulatory events

7.9 Section 4.2 b) of both the ULLS and PSTN/LCS Undertakings provide Telstra with a broad scope to withdraw the Undertaking should a regulatory event occur "in relation to Telstra". This is not a reasonable condition. Telstra should only be allowed to vary an Undertaking to the extent that the regulatory event relates to the price of the ULLS or PSTN/LCS service.

68 Telstra price list for x167 – clause 2.1 c).

Contestable areas

7.10 Telstra has precluded the charges set out in the ULLS and PSTN/LCS undertakings being applicable to the supply of the relevant service in a Contestable Area to any party that becomes approved as a competing universal service provider in respect of that Contestable Area.

7.11 Optus considers that this requirement is unnecessary and unreasonable. This condition has clearly been included to provide Telstra with an opportunity to mitigate the reduction in USO subsidies should another carrier be appointed the USO provider in a contestable area by raising access prices.

7.12 In the case of ULLS, prices are supposed to be set to enable Telstra to recover its efficiently incurred costs. USO subsidies should not form part of the calculation of Telstra's costs of supply. This condition is entirely inappropriate. With respect to the PSTN OTA service, USO subsidies received by an access seeker should have no impact on the charges levied by Telstra to that carrier. Arguably, the fact that another carrier has been chosen as the universal service provider in a contestable area would indicate that Telstra's costs are inefficient and should be adjusted down in any case.

Specific issues with the ULLS undertaking

Service description for ULLS

7.13 Telstra's proposed service description for the ULLS service is inconsistent with the service description supported by the ACCC in its declaration of ULLS.

7.14 In particular, Optus notes that the service proposed by Telstra specifically makes reference to the "Network Boundary", which includes a "network termination device" (NTD). The inclusion of an NTD within the definition is inconsistent with the ACCC's service description. Further, the issue of whether the network termination device should be included within the scope of the ULLS was considered in the ACCC's review of the pricing principles for ULLS. The ACCC considered that the NTD should not be included within the scope of ULLS and that there should be no specific charges for this component:

"In the Commission's view, it appears that NTD may well be appropriate in some situations, particularly where reliance on the first socket is not possible or appropriate. It would, however, be premature to incorporate a specific charge for an NTD as part of or in addition to Telstra's ULLS line costs. This would have the effect of mandating the use of an NTD in all ULLS provisioning situations. It is not clear that such a broad mandating of an NTD is necessary or appropriate at this time"[69].

7.15 Optus supports the ACCC's conclusion that NTDs should be excluded from the scope of ULLS. Further, any costs associated with Telstra's NTDs should be excluded from the prices charged for ULLS. The costs associated with an NTD should only be recovered from an access seeker if that access seeker specifically requests the inclusion of an NTD. If Telstra chooses to deploy NTDs it should bear the costs of these.

Network modernisation

7.16 Telstra has included a requirement for the Access Seeker to acknowledge that the provision of the service does not limit or restrict Telstra from modernising its network even if this results in changes or truncation of the ULLS service (clause 6.1 and 6.2).

7.17 This requirement is unreasonable because it places an undue burden of risk on the access seeker for network decisions taken by Telstra over which it has no control. The issue of network modernisation is a contentious matter that requires agreed industry processes to ensure that the legitimate interests of both the access provider and the access seeker are adequately protected. This issue should not be brought within the scope of a pricing decision on ULLS.

Specific issues with the PSTN/LCS undertakings

Service description LCS

7.18 As with the ULLS, the service description provided for LCS is not consistent with that set out in the declaration. In particular, Optus notes that Telstra has introduced a number of provisions in clauses 1.1 through to 1.3 of Attachment E that are not included within the ACCC's proposed service description. These additional provisions should be deleted.

Service description for domestic PSTN originating and terminating access

7.19 Optus has a number of concerns with the specific terms and conditions of Telstra's proposed service description for the PSTN originating and terminating access service. Attachment 1 to this submission sets out Optus' full comments on the proposed service description. Set out below are the more material concerns with the proposed service description.

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69 ACCC *Final Report Pricing of unconditioned local loop services (ULLS), March 2002*, page 25.

- Telstra has excluded calls to non-geographic numbers from the scope of the PSTN originating access service description. This is a significant omission as it implies that PSTN originating access charges may not apply for the call origination component of calls to 1800 and 1300 services.

- The proposed service description is overly restrictive in a number of instances. For example, it does not enable interconnection at higher speeds than a 2 M/bit connection. Further, as the service is defined Next Generation Network services may be excluded from the scope of the PSTN OTA service.

