TELSTRA CORPORATION LIMITED

Telstra's Ordinary Access Undertaking for the Unconditioned Local Loop Service:

Response to Access Seeker Submissions

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Contents

A Introduction

Telstra welcomes the submissions made by interested parties[1] in response to the Australian Competition & Consumer Commission's ("**ACCC"**) Discussion Paper on Telstra's Ordinary Access Undertaking for the Unconditioned Local Loop Service ("**Telstra's Undertaking**").

Telstra has carefully considered the interested parties' submissions and takes this opportunity to respond and to address those thoughts and concerns in detail.

Optus' submission contains:

- A proposal to base pricing on historic cost (but missing key elements of cost such as joint and common costs and depreciation) , which is inconsistent with the Australian Competition Tribunal ("**ACT**") and the ACCC's own well established pricing principles, its own preferred pricing principles, and the legislative criteria.

- Proposals to mix and match inputs into the Telstra Efficient Access ("**TEA**") model – some based on historic cost some on forward-looking TSLRIC+ modelling – whichever results in a lower cost estimate. For example, Optus proposes the ACCC assume historical sharing assumptions in a forward-looking TSLRIC+ replacement cost model, but only where those inputs would lead to lower capital investment.

- Incorrect assertions that the TEA model network design is inefficient, based on a misunderstanding that Telstra's actual pits and manholes are retained in the model, which they are not.

- False assertions that the TEA model network design should run conduit down both sides of every street and be non-tapered, when such approaches would actually increase costs.

Adam Internet, iiNet/Chime and Agile/Internode's submission contains:

- A proposal to base pricing on marginal O&M costs only, which would have a deleterious impact on any future investment

The detailed responses to these access seekers' submissions, in the following sections of this submission, illustrate that their arguments are based on assertion with little, if any, factually correct evidence. Consequently, Telstra submits that the ACCC should place considerable doubt on the veracity and accuracy of the material they have submitted.

[1] This submission responds to the submission made by Optus and the joint submission made by Adam Internet Pty Ltd, iiNet/Chime Communications Pty Ltd and Agile Pty Ltd/Internode Pty Ltd.

B Optus' proposed historic cost approach to access pricing

Optus (at 2.4 to 2.26) and other parties propose that the ACCC make a significant change to the way in which access prices for ULLS are set. Optus' proposed approach appears to be based on the use of a historic, written-down cost valuation of the CAN, a radical departure from existing TSLRIC+ methodologies. In addition, given that key elements of the proposed approach are not defined, it is difficult to see that the approach proposed by Optus ("**Optus' historic cost approach**") could ever be consistent with the legislative criteria or, indeed, implemented. Further, those parts of their proposal that are defined are at odds with legislative criteria.

Optus describes (at 2.20) the core operation of its proposed alternative as follows.

> *A better approach is to determine a regulatory asset base (a RAB), based upon the written down value of Telstra's existing network assets. To allow Telstra to recover its efficiently incurred costs, it would be sufficient to set an access price based on Telstra's forward-looking cost of service provision, including a reasonable rate of return on the RAB in addition to efficient operating and maintenance costs.*

Hence, under Optus' historic cost approach, access prices would presumably be the sum of:

- Capital costs, including a reasonable rate of return, based upon the written down value of Telstra's historic costs; plus,
- Efficient operating and maintenance costs.

From what can be discerned from Optus' submission, Telstra considers that Optus' historic cost approach is:

- Inconsistent with the ACCC's published pricing principles and ACT decisions which require the use of TSLRIC+;
- Is inconsistent with Optus' preferred pricing principles for declared services provided by Optus;
- Unworkable in practice; and
- Notwithstanding the above, not reasonable under the legislative criteria as an alternative methodology to Telstra's proposed TSLRIC+ approach.

These points are considered in more detail below.

B.1 Optus' historic cost approach is inconsistent with ACCC pricing principles and ACT decisions

The proposal to adopt a historic cost, written-down approach would represent a radical departure from the regulatory approach and pricing principles for telecommunications services established by the ACCC and endorsed by the ACT.

B.1.1 ACCC pricing principles

Telstra's Undertaking is supported by the TEA model, which applies a standardised form of TSLRIC+ pricing consistent with past ACCC decisions. The ACCC has stated on at least 5 occasions its preference that TSLRIC+ pricing principles apply to assessing future prices.[2]

The ACCC's *Access pricing principles – telecommunications: a guide* released in 1997 set out the ACCC's view that:[3]

> *….An access price based on TSLRIC is consistent with the price that would prevail if the access provider faced effective competition, and usually best promotes the interests of end-users.*

This was the overarching reason the ACCC determined that TSLRIC+ would be its preferred approach where sufficient information existed to make it possible to apply.[4] The ACCC determined that TSLRIC+ had a number of significant benefits including:

- Encouraging competition by promoting efficient entry and exit;
- Encouraging economically efficient investment in infrastructure;
- Providing for efficient use of existing infrastructure;
- Providing incentives to minimise the cost of access;
- Allowing efficient access providers to fully recover the costs of producing the service, protecting their legitimate business interests; and,
- Protecting the interests of access seekers.[5]

Since 1997 the ACCC has released a number of more detailed pricing principles to provide guidance on its likely approaches in relation to specific services, as provided for under s.152AQA of the *Trade Practices Act 1974 ("**TPA**")*. In November 2007 the ACCC formally made Unconditioned Local Loop Final Pricing Principles for 2008/09, within the period of Telstra's Undertaking. These principles stated:[6]

> *A TSLRIC+ Pricing principles [sic] should be applied to the ULLS.*

In June 2008 the ACCC moved to release its *Unconditioned Local Loop Service – Pricing Principles and Indicative Prices*, which seek to give effect to the previously determined ACCC pricing principles and, again, endorse the use of the TSLRIC+ approach.

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[2] ACCC (1997), *Access Pricing Principles – Telecommunications: A Guide*, July 1997, chapter 6; ACCC (1992), *Pricing of Unconditioned Local Loop Services: Final Report*, March 2002, section 4.2; ACCC (2003), *Final Determination for Model Price Terms and Conditions of the PSTN, ULLS, and LCS Services*, October 2003, section 5.2; ACCC (2006), *Assessment of Telstra's ULLS Monthly Charge Undertaking: Final Decision*, August 2006, page 39; ACCC (2008), *Unconditioned Local Loop Service Pricing Principles and Indicative Prices*, June 2008, page 7.

[3] ACCC (1997), *Access Pricing Principles – Telecommunications a guide*, July1997, p. 29

[4] ACCC (1997), *Access Pricing Principles – Telecommunications a guide*, July1997, p. 28

[5] ACCC (1997), *Access Pricing Principles – Telecommunications a guide*, July1997, p. 30

[6] Pricing Principles for Unconditioned Local Loop Service, 21 November 2007, in Unconditioned Local Loop Service – Pricing Principles and Indicative Prices, June 2008, Appendix 2

B.1.2 Inconsistency with approved ACCC TSLRIC+ principles

Optus' historic cost approach would effectively apply some form of historic cost, written-down value to Telstra's CAN. Presumably, Optus advocates this approach for the purpose of deriving an artificially lower access charge for itself. It is fundamentally inconsistent with well-established and approved ACCC principles for ULLS for two reasons.

First, in discussing the appropriate pricing principles for ULLS, Optus states (at 2.6):

> *It is well recognised that prices based upon marginal cost (which is below TSLRIC+) are superior in terms of promoting allocative efficiency. A price set below TSLRIC+ would encourage more efficient levels of utilisation of the network, and better promote competition (at least in the short term), compared to a TSLRIC+-based price.*

Optus argues a short run marginal cost approach increases allocative efficiency, so prices should be set below TSLRIC+. In other words, the ACCC should adopt short run marginal costing principles in setting ULLS prices. Optus fail to point out that prices based upon marginal cost are almost universally rejected in economics literature and regulatory practice due to its negative effect on productive and dynamic efficiency objectives.[7] Such prices will not account for the cost of investing in competitive facilities to the detriment of efficient investment and facilities-based competition.

The ACCC has stated in its 1997 pricing principles that:[8]

> *TSLRIC is a long-run cost measure. The time horizon is sufficient so all necessary investments must be replaced. The cost of efficient forward-looking investment in long-lived assets required to produce network services is properly included in TSLRIC even if some or all of the investment will become sunk once in place.*

The ACCC has specifically highlighted that while short run costs may produce prices below TSLRIC+ due to sunk costs, this approach will not encourage efficient investment. Further, the use of longer-run costs will promote allocatively efficient use of infrastructure.[9] This principle is also supported by the ACT in a recent decision in relation to the electricity industry:[10]

> *Many investments are sunk, but if investors were not provided with a return on those investments they would never be made.*
>
> *Not to provide a return on sunk investments just because they are sunk would involve the regulator engaging in ex post opportunism and would not be consistent with the promotion of future efficient investment and the national electricity objective.*

Second, Optus' historic cost approach steps away from the concept of forward-looking efficient costs, proposing the adoption of an amalgam of the lesser of forward

[8] ACCC (1997), *Access Pricing Principles – Telecommunications a guide*, July1997, p.38
[9] ACCC (1997), *Access Pricing Principles – Telecommunications a guide*, July1997, p 30
[10] ElectraNet Pty Limited (No 3) [2008] ACompT 3, 198.

looking or historical costs approaches for various components of the ULLS total cost. It advocates use of Telstra's historical costs, which are based on accounting values when these result in lower overall costs. Optus then (at 2.20) mixes these backward-looking historical costs with forward-looking estimates of efficient operating and maintenance costs. Such an approach represents an idiosyncratic, hybridised form of cost that departs from the core forward-looking assumptions associated with TSLRIC+ and is inconsistent with both the theory and practical application of the TSLRIC+ approach to date.

The ACCC has long emphasised the conflict between accounting style costs and the concept of economic costs that underlie the TSLRIC+ approach. For example, in its 1997 pricing principles, the ACCC noted:[11]

> *…Most often costs are recorded and measured in an accounting framework and do not correspond to the economic costs underlying TSLRIC.* ***Accounting costs are largely a record of previously incurred or embedded costs which do not necessarily represent the forward looking or ongoing costs of providing the service*** *using the most efficient means commercially available.* (Emphasis added)

The ACCC has also observed that:[12]

> *Estimating TSLRIC requires assets to be valued at their* ***economic cost****. There is [sic] a variety of methods of asset valuation (see box next page). Of these methods,* ***replacement cost*** *is the methodology most consistent with TSLRIC.* ***Replacement cost is the present-day cost of replacing the asset with another asset that provides the same service potential.*** **(Emphasis added)**

Both the 2002 and the 2007 Pricing Principles reaffirm the appropriateness of setting prices for the ULLS by reference to TSLRIC+. As outlined above, the ACCC 1997 pricing principles and subsequent ULLS-specific pricing principles make clear, the use of TSLRIC+ promotes, in a balanced way, <u>all</u> the factors in s.152AH which are required to inform the ACCC's view on the reasonableness of proposed terms and conditions of access. As found by the ACCC, the cost that best achieves these objectives is a forward-looking replacement cost or TSLRIC+, not the hybrid embedded cost approach proposed by Optus.

The ACCC reiterated in its final determination in relation to Telstra's December 2005 ULLS undertaking, that prices set in line with TSLRIC+ are the appropriate approach for pricing ULLS, and that "*historic and current cost data is not a proxy for TSLRIC estimates*."[13] On that basis Telstra has accepted and relied upon the ACCC's position in accepting that the cost to be estimated is the TSLRIC+.

B.1.3 ACT treatment of TSLRIC+

Optus' historic cost approach is also inconsistent with the decisions taken by the ACT with respect to TSLRIC+ pricing. The ACT has explicitly dealt with the issue of the

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[11] ACCC (1997), *Access Pricing Principles – Telecommunications a guide*, July1997, p 31
[12] ACCC (1997), *Access Pricing Principles – Telecommunications a guide*, July1997, p.41
[13] ACCC (2006), *Final Determination, Telstra ULLS Undertaking, August 2006, at B.5.2 on p 76*

nature of TSLRIC+ as a forward looking concept and its relationship to historic costs in assessing a previous Telstra undertaking. The ACT [at 380] stated:[14]

> *We do not accept that the historic ULLS costs put forward by Telstra provide a useful basis for assessing the reasonableness of the ULLS costs estimated for the periods covered by the undertakings, or are consistent with a TSLRIC analysis because they are based on the actual costs incurred by Telstra in providing the service and these need not necessarily represent the forward-looking efficient costs of providing the ULLS. The Tribunal has previously stated that TSLRIC is a forward-looking cost concept which is designed to determine how an access provider would build a network today using the most efficient technology available. Historic costs need not bear any resemblance to what Telstra's costs would be if it were to build the network today.*

The ACT in a series of past decisions has accepted TSLRIC+ as a sound basis for both access undertakings submitted by service providers and assessments of proposed undertakings by the ACCC. [15] The ACT concluded that determining the replacement cost of the network provides the proper signal for competitors who are deciding whether to buy or build new facilities. Written down historic cost provides no such signal.

B.2 Is inconsistent with Optus' preferred pricing principles for declared services provided by Optus

[redacted]

B.3 Deficiencies in the Optus approach mean it is unworkable in practice

Optus describes (at 2.20) the core operation of its historic cost approach to access pricing as follows.

> *A better approach is to determine a regulatory asset base (a RAB), based upon the written down value of Telstra's existing network assets. To allow Telstra to recover its efficiently incurred costs, it would be sufficient to set an access price based on Telstra's forward looking cost of service provision, including a reasonable rate of return on the RAB in addition to efficient operating and maintenance costs.*

For the reasons set out below, Optus' proposed approach is deficient and its application is likely to be unworkable.

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[14] Australian Competition Tribunal *Telstra Ltd (*No.3) ACompT 3 [para 380]

[15] See *Re Telstra Corporation Limited* [2006] ACompT 4, 2 June 2006 [para 142], *Re Telstra Corporation Limited (No.3)* [2007] ACompT 3, 17 May 2007 [para 365,366, and 380] and see also for the ACCC's similar views: ACCC *Assessment of Telstra's PSTN and LCS Undertaking, Final Decision*, 29 November 2006, p.45, ACCC *Assessment of Telstra's ULLS monthly charge undertaking - Final Decision*, August 2006, p.39, ACCC *A final report on the assessment of Telstra's undertaking for the Line Sharing Service*, August 2004, p.30, ACCC *A report on the assessment of Telstra's undertaking for the Domestic PSTN Originating and Terminating Access Service*, July 2000, p.35, ACCC *Assessment of Telstra's undertaking for Domestic PSTN Originating and Terminating Access Service – Final Decision*, June 1999, p.32

First, the proposed approach described by Optus is functionally incomplete, and not fit for the purpose of providing a robust set of prices consistent with the legislative criteria or general regulatory practice. Optus' historic cost approach excludes key components of costs that would be necessary for the financial survival of any firm. In particular, even if it is assumed that Optus' approach includes depreciation and taxes (a point that is not clear from the language in their proposal),there is no allowance for any ongoing contributions to indirect capital and operations costs (i.e. accounting, information technology, human resources, etc.). Without these elements the proposed approach essentially represents an incomplete amalgam of elements of the accepted TSLRIC+ methodology.

Second, Telstra's accounts are not geographically de-averaged. Therefore, it would be impossible to determine a ULLS price for band 2, for example, using Optus' historic cost approach. One could only determine a geographically averaged price, which the ACCC vehemently opposed in Telstra's last ULLS undertaking.

Third, Optus' historic cost approach makes reference to the inclusion of 'actual expenditures' in a future regulatory asset base, whilst elsewhere it is evident some form of *ex ante* cost optimisation is envisaged.[16] Thus, the approach lacks either the theoretic consistency of the forward looking TSLRIC+ approach or the full specification of a complete historic cost approach. Rather, as a flawed hybridised combination of historic cost and TSLRIC+, the approach seems to uniquely capture disadvantages of each.

B.4 Consideration of the reasonableness criteria

This section discusses both Optus' historic cost approach and the TSLRIC+ approach in Telstra's Undertaking in terms of the legislative 'reasonableness' criteria set out in Section 152AH of the TPA.