7.20 As currently drafted Optus considers that the service descriptions for PSTN originating and terminating access are not reasonable and should be rejected.

The Commission is interested in the industry view on this interpretation of competitive neutrality, or any alternative interpretation.

The Commission invites interested parties to submit imputation tests for any and all services covered by the undertakings, under prices proposed by the undertakings.

7.21 We refer the ACCC to a report prepared by NERA for Optus on competitive neutrality in access pricing.

7.22 Optus has previously submitted imputation test analysis in respect of LCS prices.

The Commission is interested in any international comparison of the full undertaking prices with prices from other jurisdictions without the removal of any contributions to CAN costs.

ATTACHMENT 1

Optus comments on Telstra's service descriptions for PSTN originating and terminating access.

1. Service description for Domestic PSTN originating access (with preselection)

Paragraph 1.1

Additional definitions are required for "Access Seeker", "CCS7", "CLI" & "PSTN"- these are undefined capitalised terms used in this Service Schedule.

The proposed definition for "Switchport" is very restrictive and needs to be expanded to allow for migration to higher speed trunk connections such as T3, DS3, E3 and STM-1.

Paragraph 2.2

The proposed wording of this clause is very restrictive and backward looking since it does not permit carriage of the Next Generation Network (NGN) VoIP calls which may not be made from conventional telephones (eg. may be made from PCs) or from assigned numbers from the geographic number ranges of the Numbering Plan (eg. may be made from IP addresses or ENUM-based Domain Names).

Further, there appears to be an inconsistency in that the service is restricted to the provision of originating access to only those End Customers who are located in the CCA in which a POI is located. However, the CCA is defined (see paragraph 1.1) to mean those defined areas surrounding Telstra's Interconnect Gateway Exchanges from which calls will be collected or handed over to the Access Seeker and the POI is associated but not necessarily co-located with one or more of Telstra's Interconnect Gateway Exchanges (see definition in paragraph 1.1).

Paragraph 2.3

The Proposed access methods under sub-section (c) do not appear to include calls to non-geographic services. This is a significant omission as it implies that the PSTN originating access charges would not necessarily apply for calls to 1800 and 1300 services.

Further, the proposed access methods under sub-section (c) do not appear to include cases where an Access Seeker may be either acting as a Transit Service Deliverer or Contracted Transit Service Deliverer for a third party Access Seeker.

Paragraph 2.5

The intent of this clause is unclear as it appears to be solely aimed at preventing End Customers from using Override Codes for carriage of long distance and IDD calls by other Carriers/Carriage Service Providers, thereby limiting customer's choice and competition. Currently, most Carriers /Carriage Service Providers including Optus only offer call barring option to requesting customers for International calls, National (LD) calls, calls to Mobile numbers and calls to Information Services (0055, 190X)- rather than any Override Codes barring.

Paragraph 2.8

The intent of this clause is unclear since the circumstances in which the End Customer's calls would not reach the relevant POI are not specified. It is unclear if this would be due to Telstra network fault conditions or during scheduled Telstra network outages etc. Furthermore, the reference to connecting the Call to tones as per ACA Technical Standard TS002 is incorrect since TS002 expired on 1 January 2003 and its successor AS/ACIF S002 does not prescribe any service tones but merely provide an informative Appendix (non-binding) only on some possible PSTN Service Tone characteristics.

Paragraph 2.14

The intent of this clause is unclear since it appears to conflict with the general CLI requirement on all carriers and carriage service providers outlined in Part 18 of the Telecommunications Act.

Paragraph 2.16

Refer previous comment on paragraph 1.1, the proposed Telstra Switchports are very restrictive and needs to be expanded to allow for migration to higher speed trunk connections such as T3, DS3, E3 and STM-1.

Paragraph 2.18

The intent of this clause is unclear and it should be deleted since as per Telstra's own wording, Network Conditioning is not a matter dealt with by this Undertaking to ACCC.

Paragraph 3

This paragraph appears to provide Telstra with an undue degree of discretion to determine how and where calls should be handed over and to change those arrangements over time. This level of discretion is not reasonable.

2. Service description for Domestic PSTN terminating access

Paragraph 2.2

Refer comments on PSTN originating access service description (paragraph 2.2).

Paragraph 2.6

Refer comments on PSTN originating access service description (paragraph 2.8).

Paragraph 2.13

Refer comments on PSTN originating access service description (paragraph 2.14).

Paragraph 2.15

Refer comments on PSTN originating access service description (paragraph 2.16).

Paragraph 2.17

The intent of this clause is unclear and it should be deleted since as per Telstra's own wording, Network Conditioning is not a matter dealt with by this Undertaking to ACCC.