B.4.1 Application of the legislative criteria and 'reasonableness' test

The ACCC's task in assessing Telstra's Undertaking is to determine whether the standard TSLRIC+ pricing approach adopted in Telstra's Undertaking meets the criteria in ss152 BV (2) and 152AH of the TPA. The relevant provisions do not support an assessment of whether an alternative preferred by an access seeker or the ACCC is 'more' preferable or 'more' reasonable. The relevant task is rather described by the ACT as follows:[17]

> *... In considering whether Telstra's estimates of its costs are reasonable we are not driven to considering whether the Commission's or other parties' views or assessment of those costs are more reasonable. Nor do we enquire whether Telstra's method or approach in estimating its costs is the correct or appropriate approach. If Telstra's method or approach in estimating its costs is reasonable having regard to the statutory matters set out in ss 152AH and 152AB then the matter rests and a comparison with the $9.00 monthly charge is then to be made: Application by GasNet Australia (Operations) Pty Ltd (2004) ATPR 41-978 at [29]. Put shortly, our inquiry is whether the method employed by Telstra at each level of*

[16] Optus *Public Submission to ACCC on Telstra's Access Undertaking for the Unconditioned Local Loop Service – Discussion Paper*, August 2008, para 2.23 p. 8-9

[17] Telstra Corporation [2006] ACompT 4 at [63] cited in *Telstra No. 3* [para 89]

determining the costs of its LSS is reasonable having regard to the statutory matters identified in s 152AH and the objectives set out in s 152AB.

Consequently, the discussion around Optus' historic cost approach has no bearing on the assessment as to whether TSLRIC+ is a reasonable pricing principle for the purposes of Telstra's Undertaking.

B.4.2 Unreasonableness of Optus' historic cost approach

Notwithstanding the discussion above, examination of the relevant decision criteria in s.152BV of the TPA shows that Telstra's Undertaking clearly meets the 'reasonableness' test and, further, that Optus' historic cost approach does not.

Promotion of competition (s.152AB (2) (c))

Optus' historic cost approach would have a serious impact on competition. Providing for efficient 'build or buy' decisions is a factor recognised as important in assessing whether competition is promoted. Optus' historic cost approach would significantly distort 'build or buy' decisions by undermining the viability of both existing and potential new competing infrastructure.

Optus' historic cost approach, which it justifies in part using short-run marginal costing principles, does not allow for the recovery of the full range of long-run costs associated with the ongoing provision of the network infrastructure. It would offer no prospect of the recovery of many sunk costs associated with building facilities. Similarly, the absence of any allowance for recovery of the full cost of new construction, rather than recovery of historic, written down costs would inevitably bias 'build or buy' decisions towards the 'buy' option. This would undermine the development of longer-term competitive pressure from competing facilities (in terms of lower prices and the availability of alternative products), and undermining any incentive to invest in the existing or a new CAN. Such an approach would, therefore, see the end of any potential for facilities based competition, and allow access seekers to "piggy back" on Telstra's sunk investments.

Economically efficient use of and investment in infrastructure (s.152AB (2) (e))

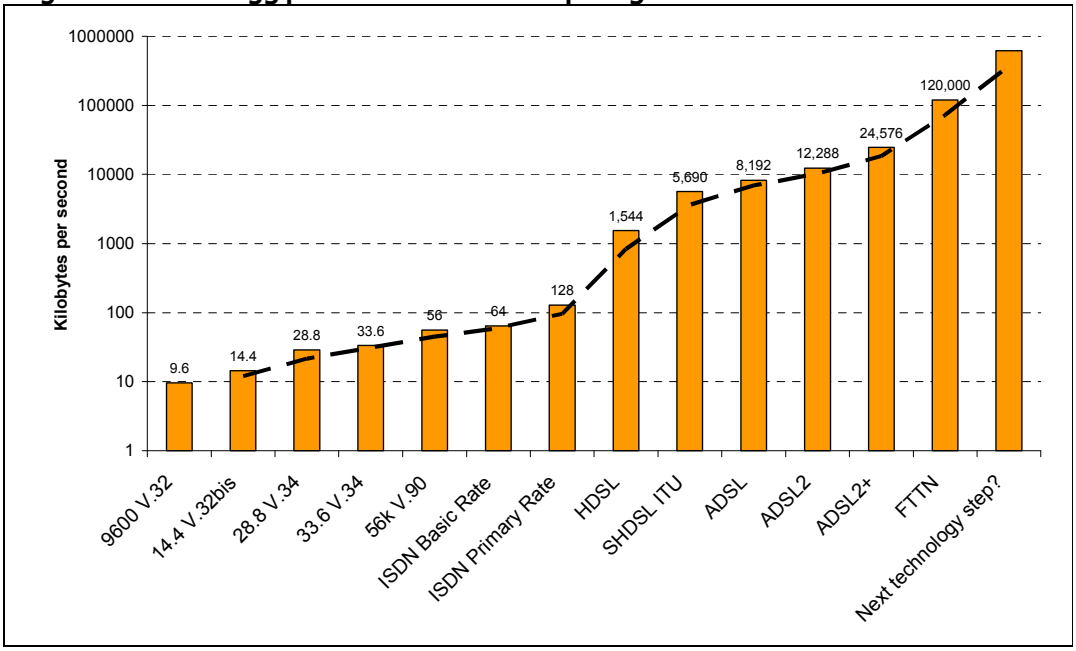
Determining whether Telstra's Undertaking encourages the economically efficient use of and investment in infrastructure requires an assessment to be made of the allocative, productive and dynamic efficiency effects. Telstra's Undertaking adopts the TSLRIC+ methodology consistently accepted by previous ACCC and ACT decisions. This, in common with other infrastructure pricing regimes, involves pricing outcomes that promote a balance of productive, allocative and dynamic efficiency objectives through the adoption of prices that allow recovery of fixed costs.

It is telling that Optus does not seek to argue that its proposed approach can promote efficient investment. Instead, Optus argues (at 2.10 and beyond) that the objective of encouraging efficient investment simply does not apply because the NBN rollout will bring to an end any potential for competing network provision. Optus is, effectively, arguing that NBN produces so fundamental a change in the investment paradigm that regulatory pricing methodologies should also drastically change.

This position is based on an ignorance of demands for future investment. Figure 1 shows the recent trend in demands for data transfer capability over Telstra's CAN. Increasing demands for data transfer capability translates into increasing demands for investment in the capability of Telstra's CAN. The NBN investment is the most

recent example of such demands. There is no reason to believe, as Optus appears to, that we are at the end of the road. Even after the NBN investment has taken place, there are likely to be future demands for Telstra to invest further in its CAN.

Figure 1: Technology path - data transfer capacity



Examination of historical trends in Figure 1 would suggest that Optus' apparent view, that an NBN rollout represents such a historical break that previous regulatory pricing methodologies based on promoting efficient investment should be abandoned, is premature. A more credible alternative interpretation based on trends to date in telecommunications markets would be that the NBN network represents the latest step in an incremental investment path, which may, in fact, be superseded by the next 'technology step', or require significant further investment once deployed to extend its capacity to meet service requirements. Furthermore, NBN will not replace the facilities between the node and the customer premise, the most costly component of the ULLS network (i.e. the distribution network). In fact, NBN will require additional investment in this portion of the access network to ensure that the distance from the node to the customer premises meets the required NBN transmission requirements. The introduction of NBN makes it even more critical that access pricing provides the correct incentives to ensure additional investment in the access network.

Finally, the NBN is a far from certain thing and, even if it does go ahead, it is most likely to do so after the expiry of Telstra's undertaking.

Even if the NBN moots any need for a ULLS declaration, then there is no reason to provide access to ULLS or to price it. Conversely, so long as the ACCC has declared access to ULLS, then it should be priced under the well established ACCC pricing principles.

Similarly, wireless and other non-FTTN based delivery channels will continue to develop in their geographic scope and capability, and bring about increased competitive pressures. Optus' historic cost approach, based in part on short run costing principles with its flow on implications for these other facilities, could in fact

destroy investment incentives and efficient investment in competing infrastructure. Importantly, applying a TSLRIC+ approach does not involve making a technology specific commercial assessment that a particular network technology or layout represents the 'end point' of emerging infrastructure-based competition.

Optus asserts (at 2.12-2.13) that NBN will create a natural monopoly forever so that there is no reason to stimulate competitive investments.[18] This position is inconsistent with previous Optus submissions, and decisions of the ACCC and ACT in the context of the previous rejection of Telstra's 2005 ULLS undertakings proposing averaged ULLS prices. In the context of ACCC decision-making and the subsequent ACT review:

- Optus argued that competitive bypass was a continuing potential in urban areas;
- The ACCC's final decision to reject the previous undertakings was based on the possibility of network bypass and the necessity of promoting efficient build or buy' decisions;[19] and,
- The ACT has endorsed this approach and reasoning.[20]

If the ACCC were to adopt Optus' historic cost approach as advocated by Optus, Telstra notes it would strengthen the case for averaged ULLS prices in the future.

Additionally, Optus' historic cost approach, by its very nature, denies the access provider or potential new entrant any incentive to invest in the network. This is because prices based on historic cost will assure the access provider and potential new entrants of only a return on their investment that is capped at a reasonable rate of return on the significantly written down value of historic assets as opposed to replacement cost. There is no regulatory or legislative mechanism that allows Telstra or any other investor to add ongoing investments to the asset base over time, with certainty. This will provide ample disincentive to efficiently invest in infrastructure.

Legitimate business interests (s.152 AH (1) (b))

Telstra's Undertaking utilises the accepted TSLRIC+ methodology which the ACCC has considered consistent with meeting the legitimate business interests of service providers in past decisions and released pricing principles.[21]

Despite Optus' assertion to the contrary (at 2.17 and 2.24), Optus' historic cost approach would substantially undermine the legitimate business interests of Telstra. Significant cost elements such as depreciation costs and indirect costs are not included in Optus' historic cost approach. This omission would effectively leave Telstra uncompensated for significant real costs associated with the ULLS. Other infrastructure access regimes which are required by the *Competition Principles*

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[18] See Optus *Public Submission to ACCC on Telstra's Access Undertaking for the Unconditioned Local Loop Service – Discussion Paper*, August 2008, para 2.12 p.6

[19] ACCC (2006), *Assessment of Telstra's ULLS monthly charge undertaking – Final Decision*, August 2006, p.89

[20] *Telstra Corporation Ltd (No.3)* [2007] ACompT 3 para 154-164

[21] ACCC (2006), *Assessment of Telstra's PSTN and LCS Undertaking - Final Decision*, 29 November 2006, p.45; ACCC (2006), *Assessment of Telstra's ULLS monthly charge undertaking - Final Decision*, August 2006, p.39; ACCC (2004), *A final report on the assessment of Telstra's undertaking for the Line Sharing Service*, August 2004, p.30; ACCC (2000), *A report on the assessment of Telstra's undertaking for the Domestic PSTN Originating and Terminating Access Service*, July 2000, p.35; ACCC (1999), *Assessment of Telstra's undertaking for Domestic PSTN Originating and Terminating Access Service – Final Decision*, June 1999, p.32

Agreement to protect the legitimate business interests of service providers meet this objective by allowing for a reasonable expectation of recovery of *all* efficient costs of providing regulated services.[22]

Even if these costs are included, there are no regulatory mechanisms in place to allow Telstra to recover new investment costs that Telstra incurs on an ongoing basis. There are also no mechanisms to ensure that those new investments do not become stranded. Without any legislative or regulatory mechanisms in place, Optus' historic cost approach could not protect Telstra's legitimate business interests in practice or provide the proper incentives to make additional investments in the network.

Telstra's legitimate business interests would also be harmed by the likely dynamic efficiency impacts of Optus' historic cost approach. Optus' historic cost approach to pricing could be expected to have an immediate 'chilling' impact on the evolution and deployment of innovative alternatives to the CAN (for example, Telstra's mobile broadband investments which Telstra and other carriers, including Optus, have invested heavily in[23]). The pricing approach proposed by Optus for ULLS would lower potential returns arising from investments in other substitutable alternative technologies. In the future, this loss in technological innovation could be expected to impair Australia's and Telstra's capacity to deliver a range of services using new technologies or infrastructure.

Interests of users of a declared service (s.152 AH (1) (c))

Telstra's Undertaking adopts the accepted TSLRIC+ methodology. As previously noted, this methodology has been determined by both the ACCC and ACT as normally promoting outcomes consistent with the interests of end users.[24] The ACT has specifically identified that the interests of users will be served by access prices that allow them to compete on their merits, on the basis of their efficiency, in downstream markets.[25]

Many of the issues outlined above regarding the incompleteness, lack of workability and perverse consequences of the 'written down' approach point to the fact that Optus' historic cost approach is unlikely to be reasonable having regard to the interests of users of the ULLS.

B.5 Weighting of decision-making criteria

An important element in effectively applying a regulatory framework in an access pricing context is the capacity to reasonably balance multiple statutory criteria each of which might have conflicting implications for what will constitute a correct regulatory decision in particular circumstances.

Telstra's Undertaking meets each of the legislative criteria that guide the ACCC and the ACT decisions. By contrast, the alternative 'written down' approach outlined by Optus is based on a position that a range of statutory criteria no longer have

[22] See for example, *National Electricity Law*, s.7A cf. *Trade Practices Act 1974*, s.44ZZCA
[23] See, for example, Telstra, Optus and Vodafone annual reports which illustrate recent investments in mobile (3G) voice/broadband networks.
[24] ACCC (1997), *Access Pricing Principles – Telecommunications a guide*, July1997 p.29
[25] *Telstra Corporation Limited* [2006] ACompT 4, para 138

relevance to the ACCC's decision-making framework, due to an access seeker's claims around fundamentally changed circumstances arising from a planned NBN rollout.[26]

Such an approach would open a regulatory decision-making process to fundamental error. It would essentially require the ACCC to attach no weight to existing statutory matters drawn specifically to the ACCC's attention through a number of provisions of Part XIC, and place undue weight on a narrower subset of decision criteria which are argued by Optus to support an incompletely specified regime of hybrid 'lesser of' historical/forward looking cost pricing.

Rather, Telstra considers that the ACCC must give fundamental weight to each element and criteria in a balanced way which does not rely upon the adoption of an untested assessment of the nature of the potential future NBN rollout, or the future viability of emerging infrastructure-based competition.

C The Joint Respondents' proposed approaches to access pricing

The Joint Respondents propose several approaches to pricing ULLS, alternative to TSLRIC+.

First, the Joint Respondents claim (at page 8):

> *...we submit that considerations related to the hypothetical cost to an access seeker of building its own network are not relevant to section 152AH(1)(d) of the TPA because as a matter of causation, Telstra providing the ULLS to access seekers did not result in Telstra building a network. In other words, if the ULLS had never been declared, Telstra's network would still exist and Telstra would still incur costs in providing other services over the network. Therefore, applying basic principles of causation, the cost of building a network cannot be a relevant consideration to ascertaining the direct cost to Telstra of providing the ULLS.* ***We therefore submit that the network cost component of the TSLRIC+ should be made up of operations & maintenance costs only****.* (Emphasis added)

The Joint Respondents appear to argue that the correct pricing principle should be based on some principle of causation (in reality, short run marginal cost) rather than the legislative criteria. TSLRIC+ determines replacement cost for the whole network, not just the short run costs caused by one set of users.

In fact, there is no one user or group of users that 'cause' Telstra's CAN costs to be incurred. Instead, as with many such networks, there is a large fixed cost component to Telstra's CAN that must be shared over all users to ensure (a) that fixed and variable costs are recovered and (b) one party is not contributing substantially more than others. The TEA model achieves both these objective by dividing total costs by total lines so that all parties (the customers of Telstra and access seekers) make the same per-customer contribution to fixed and variable costs in band 2 areas. That some (but not all[27]) parts of Telstra's CAN existed prior to the declaration of ULLS does

[26] See Optus *Public Submission to ACCC on Telstra's Access Undertaking for the Unconditioned Local Loop Service – Discussion Paper*, August 2008, paragraph 2.11-2.13, p.6-7

[27] Telstra continuously makes substantial capital investments in its CAN. See Telstra's Annual Reports, which set out Telstra's investing activities in the CAN each year.

not mean that any party that requests service after declaration should receive service at only the marginal cost. This logic would mean that the first people to purchase a CAN service should pay all the fixed costs of the CAN and people who purchase CAN services thereafter should pay only marginal costs. Such a principle, if applied to the beginning of Telstra's investments in the CAN, would clearly result in inefficient and inequitable pricing.

The Joint Respondents' proposal that the price of Telstra's CAN be made up of solely operations and maintenance costs is simply not TSLRIC+ and thus would not be in the long term interests of end-users. Such pricing would:

- Not promote competition as access seekers would face no incentive to build infrastructure where it is more efficient for them to do so and new entrants seeking to compete at the infrastructure level would be prevented from doing so as they would be unable to recover any contribution to capital costs;

- Discourage any investment in CAN infrastructure as prices would not allow any recovery of capital costs;

- Discourage efficient use of infrastructure since, over the long run, prices would not reflect the resource costs of using the infrastructure over which ULLS is supplied;

- Result in the inefficient operation of infrastructure, as Telstra would face no incentive to invest in capital that reaches the end of its useful life; and,

- Affect Telstra's ability to ensure the safe and reliable operation of the network as Telstra would not be able to recover the cost of maintaining the capital required for this objective to be met.

The Joint Respondents argue (at pages 8-9):

> *In previous years, the Commission has stated that a replacement cost model (RCM) is the most consistent methodology to satisfy TSLRIC.*[28] *However this asset valuation model is no longer relevant in the face of the Federal Government's National Broadband Network (NBN) tender. For many years fibre-to-the-node (FTTN) has loomed large on the horizon, and it is now an imminent reality, with the redundancy of the CAN (and the ULLS in its current form) a consequence. In light of this, Telstra's TEA model cannot be realistically described as 'forward-looking', because it is based upon the obsolete copper network. In these circumstances, a RCM is no longer an appropriate cost model because no access provider, hypothetical or otherwise, would replace the CAN with another CAN because even the best (least-cost) option under current technology will soon be trumped by the superior (most-cost) NBN.*

The NBN, if it goes ahead, when it goes ahead, is not going to make the CAN redundant. The NBN, at least FTTN, would involve replacing the copper main cable in

[28] ACCC (1997), *Access Pricing Principles - Telecommunications a guide* (July 1997) p.44

Telstra's network (the costs of which comprise approximately 10% of the total cost in the TEA model) with fibre cables and connecting these to the copper distribution cables. Aside from some likely remedial work, Telstra's investment in the distribution cable trenching and conduit and main trenching and conduit will remain intact and useful after a successful proponent for the NBN project has built a network, if such a successful proponent arises.

Even after the NBN is built, if it is built, new entrants will continue to make additional investments in competitive CAN infrastructure. Such competitive investments will be vital, the same as they are today, to ensure the maximum benefits of competition are realised, delivering new technologies and services and lower prices to consumers. Consequently, more than ever, pricing should be based on the forward-looking costs of building infrastructure.

The Joint Respondents also propose setting ULLS prices on the basis of Optimal Deprival Value (ODV) (at page 9):

> *We submit that until such time as the Commission has settled upon its own fixed network cost model, it must reject Telstra's TEA model. This model, like the PIE II model, is based upon an outdated mode of valuing Telstra's assets, namely the CAN, and the Commission now needs to look to other methods of asset valuation, such as the optimised deprival value (ODV) method. In essence, it estimates the cost to the asset owner if deprived of the asset, equalling the replacement cost, except where the asset would not be replaced.*

It is likely that ODV would yield the same result as the TEA model. The TEA model measures the replacement cost of supplying all active lines. Under the Joint Respondent's definition of ODV, the only time a difference between the TEA model and ODV would occur is when particular assets would not be replaced by Telstra if deprived of them. However, it is likely that Telstra would replace all the assets in the TEA model to provide ULLS if deprived of them so that Telstra is still able to supply all active lines.

D Consistency with the Standard Access Obligations

In its Discussion Paper, the ACCC raised the following three questions regarding the consistency of the non-price terms and conditions with the SAOs:

- Is Telstra's ULLS description more limited than the ULLS Declaration to the extent that it would affect the ability of Telstra to meet its SAOs?
- Is the description of the POI and Network Boundary in the Undertaking consistent with the interconnection SAO?
- Should the Undertaking include additional terms and conditions on particular matters (e.g. in relation to supply, quality, fault handling and billing information)?

Telstra's response to the matters raised in the access seeker submissions regarding the above three questions is as follows.

D.1 Is Telstra's ULLS description more limited than the ULLS Declaration to the extent that it would affect the ability of Telstra to meet its SAOs?

The access seeker submissions raise the following matters, none of which establish that the ULLS description in Telstra's Undertaking ("**Telstra's Service Description**") falls outside the scope of the ULLS Declaration or affects Telstra's ability to meet its SAOs.

First, Optus correctly identifies that Telstra's Service Description is marginally different to the service description in the ACCC's declaration. Optus refers to table A.1 in its submission comparing Telstra's Undertaking and the ACCC's declaration.

Previous ACCC and ACT decisions are relevant to this issue. The ACCC, in it's 2006 decision regarding Telstra's December 2005 ULLS undertaking ("**2006 ULLS Decision**"), concluded that to the extent that there were differences between the Telstra Service (described in the 2005 ULLS undertaking) and the declared service, the undertaking only applied to the Telstra Service.[29] In that decision, the ACCC concluded that the undertakings were consistent with Telstra's SAOs[30] and this was endorsed by the ACT on appeal.[31] There is no reason why the ACCC would not reach the same conclusion in the current context relating to Telstra's Undertaking.

Second, Optus incorrectly claims (at 3.14) that:

> *Optus submits that Telstra's ULLS description is potentially more limited than the ULLS Declaration to the extent that it would affect the ability of Telstra to meet its SAOs.*

Optus' concern that Telstra will not meet its SAOs appears to arise from Optus misquoting and misinterpreting an ACCC decision. Optus quotes (at 3.11) the ACCC as stating:

> *…the terms and conditions contained in the undertaking could be interpreted to apply only to the services supplied by Telstra (the Telstra Services) not to the relevant (corresponding declared service) if there are differences in definition or specification –Telstra would not be required to supply a form of the declared service that differs from its service…*

However, on reading the relevant decision, it is clear that the ACCC did not say, as claimed by Optus, that "*Telstra would not be required to supply a form of the declared service that differs from its service*". Rather, the ACCC said that Telstra "*would not be required to supply, **on the terms in the Undertakings**, a form of the declared service that was different to or beyond the scope of a Telstra Service*"[32] [emphasis added]. The ACCC went on to note that:[33]

> *If an access seeker was to seek access to a form of a declared service other than as specified in the Undertakings, then the ACCC believes it would be open to the access*

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[29] ACCC (2006), *Assessment of Telstra's ULLS monthly charge undertaking Final Decision (public version)*, August 2006, p 29
[30] ACCC (2006), *Assessment of Telstra's ULLS monthly charge undertaking Final Decision (public version)*, August 2006, p 32
[31] *Telstra Corporation Ltd (No 3)* [2007] AcompT 3, p 17
[32] ACCC (2006), *Assessment of Telstra's ULLS monthly charge undertaking Final Decision (public version)*, August 2006, p 29
[33] ACCC (2006), *Assessment of Telstra's ULLS monthly charge undertaking Final Decision (public version)*, August 2006, p 30

seeker to negotiate access to the different form of the declared service from Telstra. If Telstra and the access seeker could not agree on terms and conditions of access to such a form of the declared service, the access seeker could ask for the ACCC to arbitrate.

Third, in their joint submission ("**Joint Submission**")[34] Adam Internet, IInet, Chime, Agile and Internode suggest that the Telstra Service Description is *broader* than the service description in the ULLS Declaration and that this may impact on Telstra's ability to meet its SAOs.[35] This argument is based on an incorrect assumption that the Telstra Service Description does not define the POI by reference to a point "*located on the end user side of the customer access module*". However, the Telstra Service Description includes the following definition of the POI:[36]

> ***ULLS POI*** *means, in relation to a line, a point that is an agreed point of interconnection located at or associated with a TCAM and located on the End User side of the TCAM* [emphasis existed].

Accordingly, there is no need for Telstra to address the merits of the argument raised in the Joint Submission regarding the Telstra Service Description as the entire argument rests on an incorrect assumption. The fact that Telstra makes no comment on the issues raised in the Joint Submission regarding the service description should not in any way be taken as Telstra's acceptance of those matters. They are simply irrelevant.

The discussion above shows that Telstra's Service Description is different in some respects to the ULLS Declaration, but Telstra's Service Description falls within the scope of the ULLS Declaration and does not affect Telstra's ability to meet its SAOs

D.2 Is the description of the POI and Network Boundary in the Undertaking consistent with the interconnection SAO?

Optus makes the following claims in response to the ACCC's question.

D.2.1 Description of the POI

Optus refers to the ACCC's comments in the 2006 ULLS Decision where the ACCC said:[37]

> *It is unclear to the ACCC why the POI would be defined by relation to a TCAM, when the use of a ULLS should mean that there is no Telstra equipment involved in the provision of services to the end-user. It would be expected that the access seeker would provide the customer access module if it was acquiring an ULLS.*

It is correct that, when supplying services over the ULLS, the access seeker will not use a Telstra Customer Access Module. However, it is not necessary for the Telstra Service Description to define the ULLS by reference to the equipment which the access seeker

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[34] Adam Internet Pty Ltd, IINet Limited/Chime Communications Pty Ltd and Agile Pty Ltd / Internode Pty Ltd, *Telstra's Access Undertaking for the Unconditioned Local Loop Service - Response to ACCC Discussion Paper Dated June 2008*.
[35] Joint Submission, p 2.
[36] *Telstra Ordinary Undertaking to the Australian Competition and Consumer Commission Under Division 5 of Part XIC of the Trade Practices Act 1974 (CTH)*, 3 March 2008
[37] ACCC (2006), *Assessment of Telstra's ULLS monthly charge undertaking Final Decision (public version)*, August 2006, p 31

will use when supplying services over the ULLS. The Declaration refers to "*a potential point of interconnection located at or associated with a customer access module*". The Telstra Service Description is consistent with the Declaration in that it refers to a ULLS point of interconnection associated "*with the TCAM*". The TCAM is a 'customer access module' owned by Telstra. Telstra notes that the same language has been adopted in previous ULLS undertakings and in its commercial contracts with access seekers.

Further, Telstra notes that in the 2006 ULLS Decision the ACCC concluded that the 2005 ULLS undertakings were consistent with the interconnection SAO and this was endorsed on appeal by the ACT.[38]

Optus goes on to say (at 3.33) that when the potential NBN is built, Telstra may not be the ultimate owner of the NBN (and therefore may not own the CAM) and, therefore, "*the term contained in the undertaking would be inconsistent with the SAOs as Telstra will not be obliged to provide ULLS to access seekers*". Speculation as to what may or may not happen if an NBN is built is irrelevant to an assessment of whether or not Telstra's Undertaking is consistent with the SAOs.

Optus also notes that Telstra's description of the POI in Telstra's Undertaking refers to an 'agreed' point of interconnection rather than a 'potential' point of interconnection. Optus claims (at 3.35) that this means that:

> *If Telstra and its access seeker cannot agreed [sic] upon a point of interconnection, Telstra would not be then obliged to provide ULLS to its access seekers.*

If agreement between Telstra and an access seeker could not be reached on a point of interconnection in relation to the declared service, an access dispute could be raised by the access seeker in respect of the declared ULLS service.

Telstra also notes that Telstra's Undertaking is limited to a ULLS connected at an Exchange Building so not all of the 'potential' points of interconnection identified by Optus in its diagram (at Figure 3.1) are relevant (for Telstra's Undertaking terms to apply the point of interconnection must be at the Exchange Building).

Finally, Optus notes (at 3.36) that if Telstra "*chose to move the agreed ULLS POI to a downstream location such as a fibre node*", Telstra could continue to charge access seekers "*the access cost associated with the Telstra Exchange-based ULLS service*". This is incorrect. If the POI was ultimately moved to a location that meant that the ULLS was not connected at an Exchange Building then Telstra's Undertaking price would not apply. The access seeker would need to negotiate an alternative price with Telstra or, if agreement can not be reached, the access seeker could lodge an access dispute regarding the ULLS price to apply at the alternative POI.

As highlighted by the above discussion, Optus has not raised any matter which suggests that the description of the POI in Telstra's Undertaking is not consistent with the interconnection SAO.

D.2.2 Description of the Network Boundary

[38] *Telstra Corporation Ltd (No 3)* [2007] AcompT 3, [50] p 19

Optus states (at 3.38) that Telstra has added "*two additional points*" to its definition of the Network Boundary and that this is not consistent with the definition of the Network Boundary in the *Telecommunications Act*. This is not the case. As Optus recognises, the two additional points Optus refers to reflect definitions of the Network Boundary set out in section 22 of the *Telecommunications Act*. Therefore, Telstra's Service Description falls within the scope of the service description in the ULLS Declaration and does not impact on Telstra's ability to meet its SAOs. Optus does not make any argument as to why Telstra's description of the Network Boundary may be inconsistent with the SAOs.

D.2.3 Alternative terms

Optus proposes that amendments be made to the service description in the ULLS declaration. This is not relevant to the question of whether or not Telstra's Undertaking is consistent with the SAOs. Therefore, in this submission, Telstra has not addressed the comments made by Optus on this issue. The absence of comment by Telstra should not be taken to be acceptance of the matters raised by Optus.

D.2.4 Telstra Exchange Building Access

Optus makes several submissions (at 3.44 to 3.46) in relation to the Telstra Exchange Building Access (TEBA) service. Telstra notes that the TEBA service is a different service to the ULLS service and Telstra's Undertaking does not include any price or non-price terms and conditions in relation to TEBA. Therefore, whether or not and how Telstra provides TEBA to Optus is irrelevant to the consideration of Telstra's Undertaking.

D.3 Should the Undertaking include additional terms and conditions on particular matters?

The discussion below first sets out the ACCC's approach to assessing consistency of Telstra's Undertaking with the SAOs and, second, demonstrates why Optus' submission and the Joint Submission regarding the absence of particular terms and conditions in Telstra's Undertaking do not establish that Telstra's Undertaking is inconsistent with the SAOs.

D.3.1 The ACCC's approach to assessing whether an undertaking is consistent with the SAOs

The ACCC's approach to determining whether or not terms and conditions are consistent with the SAOs is as follows[39]:

- if the terms and conditions are not inconsistent with the obligations, the ACCC is likely to regard them as consistent; and
- terms and conditions are inconsistent with the SAOs if an access provider *in giving effect to those* terms and conditions would not satisfy each of the applicable obligations.

In the Discussion Paper, the ACCC further comments that the:[40]

[39] Discussion Paper, p 20

…purpose of this assessment is to ensure that an access provider would be able to comply with the SAOs should the undertaking be accepted.

In order to establish inconsistency under the ACCC's approach it is necessary to show that the act of giving effect to *the terms and conditions in the Undertaking* prevents Telstra from satisfying its SAOs. What is required is a consideration of whether or not the terms and conditions in Telstra's Undertaking can coexist with the SAOs, that is, to ensure:[41]

…that the carrier … is not subject to inconsistent obligations if the undertaking is accepted.

The ACT has approached the requirement of consistency with the SAOs in a similar manner. In its decision on Telstra's 2005 ULLS undertaking the ACT was concerned with whether or not the provisions of the undertaking "*inhibited*" or "*prevented*" Telstra from meeting its SAOs.[42] The ACT has noted that s152BV(2)(b):[43]

…requires us to compare the terms of the undertaking with the SAOs and determine whether there are any inconsistencies between them … [i]f the terms of the undertakings are consistent with the SAOs then our enquiry under s 152BV(2)(b) is at an end.

D.3.2 Optus' submissions regarding the absence of particular terms and conditions do not establish that the Undertaking is inconsistent with the SAOs

Optus argues that the absence of certain terms and conditions in Telstra's Undertaking means that it is not consistent with the SAOs. Optus' argument is based on:

(1) various allegations that, in practice, Telstra does not provide access seekers with equivalence in relation to supply, quality and fault handling of ULLS, does not provide certain billing information in accordance with Optus' preferred timing and does not provide access seekers with a level of access to Telstra exchange buildings equivalent to the level of access that it provides to itself; and

(2) a claim that the absence of terms and conditions in the Undertaking which guarantee access seeker equivalence in relation to the above matters means that, in giving effect to the terms and conditions in the Undertaking, Telstra would not be able to satisfy its equivalence obligations.

The following sets out why no additional terms and conditions are necessary in order for Telstra's Undertaking to be consistent with the SAOs.

First, as is clear from the above discussion regarding the ACCC's approach to assessing consistency of an undertaking with applicable SAOs, Optus' allegations regarding

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[40] Discussion Paper, p 20
[41] ACCC (2006), *Assessment of Telstra's ULLS monthly charge undertaking Final Decision (public version)*, August 2006, p 28
[42] *Telstra Corporation Ltd (No 3)* [2007] AcompT 3, [50] p 19
[43] *Telstra Corporation Ltd (No 3)* [2007] AcompT 3, [52] p 20

Telstra's compliance with the SAOs in practice are irrelevant to an assessment of whether or not Telstra's Undertaking is consistent with applicable SAOs. As such, Telstra has not addressed in this submission the reasons why Optus' allegations are unfounded. The fact that Telstra has not addressed the allegations raised by Optus should not, in any way, be taken as Telstra's acceptance of the veracity of those matters.

Second, Optus has asserted that Telstra would not be able to meet its SAOs by giving effect to the terms and conditions in Telstra's Undertaking but has not identified any aspect of the operation of the terms and conditions in Telstra's Undertaking that is inconsistent with or would otherwise impact on Telstra's ability to satisfy the SAOs. As such, Optus has not raised any matter which would satisfy the ACCC's test for inconsistency.

Third, as is clear from the above discussion regarding the ACCC's approach to assessing consistency with the SAOs, the absence of terms and conditions in Telstra's Undertaking which guarantee that Telstra will meet its SAOs is irrelevant to an assessment of consistency of Telstra's Undertaking with the SAOs. As Telstra set out in its response to the Discussion Paper, it is not necessary that the Undertaking include all terms and conditions that could relate to the applicable SAOs. Telstra's Undertaking specifically states that the terms and conditions principally relate to matters of pricing and does not specify all the terms and conditions on which Telstra will comply with the applicable SAOs.[44] The fact that an undertaking is not exhaustive is contemplated by Part XIC and has been accepted by the ACCC. This is discussed further below.

If an access seeker has concerns with the manner in which Telstra meets its SAOs in practice, in respect of the declared ULLS, then it is open to the access seeker to lodge an access dispute. Indeed, Optus has pursed this avenue on previous occasions, including one recent access dispute where Optus raised the same claims regarding provisioning time frames as it has raised in its response to the Discussion Paper.[45] In that dispute, the ACCC rejected Optus' claims. The ACCC acknowledged that Telstra's provisioning time frames reflect the time frames in the relevant ACIF Code and were also adopted by the ACCC in its Model Non-price Terms and Conditions Determination.[46] Further, the ACCC concluded that it would not, despite a request by Optus, set lower activation time frames. The ACCC also expressly noted that it appeared Optus was not taking steps available to it to reduce the time taken for connections and that the additional time "*does not typically represent a period without any phone or broadband service*" and "*in many cases … will simply mean a slight delay in switching providers*".[47] In the same access dispute, the ACCC also addressed Optus' claim for a clause regarding non-discrimination. The ACCC concluded that "*adequate protection with regard to non-discrimination already exists under legislation and accordingly …will not set any additional terms*".[48]

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[44] See Telstra Ordinary Access Undertaking to the ACCC, dated 3 March 2008, paragraph3.2

[45] Optus Submission, p 13; and ACCC, *Unconditioned Local Loop Service Access Dispute Between Telstra Corporation Limited and Optus Networks Pty Limited, Statement of Reasons for Final Determination*, March 2008, p 327 - 329.

[46] ACCC (2008), *Unconditioned Local Loop Service Access Dispute Between Telstra Corporation Limited and Optus Networks Pty Limited, Statement of Reasons for Final Determination*, March 2008, p 333.

[47] ACCC (2008), *Unconditioned Local Loop Service Access Dispute Between Telstra Corporation Limited and Optus Networks Pty Limited, Statement of Reasons for Final Determination*, March 2008, p331.

[48] ACCC (2008), *Unconditioned Local Loop Service Access Dispute Between Telstra Corporation Limited and Optus Networks Pty Limited, Statement of Reasons for Final Determination*, March 2008, p 355.

Furthermore, the parties in the Joint Submission claim (at page 5) that Telstra does not meet its interconnection SAO and that:

> *…any reasonable undertaking by Telstra should include terms which clearly specify that it will meet its SAO to allow interconnection of facilities…"*

The parties to the Joint Submission do not identify why, in giving effect to the terms and conditions in Telstra's Undertaking, Telstra would be prevented from satisfying the applicable SAOs. As such, the claims do not meet the ACCC's test for inconsistency. Again, Telstra notes that it is not necessary for the Undertaking to be exhaustive. In relation to the parties' claims regarding interconnection and TEBA, the Undertaking specifically states that facilities access is not a matter dealt with by this Undertaking.[49]

As is the case with Optus, given that the allegations by the parties in the Joint Submission regarding what occurs in practice are irrelevant, Telstra has not included in this submission the reasons why these allegations are unfounded. Again, the fact that Telstra has not addressed the allegations raised by the parties in the Joint Submission should not, in any way, be taken as Telstra's acceptance of the veracity of those matters.

E Ability to properly assess the TEA model

Optus submits (at 4.12) that:

> *…Telstra's confidentiality arrangements regarding* [sic] *have been onerous and confusing;*
>
> *Optus has not had reasonable access to the TEA model and related information;*
>
> *Telstra has not made the TEA model and related information available to Optus in a manner which allows full, timely analysis and comment;*
>
> *The degree of scrutiny of the model by access seekers and other parties (and thus their ability to properly assess the TEA model) has been limited by the terms of Telstra's confidentiality arrangements; and*
>
> *A number of basic errors have been identified in the model by the ACCC, and the model has had to be updated several times to address these.*

Optus concludes that, as a result of the above matters, the ACCC must reduce the degree of weight placed upon the TEA model and submits that the ACCC should have no regard to the TEA model.[50]

For the reasons set out below, Telstra considers that Optus' submissions in this regard are simply wrong.

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[49] See Telstra Ordinary Access Undertaking to the ACCC, dated 3 March 2008, Attachment, Part B, clause 3 'Facilities Access'.
[50] Optus Public Submission to Australian Competition and Consumer Commission on Telstra's Access Undertaking for the Unconditioned Local Loop Service: Response to Discussion Paper, August 2008, paragraph 4.13

E.1 Transparency of operation

Optus' submissions set out under this heading (at 4.14 to 4.15) are simply historical references to the PIE II model, not the TEA model. Therefore, they are, in the context of the present Undertaking, simply irrelevant.

It is fact that:

- The TEA model is a world leading, fully transparent, flexible, and comprehensively documented forward-looking cost model;[51]
- Commencing in February 2008, Telstra conducted access seeker briefings on the TEA model;
- From 25 February 2008, Telstra provided timely approval for access seeker employees and external advisors to access to the TEA model and provided Telstra's preferred form of TEA model confidentiality undertaking to access seekers;
- From 26 February 2008, Telstra received executed TEA model confidentiality undertakings from access seekers who were subsequently provided with an appropriate version of the TEA model for their consideration and scrutiny.

Furthermore, a specific clause of Telstra's preferred form of TEA model confidentiality undertaking, clause 12(b), sought access seekers' and their external advisors/consultants' agreement to bring any suggested changes to the TEA model to Telstra's attention in a timely manner so that the changes could be considered and, if appropriate, actioned by Telstra. Telstra has always aimed to promote and facilitate fulsome and meaningful consultation with access seekers and receive any suggested changes to, or issues with, the TEA model. Telstra considers such an approach appropriate and of assistance in ensuring the TEA model can be revised as necessary to enable a proper consideration of the reasonableness of Telstra's Undertaking by the ACCC. Telstra considers such an approach is in the interests of all access seekers and end users.

E.2 Network database

Optus argues that the TEA model does not allow the user to vary the network architecture to test the efficiency of the model design (Para 4.17 to 4.20).

Modelling a customer access network of the size and scope of Telstra's with the degree of precision required for Telstra's Undertaking is an incredibly complex and time consuming task. In order to complete the project within a reasonable amount of time (15-18 months), Telstra selected the most appropriate network architecture and focused its time, energy and analysis on designing an efficient network within that architectural framework. A guiding principle in the design process has been to choose

[51] See Report of Drs Harris and Fitzsimmons generally

the minimum cost option, which met engineering and reliability requirements, at every step in compiling the TEA model.

The network architecture utilised by the TEA model is the architecture employed for customer access networks deployed by telecommunications companies world-wide. The network architecture and design is derived from and adheres to guidelines detailed in the Access Network Dimensioning Rules compiled by the Telstra engineering department and filed with the ACCC in this proceeding. The rules reflect Telstra's current network deployment rules and conform to construction practices widely used throughout the world. Engineering guidelines and necessary assumptions are explained in great detail in extensive documentation and supporting witness statements.

Telstra also submits that the extensive documentation of the provisioning rules, equipment and placement cost, model calculations and the base data provides unprecedented transparency to the inner workings of the TEA model.

The choice of a single network architecture in no way limits the ability to test the efficiency of the resulting network design. The best and most appropriate way to test the efficiency of the modelled network is to compare it to Telstra's actual working network. Telstra has compiled and submitted to the ACCC a comparison of the components, including lengths of conduit routes and copper cable, of the network designed by the model with the components of Telstra's actual existing CAN.[52] This study clearly demonstrates the significant level of efficiency achieved by the TEA model design.

Comparing the forward-looking network to a functioning actual network is the only rational approach to measuring efficiency. Some may argue that Telstra's existing network is not a paragon of efficiency. That is a diversionary tactic and not the relevant question. The question is whether the existing customer access network is a reasonable benchmark from which to measure efficiency. It clearly is; it provides reliable service, meets necessary engineering guidelines and is managed in a competitive market by a profit motivated firm with every incentive to operate efficiently. Further, this network obviously has the capability to reach all the customers. There may be some redundancy in the existing network, since it was built over a long period of time to serve forecasted customer demand, however, it does provide an actual real life basis for evaluating the modelled network design contained in the TEA model.

Optus states (at 4.20):

> *Optus observes that the network design is not a user adjustable input.*

It appears that Optus argues that the appropriate way to test efficiency is to compare the network modelled by TEA, which is based on an actual network, to another 'hypothetical' network based upon a different and unproven network architecture. This approach is clearly sub-optimal. First and foremost, for such a comparison to have any meaning, one must ensure that the hypothetical network with the "alternative" network architecture meets engineering requirements and reliability

[52] Telstra (2008), *Measure of TEA Model Efficiency: ULLS Band 2*, 8 September 2008.

standards and contains enough facilities to actually connect all customers to the network. This is a bigger task than testing the efficiency of the TEA model. In any event, comparison of the TEA model's network design with a real world operational network is a much more valid and realistic test of efficiency than a comparison of one modelled network design to another hypothetically modelled network design.

Furthermore, Optus has the option of developing a hypothetical model of the CAN in band 2 areas to compare it to the TEA model if it believes such an approach has merit. Indeed, Optus could do so on the basis of its own fixed line CAN, which passes 3 million households, mostly in capital cities.[53] Optus could also compare the cost of its own customer access network to the TEA model in the overlapping areas. However, it has done none of these things.

Optus argues (at 4.21):

> *In addition, the network database fixes the demand (line numbers) at the unknown date on which it was created. Optus considers this is unusual for network cost models as normally it is possible to test the operation of TSLRIC+ models under changing demand conditions. Optus submits that such rigidity significantly limits the ability of the users to test the model under different scenarios.*

Two types of demand are used in the TEA model, network dimensioning requirements (i.e. the amount of capacity needed in the network) and services in operation.

In the TEA model, the network is dimensioned to provide universal coverage, ensuring that at least one line is connected to every address in the service territory. Distribution network capacity is premised upon the assumption that there is, at a minimum, the availability of 1 working pair per address (for some businesses multiple lines are required). Fill factors are used to ensure the network is capable of responding to changes in demand resulting from customer migration, desire for new services or technologies and other factors that can result in variability in demand. The design demand for the distribution network can be changed by altering the fill factor.

The number of services in operation is the measure of current demand on the network. This demand is used to dimension the Main Network and calculate the average unit costs from the total investment costs. Although current demand is not a direct input into the TEA model it can be revised by replacing the actual demand in the TEA model with an alternative value. The model uses services in operation (current demand) for every pillar in the network to dimension the main network. Changing the level of demand at the pillar level would necessitate an examination of the amount of capacity provisioned on the distribution side of each pillar to make sure that the distribution network was capable of supporting the revised level of demand.

Optus states (at 4.22):

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[53] Telstra (2007), *Telstra's Local Carriage Service and Wholesale Line Rental Service Exemption Applications: Supporting Submission*, 9 July 2007, at page 15; and Telstra (2007), *Application for Exemption from Standard Access Obligations in Respect of the SingTel Optus Network: Schedule A*, 17 December 2007, at section C.2

Optus submits that little information is provided on the development of the network database. Further information and the ability to review the process and assumptions used in the developing database are required.

Telstra acknowledged Optus' submission with respect to the base data and developed and filed with the ACCC documentation describing how Telstra extracted the base data from its databases. See, in particular, the report *TEA Model Route Optimisation process: Band 2*.

Optus argues (at 4.23-4.36) that the TEA model "*does not provide users with the ability to determine actual locations of modeled customers and structure points*". They further claim that "*any geographically identifiable location has been obfuscated*" and that "*Telstra has encrypted the geospatial data contained in the TEA model to make it unusable and unrecognizable*".

In relation to version 1.2 of the TEA model, Optus' allegation that Telstra "encrypted" geospatial data is unwarranted and patently false. Network data included in the TEA model is not coded or encrypted in any way. All names and identification numbers used in the model are the actual names resident in Telstra's records and data bases. Specifically, structure point numbers, cable designations, distribution area names, pillar names and exchange names are "original, un-coded" names and identifiers. Version 1.2.1 of the TEA model has confidential information removed (for instance, confidential network data and vendor prices were replaced with simulated data), but there is no coding or encrypting as Optus asserts.

Geospatial data is not used by the engineering modules in the TEA model and, consequently, there is no need to include geospatial data in the base data, nor is there any reason for users of the model to access this type of data. Geospatial data does exist in Telstra's core systems and is needed to map customer addresses to network structure points (as is documented in *TEA Model Route Optimisation process: Band 2*). However, as stated above, it is not needed to design a network connecting those customer serving structures to the serving exchange building in the TEA model and was not included in the design of the TEA model.

E.3 Lack of geographic information

Optus' specific arguments in relation to the availability of geospatial information are not reasons to reject Telstra's Undertaking for the reasons set out below.

First, Optus argues (at 4.29):

Optus is unable to properly verify the operation of the TEA model since the network architecture data used by the TEA model (e.g. location and number of SIOs in the network assumed by the model) has not been shown to be consistent with the 'real' network data (e.g. actual location and number of SIOs in the network).

Telstra has documented the process by which it extracted the base data from its CPR2 databases to determine an efficient set of network routes. While many actual routes in Telstra's existing network were omitted from the extraction (see *Measure of TEA Model Efficiency: ULLS Band 2*), no step in the process involved adding network routes that did not actually exist in Telstra's network. Furthermore, Telstra has filed the statements of [redacted] and [redacted] that verify the accuracy of Telstra's CPR2 database.

There can be no doubt, therefore, that the base data corresponds to the 'real' network data.

Second, Optus' submission refers (at 4.30) to a request made by Optus to Telstra for geospatial mapping data on 30 July 2008. Optus' submission refers (at 4.32) to part only of Telstra's response to that request on 1 August 2008.

Optus' submissions fail to mention that, in addition to the extracts set out by Optus, Telstra's response also stated:

- Over the months prior to Optus' request Telstra had been comparing the quantities of actual plant and equipment in Telstra's network to the quantities included in the TEA model; and,

- Telstra would make the analysis available to all interested parties by way of submission.

Telstra's engineers completed that analysis and the ACCC published Telstra's report on its website.[54]

Third, Optus argue (at 4.31):

> *One of the key underlying premises of the TEA model is that is uses actual Telstra information to ensure that the results represent a 'real world' scenario. However, it is impossible for Optus (or any other party) to verify whether TEA does in fact operate this way, generate a 'best fit' optimal solution, or even a practical solution, without being able to compare the output with the real world data. Optus submits that no confirmation of the model's accuracy and applicability can be provided without this information.*

As previously stated, Telstra has published *Measure of TEA Model Efficiency: ULLS Band 2*, which compares the output from the TEA model to Telstra's real world network. Notwithstanding, it is notable that the level of information that Optus is seeking goes well beyond what Optus submitted in its own undertakings for the Mobile Terminating Access (MTA) services lodged 16 February 2007.[55] There appears to be no reconciliation of the costs that Optus actually incurs in the supply of MTAS and the costs Optus sought to be recognised in its undertaking. Furthermore, there appears to be no reconciliation of the network underlying Optus' claims for costs and Optus' actual network. Consequently, it is apparent that Optus' argument above does not translate into a principal that Optus applies to itself when lodging its own undertakings and expecting those undertakings to be accepted by industry and the ACCC.

Fourth, Optus notes (at 4.32) that "*the requested [geospatial] data is for a hypothetical, single extract 'TEST' ESA with little resemblance to any particular ESA*". Telstra notes that there is no geospatial data relating to the 'TEST' ESA as it is not a real ESA. As a consequence, it was not possible to fulfil Optus' request which, in any event, was

[54] Telstra (2008), *Measure of TEA Model Efficiency: ULLS Band 2*, 8 September 2008.
[55] http://www.accc.gov.au/content/index.phtml/itemId/782064.

superseded by the provision of Telstra's *Measure of TEA Model Efficiency: ULLS Band 2* documentation.

E.4 Integrity of data

Optus claims (at 4.34):

> *Optus is unable to review the network architecture data that is used in the TEA model since there is no evidence that the codified (encrypted) TEA network architecture data with which parties have been provided matches the original (un-coded) data.*

Telstra has documented the process of extracting the base data from Telstra's core databases in *TEA Model Route Optimisation process: Band 2*, verifying that the TEA model base data matches the data in Telstra's CPR2 database.

Optus speculates (at 4.35):

> *…it is possible that the original integrity of the data has been (accidentally) compromised or corrupted*.

Telstra has described in detail the process by which the TEA Model base data file has been created. On the basis of that evidence, the process employed is sound and reasonable. If Optus considers that for some reason the approach is not sound or reasonable, then it should identify its concerns specifically.

E.5 Access to the TEA Model: Telstra's Confidentiality Arrangements

Telstra disagrees with Optus' submissions, which assert (at 4.38) that the confidentiality regime in place for access to Telstra's TEA model and other confidential material is "*complex and restrictive".* Telstra notes:

- The confidentiality arrangements applicable in the context of Telstra's Undertaking are straight forward and appropriate. They simply require:
    - Those wishing to access the TEA model to execute a TEA model confidentiality undertaking (either in 'access seeker employee' or 'external advisor/consultant' form); and,
    - Those wishing to access Telstra's other confidential material (as distinct from the TEA model) to execute a Confidential Material confidentiality undertaking (either in 'access seeker employee' or 'external advisor/consultant' form).

    The separate confidentiality undertakings for the TEA model and Confidential Material are merely a product of timing. They resulted from the TEA model becoming available in February 2008, before Telstra submitted any documents falling within the terms of the Confidential Material confidentiality undertaking. Telstra has provided a simple and

concise explanation of how access to the TEA model and other Confidential Materials may be obtained.[56] At most, an individual seeking access to the TEA model and Telstra's other Confidential Material will execute two different confidentiality undertakings which are, in fact, in very similar terms.

- Since 25 February 2008, Telstra has approved 17 Optus employees and 9 Optus external consultants for access to the TEA model. Telstra has not declined any request by Optus for Telstra's approval of any individual wishing to access the TEA model.

- Of those approved, starting 12 May 2008 and continuing until 22 September 2008, 15 Optus employees and 5 external consultants returned executed TEA model confidentiality undertakings and were provided with access to an appropriate form of the TEA model.

- Since 5 June 2008, Telstra has also approved 6 Optus employees and 9 Optus external consultants for access to Telstra's Confidential Material.

- Of those approved, 5 Optus employees and 4 Optus external consultants have returned executed Confidential Material confidentiality undertakings and were provided with appropriate forms of Telstra's Confidential Material to date.

- Telstra has actively and deliberately sought to minimise the amount of material over which it claims confidentiality. There are two categories of Confidential Material:

    - Category 1 Confidential Material - which will be provided to both approved access seeker employees and approved external advisors/consultants; and,

    - Category 2 Confidential Material - which will be provided only to approved external advisors/consultants and purely non-commercial access seeker employees.

  In response to Optus' apparent criticism (at 4.38) that access to Category 1 Confidential Material is of little practical use, Telstra simply points out that, until 12 August 2008, there was indeed "*no Category 1 Confidential Material*". This was because all Telstra's material was publicly available save for 3 specific documents which comprised Category 2 Confidential Material. These 3 specific documents were made available to, amongst others, Optus' external consultants from whom Telstra had received executed Confidential Material confidentiality undertakings.

  Further, despite Telstra approving 6 Optus employees for access to Telstra's Category 1 Confidential Material as early as 5 June 2008, executed Confidential Material confidentiality undertakings were only

[56] http://www.accc.gov.au/content/item.phtml?itemId=830207&nodeId=25ed9c9fdf87ef3f6cd85badb946e4f9&fn=Telstra%20submission%20-%20confidentiality%20regime.pdf available via the ACCC website.

returned by those Optus employees starting from 28 August 2008, over 2 months after approvals were provided by Telstra and over 2 weeks after the first of Telstra's Category 1 Confidential Material was filed with the ACCC. In fact, the vast majority of Telstra's Confidential Material comprises Category 1 Confidential Material and would have been readily accessible on the date it was provided to the ACCC, if Optus had executed Confidential Material confidentiality undertakings following the approvals given on 5 June 2008.

- Optus' submissions also assert (at 4.38) that Telstra "*attempted to impose obligations that do not relate to confidentiality*" and refer to the wording of clause 12(b) of the TEA model confidentiality undertaking (as originally proposed by Telstra). As mentioned above, clause 12(b) as proposed by Telstra sought agreement to bring any suggested changes to the TEA model to Telstra's attention in a timely manner so the same could be considered and, if appropriate, actioned by Telstra. In response to Optus' submission, Telstra notes that:

  - Optus initially returned several TEA model confidentiality undertakings executed in the form originally proposed by Telstra (including clause 12(b) in original form) with no concerns expressed in relation to the terms of the confidentiality undertakings. Optus subsequently sought to withdraw these undertakings citing a general concern with clause 12(b);

  - In response, Telstra actively queried and sought to understand Optus' general concern with clause 12(b) and, once articulated in further detail, address the same. As a result of negotiation, the TEA model confidentiality undertakings executed by Optus employees and its external advisors/consultants contain a modified clause 12(b) which reads:

    [redacted]

    The fact is clause 12(b) was not deleted. With Optus' agreement, the clause was modified to the extent set out above.

  In light of the similarity between the original clause 12(b) and the modified clause agreed by Optus, the repetition of Optus' apparent complaint regarding this clause in Optus' submission must be considered frivolous.

- Telstra acknowledges that Optus raised concerns regarding its ability to communicate with its proposed consultants in circumstances where two different versions of the TEA model were made available. Telstra notes, however, that, at the time Optus raised these concerns, Optus' proposed consultants had not yet accessed the TEA model and were, therefore, likely to be unaware of the limited extent to which differences existed

between version 1.2 (then, 1.0) and version 1.2.1 (then 1.0.1) of the TEA model. In those circumstances, Telstra responded to those concerns and, amongst other things, provided an express invitation to Optus or its consultants that:

> "*once…*[proposed consultants] *has provided Telstra with an acceptable confidentiality undertaking and has received a copy of version 1.0 of the TEA Model, should any particular queries/concerns arise in respect of whether a specific disclosure of information to Optus is permitted pursuant to the TEA Model confidentiality undertaking, we would be more than happy to be consulted and to assist where possible*"[57]

Telstra's invitation was not accepted.

In addition, Telstra has provided external consultants retained by Optus with version 1.2.1 (then, 1.1.1) of the TEA model when requested to do so by Optus. In those circumstances, Telstra rejects Optus' assertion that it imposed conditions which restrict communications between access seekers and their consultants and impair consultants' ability to communicate their findings. The fact is, Optus' consultants, Network Strategies, have filed a report on the TEA model which runs for 90 pages with no apparent difficulty.

Further, notwithstanding Telstra's efforts, Optus' submissions annex a letter dated 28 March 2008 to the ACCC. Telstra was not given any contemporaneous notice of this letter. From Optus' submission and the annexed letter, it appears that Optus continues to take issue with Telstra's approach. As such, following Optus' submissions, on 2 September 2008, Telstra offered to permit a nominated and approved employee from Optus engaged in the assessment of Telstra's Undertaking to have access to a modified version of version 1.2 of the TEA model containing Telstra's confidential network base data file (but not commercially sensitive and confidential vendor pricing) on substantially the same terms as Optus' external consultants/advisors. Though Telstra's offer was initially accepted by Optus, on 7 October 2008, Optus elected to reject the offer in its entirety.

In light of Optus' chosen course of action, it is difficult to comprehend how any difficulties in communications with external consultants Optus purports to have experienced could, on any view, be properly attributable to Telstra.

- Optus' submissions (at 4.38) also contain a complaint regarding "*multiple confidentiality undertakings in respect of the same matter*". As mentioned above, at most, an individual is required to execute 2 confidentiality undertakings; a TEA model confidentiality undertaking and a Confidential Material confidentiality undertaking.

[57] Telstra email to Optus, dated 26 June 2008.

> To Telstra's knowledge, there has been no "*replacement of confidentiality undertakings with new versions, requiring the same individual to sign numerous times*". The only instance, of which Telstra is aware, in which Optus employees were required to re-execute confidentiality undertakings came about as a result of Optus misunderstanding the impact of its own corporate structure on the terms of the relevant confidentiality undertakings. Telstra brought this issue to Optus' attention and, in fact, modified the drafting of the confidentiality undertaking documents for Optus in order to avoid breach of confidentiality undertakings by Optus employees.

Telstra has made significant efforts, in relation to Optus in particular, to understand and address any concerns expressed in relation to the confidentiality regime. Telstra has also agreed to sensible modifications of undertaking documents, for example, Telstra drafted the amendments required when prospective consultants to Optus wished to provide relevant confidentiality undertakings on a corporate rather than individual basis.

To the extent that Optus claims (at 4.39) that "*Telstra's decision to apply different levels of access to the TEA model between access seekers' staff and their external consultants is likely to cause practical* problems", Telstra notes Optus has received access to all the information that it needs to fully assess the TEA model, as clearly evidenced by its consultants having had no apparent difficulty in filing a 90 page report assessing the TEA model. In addition, Optus' claim of "*likely practical problems*" appears equivocal, unsupported by any actual evidence and quite remarkable in circumstances where Optus elected to, ultimately, reject Telstra's offer of 2 September 2008.

It should also be noted that the current confidentiality regime is far more liberal than that adopted by the ACCC in relation to the WIK model or by Optus in relation to its confidential information in Telstra's HFC Exemption Application. In the context of the current Telstra Undertaking, Telstra also notes that, as of 7 October 2008, Optus advised Telstra that:[58]

[58] Optus email to Telstra dated 7 October 2008.

Optus' revised position severely restricts Telstra and its consultants' access to Optus' Confidential Information. This approach is curious in circumstances where Optus' purports to complain about access to Telstra's confidential information.

In summary, as at the date of this submission:

- version 1.2.1 of the TEA model has been made available for assessment by 29 employees of interested parties (including 15 Optus employees);

- version 1.2 of the TEA model has been made available for assessment by14 external consultants/advisors retained by interested parties (including 5 economic consultants retained by Optus and 2 economic consultants of Marsden Jacob Associates retained on behalf of the Competitive Carrier's Coalition).

In addition, the TEA model has been accessed and assessed by 7 employees of Ovum Consulting, the ACCC's own external economic consultants[59]. Version 1.2 of the TEA model has been made available for assessment by each and every external economic consultant who, to Telstra's knowledge, has been retained by a party interested in Telstra's Undertaking or by the ACCC. The external review of version 1.2 of the TEA model (and its earlier versions) has, accordingly, been fully facilitated by Telstra and has been comprehensive to the extent sought by interested parties and the ACCC.

In the circumstances, it can only be assumed that Optus takes issue with Telstra's confidentiality arrangements in an attempt to distract the ACCC from the merits of the present Telstra's Undertaking. As such, Optus' claims should be given no weight.

F Telstra's proposed ULLS monthly charge

Optus states (at 4.45):

> *Telstra's proposed monthly ULLS charge ($30.00) is significantly higher than the rate determined in the ACCC's most recent arbitration ruling ($14.30), and is also significantly higher than the rate set out in the ACCC's most recent pricing principles ($16.00).*

Telstra submits that the previous ACCC determinations were incorrect. The TEA model establishes that $30 is a conservative price given the TEA model cost estimate and the ACCC has an obligation to set prices at TSLRIC+ cost regardless of any previous pricing decisions.

Optus argues that charging a $30 price for ULLS would result in:

- An expropriation of the value of sunk investments by access seekers which would not be in the interests of persons who have rights to use the declared service (at 4.46); and,

[59] See authors listed on three reports Ovum's reports to the ACCC available at http://www.accc.gov.au/content/index.phtml/itemId/841087

- An expropriation of the value of sunk investments by end user consumers which would not promote the efficient use of telecommunications infrastructure and would cause a reduction in overall welfare (at 4.47).

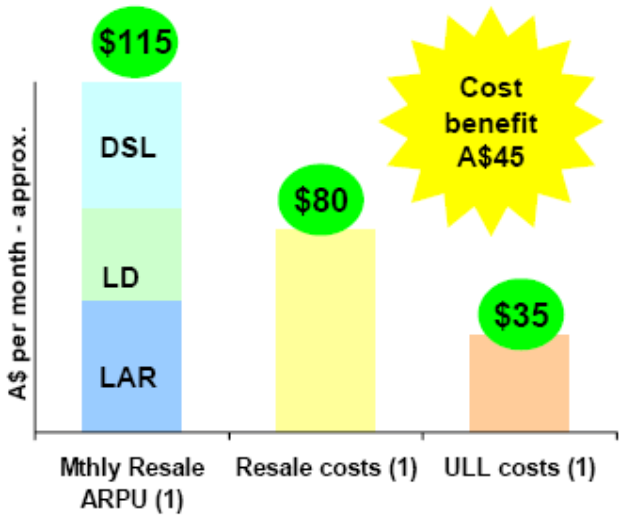
In relation to the impact on access seekers, Optus states (at 4.48):

> *…access seekers have formed their business plans and made significant investments in infrastructure in reliance on existing pricing structures, relying in particular on the assumption that the monthly ULLS charge will remain at rates similar to the rate that currently applies, and the rates that are set out in the ACCC's pricing principles.*

Telstra has advocated and sought through commercial negotiation $30 prices for band 2 areas since at least December 2005.[60] Optus and access seekers have made investment decisions in the knowledge of Telstra's view that a $30 price is reasonable.

Any claim that Optus or other access seekers cannot make a profit at these rates is blatantly inconsistent with papers that Optus and other access seekers have presented to their shareholders. For example, in a presentation to its shareholders in 2006, Optus showed that a band 2 ULLS price of $22[61] would reduce its costs from $80 per SIO per month to $35 by migrating customers from resale to ULLS, achieving a benefit of $45 per SIO per month (see figure 2 below, reproduced from Optus' presentation). It should be noted that a $30 band 2 ULLS price would achieve for Optus a cost reduction of $37 per SIO per month below resale costs and provide for an EBITDA per line of $72.

Figure 2: Optus' net EBITDA benefit from FY08



[60] See, for example, http://www.accc.gov.au/content/index.phtml/itemId/721622.
[61] Optus (2006), *SingTel Optus – Regulatory Update*, SingTel Investor Day, 29 June 2006, at page 11.

Additionally, in a presentation dated toward the end of 2005 discussing "*Why iiNet builds infrastructure*", iiNet assumes that ULLS prices are $22.[62] iiNet claims that migrating customers from resale to ULLS will reduce network costs from just over $80 to just over $40, a cost benefit of $40.[63] Accordingly, iiNet would still achieve a cost benefit of $32 and a gross margin of over $60 if the ULLS price were to be $30.

Despite this inconsistency, Optus claims (at 4.48):

> *A significant and sudden change to the monthly ULLS charge for Band 2 (such as Telstra has proposed in its undertaking) could strand these investments, and consequently deter efficient investment in infrastructure.*

However, this is also inconsistent with Optus' own analysis presented to shareholders. A $30 ULLS price would increase Optus' assumed ULLS prices by $8 (from $22 to $30) and reduce its EBITDA from $80 per SIO per month to $72. However, Optus would still have earned $28m for the 3 months ending 30 June 2007 with a $30 ULLS price, as shown in the analysis of Optus' financials, in table 1 below.

Table 1: Optus' EBITDA at a ULLS price of $30

	ULLS price of $22		**ULLS price of $30**	
	Per SIO per month	3 months ending 30 June 2007[64]	Per SIO per month	3 months ending 30 June 2007
Revenue	$115	$45m	$115	$45m
ULLS cost	$22	$9m	$30	$12m
Other ULLS-related costs	$13	$5m	$13	$5m
EBITDA	$80	$31m	$72	$28m

Optus has not provided any support to its conclusion that a $30 price would harm its interests or investment incentives, other than to say that it has spent $[ ]m on its DSLAM rollout. However, assuming Optus has no growth in ULLS SIOs from 30 June 2007, Optus would have recovered its [ ]m investment from its ULLS customers in [ ] years.[65]

As the ACCC states in relation to the interests of persons who have rights to use the declared service:

> *The ability of an access seeker to compete in the supply of a service in a dependent market should be based on the cost and quality of its service relative to its competitors. For example, an access price should not artificially protect a vertically integrated access provider from being displaced by a more efficient access seeker in a downstream market.*[66]

[62] iiNet (2005), *UBS Small Cap Telco Conference*, 7 November 2005, at page 7.
[63] iiNet (2005), *UBS Small Cap Telco Conference*, 7 November 2005, at page 9.
[64] 3 month figures are equal to the monthly figures multiplied by 3 multiplied by the number of Optus' ULLS SIOs (131,000) reported in Optus (2007), *Optus Consumer*, JP Morgan – Broadband in Australia, 13 September 2007, at page 6.
[65] [ ] divided by $28m EBITDA and divided by 4 quarters.
[66] ACCC (1997), *Access Pricing Principles – Telecommunications: A Guide*, July 1997, at page 9

Setting ULLS prices closer to the forward-looking costs of supply will not prevent Optus from displacing less efficient access seekers or Telstra's retail business units in downstream markets. Conversely, setting prices below forward-looking costs would prevent parties more efficient than Optus from building facilities and displacing Telstra at the infrastructure level of competition. In any case, as the margin analysis above shows, Optus is able to earn substantial margins at a ULLS price of $30. Indeed the $30 price may well persuade Optus to invest in end-to-end facilities that would provide new services to consumers. The current price has simply persuaded Optus and other access seekers to stop investing in any CAN.[67]

Optus argues (at 4.50):

> *…the TEA Model does not provide differential cost estimates for the various potential alternate downstream ULLS POI scenarios envisaged in ACCC's ULLS service description.*

A major advantage of the TEA model is that it is capable of readily providing the cost for an alternative ULLS scenario defined by the most likely future POI, a node in a Fibre to the Node architecture.[68]

In relation to the impact on end-users, Optus claims (at 4.52-4.53):

> "*…it is likely that end users of telecommunications services in Australia have made decisions and sunk investments in reliance* ***on the assumption that prevailing charges for voice and broadband services will remain similar to existing levels (or that they will decrease)****…That is, they relied indirectly on the premise that the monthly ULLS charge will remain at rates similar to those that currently apply, and that are set out in the ACCC's most recent pricing principles.*
>
> *A significant and sudden change to the monthly ULLS charge for Band 2 (such as Telstra has proposed in its undertaking) would effectively result in the expropriation by Telstra of the sunk investments of the end users.* [Emphasis added]

Optus provides no evidence as to whether end-users expect retail prices to remain similar to existing levels or whether they are aware that ULLS is an underlying input into the retail services that they purchase.

Further, it is unlikely that end-users have made purchasing decisions on the basis of the ULLS price. End-user consumers are unlikely to be aware, or selective about, what underlying wholesale service is used to supply their retail services. In fact, ULLS services made up only approximately 2% of total retail access services purchased by end-users at the end of 2006/07.[69] By the end of 2007/08 this had increased to approximately 5%. Therefore, a change in the ULLS price is unlikely to change consumers' expectations as to retail prices and, therefore, unlikely to strand their investments.

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[67] Eisenach, J. A. (2008), *Evidence Relating to the ACCC's Draft Decision Denying Telstra's Exemption Application for the Optus HFC Footprint*, 13 October 2008, generally and at section IV

[68] Telstra's Response to the ACCC's Discussion Paper, 12 August 2008, at page 14

[69] ACCC (2008), *Changes in the Prices Paid for Telecommunications Services in Australia 2006-2007*, May 2008, at page 19 and table 1.

Optus argues (at 4.57):

> *Optus observes that the TEA Model uses a fixed level of customer demand. It does not model for different years – it models a fixed point in time. Telstra does not say which point in time (year) this level of demand represents. It does not consider future demand. The TEA Model cannot be used in its native form to estimate TSLRIC+ costs for changing demand or future years. In this respect its usefulness in producing reasonable TSLRIC+ cost estimates is very limited.*

TEA model base data was compiled using network data as of November 2007. The types of demand and how they are accounted for in the model are described in section E.2.

Costs developed using these data are appropriate for pricing ULLS over the life of Telstra's Undertaking. Access seekers will not be disadvantaged by the use of November 2007 demand and 2008/2009 equipment and placement costs over the three year life of Telstra's Undertaking since costs are expected to increase over that timeframe and demand decrease. The following future events will impact costs:

1) New construction will increase the number of addresses connected to the network in Telstra's service territory. The number of new estate SIOs in band 2 served by a full copper path is [redacted]% of band 2 SIOs per year.[70] In new estates the cost of network construction is lower than the cost of overbuilding existing neighbourhoods due to the availability of developer provided trenching. Consequently, a [redacted]% per annum increase in addresses connected to the network can be expected to result in a slight reduction in average unit costs for ULLS. The reduction can be expected to amount to the equivalent of about [redacted]% of the difference in costs between new estates and the rest of the region. For instance, if the cost of serving new estates was 10% less than the unit cost of serving the rest of the region, the cost reduction would amount to approximately [redacted]% (10% reduction in costs times [redacted]% increase in homes served).

2) Services in Operation (SIO) would be expected to decline over this same period. According to recent trends, the number of SIOs will decline at a rate of approximately [redacted]% per annum. A reduction in SIOs will result in an increase in average costs. The increase in average costs would be expected to be approximately equivalent in percentage terms to the decrease in SIOs (that is, a [redacted]% decrease in SIOs would equate to an approximate [redacted]% increase in costs).

3) Inflation and productivity gains can be expected to approximately offset one another over the 3 year time horizon.

The anticipated result of all these changes would be a net increase in costs for ULLS over the period of Telstra's Undertaking because the reductions in SIOs offset any decrease in costs from new estates.

Optus also states (at 4.59):

[70] Telstra's Response to the ACCC's Discussion Paper, 12 August 2008, page 25.

> *Optus considers that access seekers need to know the level of the ULLS monthly charge in order to plan their business. Accordingly, Telstra should submit in its undertaking all parts of the ULLS monthly charge, and in particular it should specify the proposed level of the ULLS specific charge.*

Telstra does incur ULLS specific costs, which rightly must be recovered from ULLS charges. Since Telstra is proposing a glide path to full cost recovery for ULLS beginning at a $30 monthly price, debates over the level of ULLS specific costs should not be an issue until that stage of the pricing glide path when prices are set to fully recover cost. However, should it be necessary to assess ULLS specific costs, the ACCC calculated ULLS specific costs at $2.45 per month.

The Joint Respondents state (at page 7):

> *If the monthly charge for the ULLS is increased, Telstra's input costs will not increase.*

Telstra notes that its input costs, measured on the basis of TSLRIC+ by the TEA model are well above $30. Thus, while increasing the monthly charge for ULLS will not change Telstra's input costs, it will increase access seekers' input costs closer to the level of Telstra's. This will promote the process of competition by encouraging efficient build vs. buy incentives.

The Joint Respondents then argue (at page 7):

> *On the contrary, by virtue of it receiving more revenue through the ULLS, Telstra would, if it wishes, be able to lower its prices to end users in relevant downstream markets in order to damage competition.*

There is no term or condition in Telstra's Undertaking that suggests this were the case. Nor is there any incentive for Telstra to reduce retail prices if ULLS prices were to increase. Telstra faces many legislative and regulatory requirements in relation to ULLS and downstream price relativities. For instance:

- Operational Separation requires Telstra to notify the ACCC of any retail price reductions for downstream services with an analysis of the impact that such a price change has on competition;

- Telstra is also required under Operational Separation to report publicly, each quarter, on the state of margins available to efficient competitors (see http://www.telstrawholesale.com.au/dobusiness/customer-commitment/operational-separation.htm);

- In the event that Telstra reduces prices to the extent that access seekers cannot compete, the ACCC can issue Telstra with a Consultation Notice and then a Competition Notice requiring Telstra to rectify pricing relativities or be subject to enforcement action and very significant pecuniary penalties (amongst other remedies);

- Telstra may be liable under s46 and s151AJ of the TPA for very substantial pecuniary penalties and third party damages resulting from anticompetitive price squeezes.

These mechanisms prevent Telstra from changing retail prices in a way that results in an anticompetitive squeeze between ULLS and downstream retail prices.

The Joint Respondents conclude (at page 7):

> *The overall effect would be that access seekers who provide services to end users via the ULLS would be increasingly unable to compete against Telstra and may be forced out of the market.*

As illustrated above, Telstra is subject and adheres to a stringent regime of legislative constraints which protect access seekers' ability to compete. It is also clear from the access seekers' own publicly available information that access seekers will continue to earn substantial margins at a $30 ULLS price and can thus compete effectively with Telstra.

F.1 Network design and engineering rules

Optus argues (at 4.63) that the TEA model is inefficient:

> *In summary, Optus submits that the network design and engineering rules of the TEA model are not likely to lead to an efficient network design, since the approach is based upon the unsupported assumption that Telstra's historical node layout is efficient, the degree of optimization in the model is overstated and some of the engineering rules appear to be less than efficient.*

Optus then goes on to proclaim that the costs produced by the model are probably significantly overstated and consequently (at 4.64):

> *Telstra cannot derive any support from the TEA model's cost estimates for the ULLS access prices proposed in its undertaking.*

The above conclusion is repeated numerous times throughout the Optus submission (at 4.95, 4.116, 4.130, 4.131, 4.146, 4.174 and 4.206). After virtually every criticism of the TEA model design or inputs Optus claims that the TEA model cannot be used to "*derive any support for the ULLS prices proposed in the undertaking*". There is, however, no basis expressed for such a conclusion.

Optus' perceived concerns with the TEA model fall into the following categories:

- Issues regarding the value of the inputs Telstra uses in the model; and,
- Issues related to the network design rules used to compile the TEA model, including the failure of Telstra to provide a model with multiple network design alternatives.

Most of the issues Optus identifies as faults with the TEA model are, in fact, disagreements with the values of the user adjustable inputs or design criteria incorporated into the TEA model. Examples of user adjustable inputs or network designs with which Optus takes issue include:

- The use of a non-tapered distribution network architecture;

- The costs of the copper cables and other plant and material inputs into the model;
- The cost of trenching used in the model;
- The level of trench sharing incorporated into the model;
- The percentages of occurrence of various types of placement activities for conduit runs in the model;
- The values of the maintenance and indirect cost factors used in the model; and
- The values for capital cost factors used in the model (i.e. depreciation and capital costs).

Each of these concerns will be addressed in more detail in subsequent sections of the submission. However, there is a significant distinction between disputes regarding a model design and disputes regarding particular model inputs. User adjustable inputs are incorporated into models to provide the user with the means to change those values with which they disagree. If any party disputes the value used for an input into a model they simply need to select a revised value that they consider can be supported as being appropriate and insert it into the model. However, a dispute regarding the value of inputs used in the model is not a criticism of the model design itself and is not a legitimate basis for rejecting a model. Rejecting a model because it has an incorrect or disputed input value is similar to tearing up a bathroom to get rid of a bathtub because is perceived to have dirty water in it. The rational approach would be to drain the water and replace it with new water. Similarly, input disputes should be addressed by proposals to use revised values for those inputs not proposals to discard the model in its entirety.

Optus' criticisms of the network design used in the TEA model (as opposed to the inputs) often rely on misconceptions of how the model was designed. For instance, Optus claims that the TEA model reflects very little in efficiency gains because Telstra has retained the actual locations for the manholes and pits that exist in the current network (at 4.66). Optus claims that the number of pits and manholes is held constant and that the TEA model is simply a dimensioning tool (at 4.67). Optus' claim that the existing manhole and pit location are retained is incorrect. The process of extracting the base data from CPR2, documented in *TEA Model Route Optimisation Process: Band 2*, shows that not all structure points (pits and manholes) are extracted from CPR2. Furthermore, given the base data, the TEA model calculates the number of pits and manholes required in an efficient network design using the network design parameters documented in *Access Network Dimensioning Rules* compiled by Telstra's engineers. Use of the Route Optimisation Process and the Access Network Dimensioning Rules to determine the number of pits and manholes results in a significant efficiency. This is documented in *Measure of TEA Model Efficiency: Band 2*. In particular, the TEA model has 20.8% fewer pits and 83.2% fewer manholes than exist in Telstra's actual network. It is not correct, as Optus claims (at 4.77), that there is no evidence that the locations of structure points and the cable paths used are optimal.

Other Optus criticisms of the model design that are similarly predicated on a misconception of how the model operates or based on unsubstantiated claims that

an alternative design would be more efficient. Optus provides no studies or analysis that attempt to identify the impact of rectifying the supposed design flaws or any studies to show that the potential design change would have a high probability of resulting in a more efficient model. Optus simply points out potential alternatives exist and then offers its conjecture that adopting the alternative approach would result in a more efficient model.

For instance, Optus claims that the TEA model network design of using a single conduit run reticulating along one side of a street with road crossings to serve customers on the opposite side of the street is not efficient. Optus surmises that the high cost of laying conduits under roads far exceeds the cost of simply building an additional conduit run down the opposite side of the street. Optus provides no data or studies to support this conjecture, and in fact, a simple review of the TEA model results rebuts this claim. To implement Optus' recommendation, the TEA model would have to be revised to eliminate the cost associated with road crossings and replace these costs with the costs of building an additional conduit run down virtually every street. As discussed below, the cost of constructing an additional conduit run along every street is more than 4 times greater than the cost of constructing road crossings to serve customers on the opposite side of the street from a single cable run. A network design that includes two conduit runs reticulating along both sides of virtually every street in band 2 areas in Australia is less efficient than a design with one conduit run as is used in the TEA model.

However, nothing Optus has identified justifies their claim at (6.64) that "*Telstra cannot derive any support from the TEA model's cost estimates for the ULLS access price*". Merely identifying potential alternative model designs does not justify rejecting a model outright. Telstra has produced an efficiency study, which demonstrates the TEA model's efficiency in reducing both the trench length and the amount of equipment from the existing network. Further, there is no evidence that the TEA model design is inefficient. If Optus believes an alternative model design is in fact more efficient than the design incorporated into the TEA model, it should produce an alternative model. However, Optus has provided no evidence, just conjecture, that any of its proposed alternative network designs are more efficient or practicable than those used in the TEA model. Indeed, Telstra shows below that Optus' conjectures are false.

In any event, under Part XIC the ACCC needs to be satisfied that the price in Telstra's Undertaking is reasonable. There may be many alternative ways of estimating the cost of providing the ULLS, however the ACCC need only concern itself with being satisfied with whether, on its own merits, the approach that has been adopted in support of Telstra's Undertaking price is reasonable. An approach which requires Telstra to prove that the TEA is the only reasonable existing cost model for the service places upon Telstra a wholly inappropriate burden and one that is not supported by the clear legislative intent of Part XIC of the TPA.

As Telstra has shown in its submissions and supporting evidence that the TEA model is a revolutionary, best-in-world model that accurately designs a network for providing ULLS, based on actual, optimised detailed network data points for 584 real exchanges, 7,532,793 real lines, and 7,489,427 network structure points that are located on actual network routes. Unlike previous models, the TEA model does not rely on hypothetical and unrealistic assumptions in relation to where the network is placed. Hypothetical models ignore natural and manmade obstacles, assuming cables and conduit run through back yards, across football ovals and through rivers.

Importantly, if imperfections in the design of the TEA model are discovered, they are fixed; adjustments are made; the model is improved. The TEA model represents a significant step forward in modelling a ULLS network. Optus has not identified any basis or argument which successfully disproves this fact.

F.1.1 Distribution and main cable engineering modules

Throughout its submission, Optus repeats the claim that there is minimal network optimisation in the TEA model because the model retains the existing location of network structure points (i.e. pillars, manholes and pits) (at 4.65 to 4.67, 4.69, 4.71, 4.73 to 4.78 and 4.83). Optus' claim that there is little if any network optimisation in the TEA model is based in a large part on their mistaken assumption that the TEA model retains the actual location of all network structures or nodes, including the pits and manholes. While the model retains the location for most of the pillars, the location of pits and manholes are driven by the route optimisation process documented in *TEA Model Route Optimisation process: Band 2*, and the engineering rules documented in *Access Network Dimensioning Rules*, and not their actual location in the Telstra network.

The retention of pillar locations is a critical component to the network design in the TEA model and has very little, if any, impact on the cost of providing ULLS.[71] The existing pillar locations are retained because the TEA model network design places conduit runs in actual rights of way known by virtue of their present existence in Telstra's network. The existing conduit runs in the distribution network lead to the existing pillar locations. Hence, changing the pillar locations would require redesigning the conduit runs so that they lead to the alternative pillar locations. This redesign would likely have little or no impact on costs, since conduit runs would still be required to run down every street in order to serve all customers.

Most hypothetical models use some form of simplifying algorithm that ignores these legal rights of way and all other natural and manmade obstacles that may exist in a serving area. In doing this they can locate pillars at any point on these hypothetical cable routes, including under buildings, in rivers and below lakes. These models design conduit routes with no regard to the rivers, lakes, buildings, houses or other obstructions that exist within the serving area, and assume that cable runs can simply run through any obstructions that exist. No engineer would ever design a network that ignores these natural and manmade barriers and no firm could ever build such a network.

The TEA model avoids this pitfall of all hypothetical models by designing a network in which cable and conduit runs follow the existing rights of way used in building the actual Telstra network. The TEA model does not simply duplicate the existing network. On the contrary, the model uses the Telstra network design to identify existing routes all of which reside in existing rights of way and then designs an efficient network that connects customers to the exchange buildings using an efficient subset of these routes. The only components of the network held constant are the locations of the exchange buildings, pillars and the legal rights of way. All

[71] See, for example, Ovum (2008), *Review of the Network Design and Engineering Rules of the Telstra Efficient Access Cost Model*, 6 August 2008, section 2.1 and 2.5.

other components of the network, including pits, manholes, conduit and cable runs, are scorched.

The location of pillars is unlikely to have any impact on the costs. As the ACCC correctly acknowledged in its Discussion Paper dated June 2008, the vast majority of the costs of the ULLS service is associated with acquiring and placing the cable network, including the conduit. Approximately 84 percent of the total investment in the ULLS network, in version 1.2 of the TEA model, is attributable to the purchase and placement of cables and conduit. Regardless of where the pillars are placed, cable routes will need to run down every street where customers are located. For this reason, moving the location of the pillars will not significantly affect the length of the conduit runs. Accurately identifying the location of these cable runs is the most significant issue in developing a cost for ULLS. The TEA model network design is the best approach to correctly identifying an efficient method of running cable down every street without actually redesigning the whole network from scratch.

The total cost of purchasing and placing pillars is less than one percent of the ULLS investment in version 1.2 of the TEA model. A 20 percent reduction in the pillar investment in the model would only reduce the loop cost by $0.13. This compares to a $0.33 decrease in cost for every 1 percent decrease in the cost of purchasing and placing cable and conduit. Given these relativities, it is obviously preferable to accurately identify the location of the cable and conduit runs than it is to accurately forecast the number or placement of pillars required to serve the demand. Retaining the pillar locations in the TEA model enables a more accurate design of the cable network and is consistent with TSLRIC+ principles. As observed by OVUM:[72]

> *It is legitimate, however, for Telstra to use a scorched node approach - fixing the current pillar points – for the purposes of the model.*

In relation to other structure points (for example, existing conduit runs, pits and manholes), those that are not needed to efficiently connect customers to the exchange buildings are eliminated from the model; and those that are needed are efficiently designed and sized by the model.[73] This approach mimics the approach used by actual network engineers in designing real world networks – identify where the cable has to be placed (i.e. existing rights of way); then design a cable network to efficiently connect the anticipated demand to the exchange using these rights of way.

The number of pits and manholes in the TEA network design is driven by three factors:

- To house joints when cables merge;
- When a cable run exceeds the maximum allowable haul distance between pits or manholes, as set out in the network design rules; and
- To house the joints when customer lead-ins are connected to the distribution or main network.

[72] Ovum (2008), *Review of the Network Design and Engineering Rules of the Telstra Efficient Access Cost Model*, 6 August 2008, section 2.1

[73] See *TEA Model Route Optimisation Process: Band 2*.

For mergers, the model identifies when mergers occur and places the appropriate numbers and sizes of pits or manholes. Since a pit or manhole is required to house all cable merges, a pit or manhole must be placed where the merge occurs. For the Blackburn exchange, approximately [redacted] percent of the pits and manholes in the modelled distribution network were placed at cables merges and when they are actually required in the existing network. However, not all pits and manholes which currently house cable merges were included in the TEA model results. As explained above, numerous redundant existing cable routes were removed from the TEA model network design. The pit and manhole locations on these redundant routes were similarly removed from the network design in the TEA model.

Distance pits and manholes are located along cable runs when the parameters for maximum allowable haul distance between structures are exceeded. The location of these pits is determined by the user adjustable distance parameters with no regard as to where any existing pits or manholes are located.

The number of pits necessary to house joints for customer lead-ins is calculated based on a formula that optimises the number of customers that can be served from each pit. Again, this approach ignores the existing location and quantity of customer serving pits and only places those pits that are needed to optimally provide service to all customers (i.e. all serving pits serve four customers). All other existing pits and manholes are eliminated from the network design. Further the assumption that every serving pit serves four customers understates the number of necessary pits, because in reality some pits will only be able to serve 1, 2 or 3 customers.

In fact, as OVUM pointed out in their report, some pits and manholes that would be required in an efficient network design have not been included in the TEA model results. As stated by Ovum:[74]

> *Section 3.3.4.1 of the Access Network Dimensioning Rules suggests that manholes may be placed at "severe changes in direction" in the Distribution network. This is a good rule. There appears to be no provision for this rule in the model itself, as changes of direction are not indicated in the base data.*

The network data bases did not provide the detail to identify severe changes in direction along the various cable routes. As such the TEA model omits these pits and manholes from the network design providing even lower cost and more efficiency.

Telstra submitted to the ACCC a document titled *Measure of TEA Model Efficiency: Band 2* that identifies and quantifies the efficiencies that result from the TEA model network design. This study identifies quantities of the various network components in the existing network. These actual plant quantities are compared to projected plant quantities from the TEA model. This study shows that the numbers of pits and manholes in Telstra actual network were reduced by 20.8% and 83.2%, respectively, using the TEA model network design. The TEA model uses network design parameters that optimise the number and location of pits and manholes resulting in a

[74] Ovum (2008), *Review of the Network Design and Engineering Rules of the Telstra Efficient Access Cost Model*, 6 August 2008, section 2.2

significantly more efficient network. This fact was acknowledged by OVUM in their network review when they concluded:[75]

> *The pits and manholes are laid out according to the diagram and rules in section 3.2 of Access Network Dimensioning Rules. The description is of a very clean, efficient design and layout in the default case. This represents best practice in laying out a Distribution Network.*
>
> and
>
> *Pits and manholes are placed according to a very clean outside plant design and at least one feature in the placement of manholes is not implemented in the model. The overall effect is to underestimate the number of pits and manholes needed for an actual network.*

Optus' claim that the TEA model relies on the historical node placement and thus does not optimise the network design is premised on their misconception of how the TEA model was designed and operates.

Furthermore, Optus identifies (at 4.68) certain model design features that would not be included in a modern network. These features include: direct buried cable, above ground distribution points (EJs), laying cable on both sides of the street, and using larger cabinets as opposed to pillars. Optus then states that the network design in the TEA model does not allow for the testing of other network design options like those it purports to identify (each of these optional model designs will be discussed in more detail in the subsections below). At this point it should be noted that Optus did not provide a single study or analysis that supports their contention that the proposed changes would result in lower costs or would be acceptable placement practices in band 2 exchanges. Optus provides no information to support that these designs should be incorporated into the model or that they would comply with the current legal standards and restrictions (e.g. rights of way, restrictions on above ground cable placement, etc.).

Optus argues (at 4.70) that the TEA model erroneously includes costs associated with a fibre network that are not appropriately included in a ULLS model. To substantiate this point Optus notes that costs of CMUXs are included in the ULLS costs even though this equipment is not required in the provision of ULLS service. As Telstra has explained in its response to the ACCC's discussion paper (at page 27), the TEA model designs the total main cable network which serves both copper-fed and fibre-fed distribution areas. The total cost of this main cable network is then spread proportionately over all lines for all distribution areas to calculate the cost of the main cable network attributable to each copper and fibre fed distribution line. This approach ensures that any trench sharing of the main network between fibre-fed and copper-fed distribution areas is reflected in the cost of the ULLS service.

In addition, Optus claims that the model includes the cost of all lead-ins, including those connected to fibre fed nodes, but derives the unit cost by only using the number of copper fed services in the denominator. As stated by Optus (at 4.70):

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[75] Ovum (2008), *Review of the Network Design and Engineering Rules of the Telstra Efficient Access Cost Model*, 6 August 2008, section 2.2 and 2.6

The model includes the cost of all lead-ins including those connected to fibre fed nodes but the cost per unit is calculated by dividing by the quantity of exclusively fibre fed services.

This is incorrect. The calculation of the average lead-in cost is done in the Cost Calculation Module. With the ULLS run of the TEA model, the quantities and costs contained in the *Results Distribution – Qtys* and the *Results Distribution – Costs* worksheets only reflect the costs for copper fed distribution areas. All distribution investment quantities that reside in fibre-fed DAs are omitted from the TEA model in calculating the distribution investment for ULLS. Optus' claim that the numerator for calculating the average lead-in costs includes costs from fibre distribution areas is not correct.

F.1.2 Efficient network design

Optus argues that by modelling the historic network, the TEA model includes any inefficiency inherent in the Telstra actual network and that there is no evidence to support that the existing network layout is efficient (at 4.73 to 4.77). Telstra explains the process of optimisation and the extent of efficiency in the TEA model in section F.1 above. As discussed, Optus' claim that the TEA model uses an inefficient design seems to be based primarily on this misconception about how the TEA model operates.

Optus also argues (at 4.76):

In fact, with a large number of access network nodes and cable joints being very close, the network layout is extremely inefficient. Cable jointing is a particularly expensive exercise and this network inefficiency appears to be an important source inflated costs.

Optus' concern regarding the excessive joint costs is predicated on its misconception that the TEA model retains the location of the inefficient pits and manholes that exist in the actual network and that the TEA model places joints in these pits and manholes that would not be required in an efficient new network build. Telstra explains what drives the location and number of pits and manholes in the efficient network in section F.1.1 above.

Optus suggests (at 4.68) that it may be more efficient to use "*larger distribution cabinets as opposed to Telstra's pillars*". Telstra has provided detailed expert evidence to support the use of the 900 and 1800 pair pillars as the most appropriate and cost effective cross-connection devices.[76] The use of cabinets is no longer best practice.[77] Ovum concludes that "*the sizing of pillars is satisfactory*".[78] Optus has provided no details of its proposed alternative cabinets or any cost savings that could arise from their use. In the circumstances, the evidence clearly supports the use of 900 and 1800 pair pillars as appropriate and efficient.

F.1.3 Non-tapered architecture

In this section of the submission Optus makes two claims.

[76] Statement of [redacted] at paragraphs 244 to 248
[77] Statement of [redacted] at paragraph 30
[78] Ovum (2008), *Review of the Network Design and Engineering Rules of the Telstra Efficient Access Cost Model*, 6 August 2008, at 4.5

First, Optus argues (at 4.79) that the use of a non tapered architecture significantly overstates costs.

> *Optus submits that in using a non tapered architecture, Telstra is passing on the costs of overbuilding its network to ULLS customers.....Optus considers that using this architecture has the effect of producing a ULLS network design that is significantly above that which would be constructed by an efficient operator.*

It should be noted that the TEA model allows the user to change this network parameter. If a user wants to propose the use of a tapered architecture it can be done by simply selecting the Tapered button in the distribution inputs sheet and the model will produce results using a tapered architecture. As with many of Optus' criticisms of the TEA model, the use of a tapered or non-tapered architecture is a user adjustable input. As discussed above, disputes regarding inputs are not valid reasons to reject a model.

The non-tapered 100 pair distribution architecture is the standard network design used by Telstra when deploying a new network.[79] The reasons why a non-tapered distribution design is superior to a tapered distribution design include: [80]

- Eliminating joints and the associated jointing costs that are incurred whenever the cable size changes in a tapered network;
- Minimizing the number of cable joints is current best practice as it reduces costs associated with joint maintenance (joints provide a point at which moisture can enter copper cable, causing them to corrode).[81]
- The use of a single size of distribution cable allows suppliers to produce the cable in large batches reducing the cost of production, and ultimately the cost of purchasing the cable;
- The use of a single size of cable leads to greater efficiency in installing the network, since each crew only needs to carry a single size of cable; and,
- The use of a 100 pair distribution design significantly reduces the cost and time required to respond to future fluctuations in demand.

However, it is important to note that Optus is incorrect when declaring that the use of a non-tapered design significantly increases the cost of the network design. Due to increases in jointing and per unit purchasing costs for cable, the use of a tapered network design results in very little savings during the initial installation of the network. When the TEA model is run using the tapered network option, the initial construction costs decrease when compared to a non-tapered architecture. This minimal savings would be more than offset by future extra expenses that would result from needing to add additional cable to meet additional demand.

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[79] Statement of [ ] at paragraph 83
[80] Statement of [ ] at paragraphs 79 to 100
[81] Statement of [ ] at paragraph 89

Optus argues that since demand is known and quantifiable, there is no justification for having the capacity to connect additional customers to the network without having to reinforce the network. The premise that demand is identifiable and will not fluctuate in the future is simply incorrect. The demand for lines has decreased by [redacted] percent over the last five years even though the number of residential buildings (most if not all of which will require connection to Telstra's network) has increased by 10.8 percent.[82] The level and location of future demand requirements will change as new services are made available from the deployment of a next generation or fibre to the node network. Even if the customer base does not grow, demand will vary from location to location specific areas experience residential or business growth in the form of re-development in older suburbs. Customer migration will also cause changes in demand as customers with significant demand requirements move between exchanges (i.e. residential or business customers move into buildings where the prior occupants either did not get service from Telstra or needed far fewer lines than the new customer). The 100 pair standard cable network design has enough spare capacity to allow Telstra to efficiently meet demand fluctuations resulting from customer movement without the expense of reinforcement while meeting all of its regulatory obligations in a timely manner.

Furthermore, Optus' claim ignores the fact that excess capacity is required in the distribution network for rectifying faults within the timeframes set out in Telstra's customer service guarantee (CSG). The CSG requires Telstra to rectify faults in, relevantly, urban areas by the end of the next working day following report of the fault.[83] Failing to meet these timeframes, results in Telstra having to pay customers set amounts of compensation per day. Whilst it is Telstra's standard practice to restore a customer's service by repairing the faulty part of network plant (e.g. remaking a joint), there are occasions where the most efficient and economic repair method is to transfer a customer's service from the faulty pair to a spare pair in the section of distribution cable. Were a spare pair not available, Telstra would be required to replace a whole section of distribution cable at significantly greater cost. The majority of Telstra's faults are located in the distribution side of the customer access network. If Telstra would have to replace existing faulty distribution cable in order to rectify those faults, then it would not be able to meet the CSG timeframes due to the greater amount of work required. Consequently, Telstra could potentially have had to pay a significant amount of CSG compensation to customers.

Ovum recognised the reasonableness of the approach adopted in the TEA model:[84]

> *The use of non-tapered cable is, however, common practice in DA design.*

and

> *If we set the fill factor to 100% for all cables, then the tapered design for all ESAs is about 4% cheaper per line than the non-tapered one. This supports the view that a non-tapered design, which provides greater operational efficiency, would be preferred by an efficient operator of a copper-cable access network.*

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[82] ABS (2008), *Building Approvals, New Residential*, Sep 2008; and ABS (2008), *Year Book 2008 – Housing*.
[83] See ACMA Customer Service Guarantee Standard 2000 (No 2) available at http://www.acma.gov.au/WEB/STANDARD/pc=PC_1712
[84] Ovum (2008), *Review of the Network Design and Engineering Rules of the Telstra Efficient Access Cost Model*, 6 August 2008, section 4.1

The slight savings in the initial cost of installing a tapered network design is more than justified by the operational efficiencies that will occur as new services are added to the network and the reduction in maintenance costs associated with joints.

Second, Optus argues (at 4.80) that the TEA model is inefficient because it places two conduits for every distribution cable run:

> *The TEA model network design rules assume that all ducts are "doubled", that is Telstra assume duct routes would be built with a minimum of two 100mm conduits. Optus does not consider this is necessary in the distribution network. This design feature adds significant cost.... (Para 4.80)*

Optus' argument is based on a misunderstanding of how the model operates with regard to the distribution network. In fact, the vast majority of the distribution cable runs in the model are housed in a single conduit. This can be verified by running the model with the default inputs. The quantities of each size of conduit configuration on the *Results Distribution Qtys* worksheet will show that almost all of the conduit configurations consist of a single 100mm or 50mm conduit. In fact, over 99% of the total length of conduit runs in the distribution network consists of runs with only a single 100mm or 50 mm conduit. This is verifiable from versions 1.2 and 1.2.1 of the TEA model. Optus' assertion that all ducts are "doubled" could not be further from the truth.

Optus does not criticise the TEA Model for including a spare conduit in main network conduit runs. Notwithstanding, it should be noted that an additional duct is included in the main network for maintenance purposes.[85] In summary, without the additional conduit it is often impossible to replace or repair existing main lines without long service outages. To avoid long outages in the instance of repairing an existing line, a new line needs to be installed next to the existing line. Customer services can then be migrated to the new cable prior to removing the old cable. Without the spare conduit, this transition would frequently be impossible and customers' services would be interrupted while the old cable was removed and the new cable was installed.

The use of direct buried cable in Band 2 areas as suggested by Optus (at 4.68 and 4.90) is impractical because:

- in Band 2 areas it is likely that direct buried cables will be built over making it difficult, if not impossible, to access them to rectify faults;
- conduit serves to protect cables. If cables were to be direct buried in densely populated areas, they would be exposed to a high risk of being damaged by digging; and,
- the use of conduit allows for easier, quicker and therefore more cost effective access to cables for the purposes of maintenance and augmentation of the network.[86]

[85] Statement of [redacted] at paragraphs 196 to 199
[86] Statement of [redacted] at paragraph 65

Optus does not identify, quantify or provide any evidence in support of any efficiency gains that might arise from use of direct buried cable.

F.1.4 Scorched node network design

Optus criticises the TEA model for not following the traditional scorched node approach because the model retains the locations of the actual network structures. Optus again states (at 4.83):

> *…by using the existing locations of pillars, manholes and pits in the model Telstra does not allow sufficient (if any) network optimisation. This means that historical inefficiencies will be carried into the final price and unfairly paid for by access seekers.*

As explained above at section F.1.1, these criticisms are predicated on their misunderstanding of how the TEA model operates. In particular, while Telstra retains the location of pillars, which has no net impact on investment costs, the location of manholes and pits are optimised. Cable routes are also optimised so that only least distance routes are included in the model.

Optus argues (at 4.86):

> *Optus considers that while Telstra's arguments may be relevant to future next generation access (NGA) network designs, they are largely irrelevant in terms of pricing the current ULLS. By definition ULLS relies on the traditional MDF for co-location and the costs of an efficient copper loop from MDF to customer site are of key interest to the regulator. Optus therefore submits that the Commission should disregard Telstra's arguments on this issue as they are outside the scope of the current inquiry.*

This argument is short sighted. Companies are currently bidding for the right to build the fibre to the node network. Next generation networks may require interconnection at a pillar (or other serving area interface) in each DA. It makes no sense to develop a model that ignores these eventualities. The ACCC should not adopt a model that can never be adapted to cost interconnection services at points outside the local exchange building when it is inevitable that such services will be required in the future. It is likewise illogical to develop one model for interconnection for ULLS at one point in the network (e.g. the exchange building) and later develop another model which uses a completely different network design to cost interconnection for the same service at another point in the same network (e.g. the pillar). Such an approach would distort the relative pricing between full-loop unbundling and sub-loop unbundling as discussed in Telstra's response to the ACCC's discussion paper (at page 14).

Inconsistently, Optus earlier (at 3.36) seems to acknowledge the need to have a model that prices interconnection at different points throughout the network.

> *Another concern is that the Telstra's TEA Model's network cost estimates are based on a Telstra exchange-based ULLS service where the ULLS POI is located at the Telstra Exchange, however it is not clear that the POI will in fact remain at the exchange. If the current undertaking was accepted, and if Telstra subsequently chose to move the agreed ULLS POI to a downstream location such as a fibre node in the emerging FTTN scenario, Telstra could continue to charge access seekers the*

access cost associated with the Telstra Exchange-based ULLS service… This scenario would severely disadvantage access seekers as the TEA model does not provide differential cost estimates for the various potential downstream ULLS POI scenarios envisaged in ACCC's ULLS service description.

And later Optus argues (at 4.91):

…Optus submits that it does not consider the TEA model's engineering design rules to be forward looking…These simple builds do not take into account the long term move to a FTTH/FTTN based network where large multi way duct nests along main cable routes will not be required.

As Optus states, it is important to have a model that is capable of costing interconnection for various downstream POI locations, such as a fibre node or pillar. The TEA model is designed to provide these costs as required. Fibre nodes will be located at the serving area interface or pillar. The TEA model, by retaining the actual pillar locations, is ideally designed to price interconnection services at these downstream ULLS POIs. Telstra agrees with Optus that this is a critical factor in evaluating any model.

Optus also argue (at 4.81):

Constraining a forward-looking efficient network design to use existing switch locations in a scorched node approach is an acknowledgement that regulatory access price setting should not be based on a network design that removes all inefficiency from an incumbent's physical network infrastructure (as a scorched earth approach would do).

This is not the reason why scorched node approaches are widely adopted by regulators around the world. Scorched node approaches are widely adopted since determining the location of exchange buildings would otherwise have to be done by hypothetical models which are necessarily imperfect. No hypothetical model can account for all obstacles to the placement of plant and equipment in a telecommunications network. Therefore, rather than placing exchange buildings in infeasible locations, regulators accept the network provider's actual locations.

Telstra fixes the location of exchange buildings, pillars and rights of ways in the TEA model. It is reasonable to fix the location of pillars for the same reason as regulators around the world typically fix the location of exchange buildings – to ensure they are placed in feasible locations and rights of way, as discussed above in section F.1.1. Further, the location of pillars has no net impact on investment costs. Finally, rights of way are an existing environmental constraint that no provider of telecommunication could ignore in deploying a new network.

F.1.5 Best practice network design

In this section, Optus purports to highlight two areas where it believes the TEA model's network design is flawed. As stated by Optus (at 4.87):

Optus wishes to highlight the following examples of Telstra's flawed and inefficient network design:
(1) Distribution cable runs along only one side of a street; and
(2) The model uses entirely underground cabling.

As with all Optus' concerns with the TEA model, Optus provides no analysis or studies to substantiate its positions.

In relation to the TEA model's network design of using a single cable run down one side of each street, Optus states (at 4.89):

> *Optus does not believe that an underground road crossing every second allotment constitutes an efficient design. This is especially true considering the model only applies in Band 2 areas where road crossings are likely to be expensive (due to potential disruption of traffic and other utility services). Furthermore, Optus considers that frequent road crossings are not consistent with access network design principles that are observed in other jurisdictions (where distribution cables are typically laid on both sides of Band 2 roads).*

Optus provides no data or studies to support this conjecture. A simple review of the results produced by the TEA model refutes this claim. The TEA model assumes that all customers are served by a single cable route reticulating down one side of the street. Customers on the far side of the street are served via conduit runs that are bored under the street. An example of this design is illustrated in figure 3(a) below. If Telstra were to revise the TEA model to adopt the Optus alternative design, these conduit road crossings would be eliminated and be replaced by cable runs reticulating down both sides of every street. This would result in a virtual doubling of the cable route distances in the model. An example of this design is illustrated in figure 3(b) below.

Figure 3(a): Illustrative example of conduit runs down one side of the street

Figure 3(b): Illustrative example of conduit runs down two sides of the street

Note: This networks above are illustrative only and do not necessarily correspond to Telstra's actual network or the network in the TEA model

More generally, the total investment costs for road crossing conduits to serve customers on the opposite side of the street from the cable run in the TEA model is $1.6 billion dollars (including the cost of boring under streets). The total investment cost for distribution conduit in the TEA model is $7.2 billion (excluding the conduit for road crossings). To duplicate the distribution conduit network by building cable runs down both sides of the street, the model could double the $7.2 billion in distribution conduit costs. This increase in cost would significantly exceed the $1.6 billion savings from eliminating road crossings.

It is not clear on what basis Optus claims that, in other jurisdictions, distribution cables are typically laid on both sides of the street. Optus might be referring to historical practice, when copper and labour costs were relatively low and the incremental cost of running cable down both sides of the street, not just one, was not as high as it is today. Indeed, in some parts of Telstra's actual network in band 2 areas, distribution cable runs down both sides of the street. In these instances the route optimisation process in the TEA model removes conduit runs down one side resulting in considerable efficiencies for the TEA model. In any case, it is appropriate for a forward-looking TSLRIC+ model to rely on the current prices for plant and equipment. With today's copper and labour prices, it is more efficient to have cable running down one side of the street, not both, as demonstrated by the analysis of the TEA model results above.

In relation to underground cabling, Optus argues (at 4.90):

> *... that operators in other jurisdictions use more economically efficient direct buried and overhead distribution cabling, particularly for the last few metres of delivery and when poles are already installed for use by other utilities.*

Again, there is no evidence to support this conjecture. Contrarily, Telstra's evidence on network design shows that the current construction requirements for cable networks virtually preclude the use of aerial facilities.[87] That evidence also explains the virtues of using conduit to house buried cable runs.[88] These reasons include:

- Efficiencies gained in the ability to install, replace, and remove existing cables;
- The additional protection the conduit provides for the cable; and
- Efficiency improvements in maintaining the cable network.

In contradiction to its submission in the context of Telstra's Undertaking, Optus' material submitted to the ACCC on its own CAN shows that installing aerial cable is, in practice, impossible. Optus states:[89]

> *Local planning authorities have often taken a hardline stance to any telecommunications development within their jurisdiction given community aversion to overhead cables. This is particularly true for aerial cabling. For example, the installation experiences by Optus Vision in the 1990s generally demonstrated that the community and councils had negative views towards aerial cabling. Optus could experience a similar widespread negative backlash if the current HFC network were to be expanded or infilled. This backlash extends beyond the economic cost to Optus to undertake environmental assessments required to obtain planning consent from various councils. Optus relies heavily on its 'brand' which would be adversely impacted.*

[87] Statement of [redacted] at paragraphs 40 to 55
[88] Statement of [redacted] at paragraphs 64 to 66
[89] Optus (2008), *Optus Public Submission to the Australian Competition and Consumer Commission in Response to its Draft Decision on Telstra's Exemption Application in Respect of the Optus HFC Network*, October 2008, at paragraphs 4.42 and 4.43

This is relevant particularly in NSW, where restrictions may apply to overhead cabling that is defined as a 'subscriber connection' (such as an installation for the sole purpose of connecting a building, structure, caravan or manufactured home to a line that is part of an existing telecommunications network).

The use of conduit to house cable runs in band 2 exchanges was also discussed by OVUM. OVUM acknowledges that using underground conduit in Band 2 exchanges is appropriate. As stated by OVUM:[90]

All cable placements in the model are assumed to be underground. For Band 2 (suburban) ESAs, this is appropriate.

Optus also argues (at 4.91):

Further, Optus submits that it does not consider the TEA model's engineering design rules to be forward looking. For example, pit and pipe builds appear to be based on guidelines developed in the past. These simple builds do not take into account the long term move to a FTTH/FTTN based network where large multi way duct nests along main cable routes will not be required. In a similar manner, building the distribution network with a minimum of 2xP100 ducts would impose greater than efficient cost. In most instances a more efficient build would involve 2xP50 ducts or 1xP100 sub-ducted with textile (soft) subduct which would save 20%-30% of the build cost.

These arguments are based on a misunderstanding of the requirements of the modelling and the method of the modelling. In relation to Optus' first point on duct nests along main cable routes, the TEA model dimensions the main network using the efficient amount of plant and equipment to ensure ULLS availability to wholesale customers. If a future technology obviates the need for some parts of the main network required for ULLS, then that does not mean that the current ULLS network does not need those parts. Second, as discussed above in section F.1.3, Optus incorrectly assumes that the TEA model dimensions the distribution network with a minimum of 2 ducts. Indeed, 99% of the distribution network is dimensioned with 1xP100 ducts or 1xP50 ducts.

F.2 Cost valuation

F.2.6 Replacement Cost

Optus argues (at 4.96):

Optus observes that copper cable costs and joint costs used in the model appear to be significantly higher than those used in other jurisdictions.

Optus provides no evidence to support this claim. In any case, if Optus was to compare costs with other jurisdictions then it would need to be very careful to take into account at least the following potential differences between jurisdictions:

[90] Ovum (2008), *Review of the Network Design and Engineering Rules of the Telstra Efficient Access Cost Model*, 6 August 2008, section 5.3

- Differences in cable production costs;
- Differences in exchange and purchasing power parity rates;
- Differences in the scope of the basket of services purchased from vendors; and,
- Differences in competitiveness between vendors able to supply services to telecommunications companies.

Optus also argues (at 4.97):

> *Further, Telstra's copper cable costs are also above competitive market rates available to carriers in Australia. For example, the following table sets out per-metre costs for copper cable of different sizes that are currently available to Optus, compared to the costs for the same sizes of copper cable that Telstra has assumed in the model. Optus' costs are for copper wire of 0.5mm diameter, while Telstra prices are for 0.4mm and 0.64mm; however on a like for like basis the Optus costs are significantly lower than the Telstra costs.*

Optus presents a confidential table that compares the copper cable costs in version 1.2.1 of the TEA model, with the copper cable costs available to Optus. Version 1.2.1 of the TEA model has dummy vendor prices in it to protect Telstra's vendors' confidential information. On examination of version 1.2 of the TEA model, it is clear that for all cable sizes except 2400 pair cable, Optus' vendors' prices for 0.5mm gauge cable is between Telstra's vendors' prices for 0.4mm and 0.64mm gauge cables. Optus makes a similar argument in relation to fibre cable costs (at 4.98).

More generally, the cable costs used in the TEA model reflect Telstra's negotiated rates established through an extensive competitive bidding process. Using a competitive bidding process to purchase large amounts of materials and supplies is standard practice in most industries because it is the most efficient procurement process. Telstra's terms of procurement for certain materials (including, relevantly, copper cable) include a 'favoured customer' clause. This means that Telstra has the benefit of a contractual warranty that ensures Telstra receives the lowest and most economical prices (taking into account appropriate relativities) agreed with any other customer of the supplier anywhere in the world. This arrangement casts serious doubt on the assertions made by Optus in its submission and the relevance of Optus' price comparisons (including for the reasons set out above). Telstra suggests that more evidence should be provided by Optus to ensure that any pricing comparisons it wishes to make are like for like and accurate. Otherwise, Optus' submissions should be considered with great caution.

There are numerous other issues that should be considered in evaluating the credibility of Optus' price comparisons. Telstra's contract prices are current costs and represent what Telstra will actually pay for these items through September 2009. Since prices change over time, comparing the prices Telstra pays today to prices Optus incurred during past years is not germane in determining appropriate forward looking replacement costs. Any valid comparison must be like for like with regard to: timeframe; geography (the equipment must be available in Australia); type of cable including casing; and other contract terms and conditions.

It is critical that the comparisons between prices include similar materials and functionality of contract terms. For instance, the equipment prices in TEA are for material and other terms that apply to the procurement, delivery and warehousing, of the cable prior to its delivery to the work site. The vendor/contractor supplying and placing copper or fibre cable must procure the cable and bear all inventory management costs. Thus, all inventory functions performed by the vendor cost money and are reflected in the prices Telstra pays for its materials. In theory, Optus might be able to purchase materials for less than the amount in the Telstra contracts, but those prices might not include the additional functions that Telstra's prices do (e.g. inventory management including the cost of storing it in a warehouse until it was needed). Optus' prices would, therefore, not be comparable to the prices in the TEA model.

Third, the equipment and placement prices included in the TEA model relate to very large construction jobs. They are not "piece rates" for placement of 10-50 metres of conduit and cable as alleged by Optus (at 4.99). Further, the maximum distance between joints in the model for all cables (large and small) are derived from engineering guidelines as specified in the *Access Network Dimensioning Rules* document. These guidelines reflect real world engineering factors such as the size of cable drums and the practical considerations of hauling cable through conduit.

F.2.7 Price Trends

Optus states (at 4.101)

> *Telstra has not applied forward-looking prices in the TEA model*

Contrary to Optus' unsubstantiated allegation, Telstra has applied forward looking prices in the TEA model. The prices in TEA are applicable through to at least September 2009.

Optus also states (at 4.102):

> *Optus considers that the price trends (and methodology) previously used by the ACCC in making a final determination of the access price in the access dispute between Telstra and Optus was acceptable. Optus has no reason to consider there should be any variation from this. These trends were based upon publicly available ABS data, were verifiable and used a sound methodology.*

It is noteworthy that the ABS data reports only historical prices for copper and labour and not forward-looking prices. As discussed in Telstra's response to the ACCC's Discussion Paper, a better source for future copper price trends would be the Australian Bureau of Agricultural Research in Economics (ABARE). ABARE's commodity forecasts have regard to future changes in supply (that is, new copper mines opening around the world) and demand, which have a large bearing on future prices. The ABS data, being historical, ignore these factors and, therefore, would not be a good indication of future prices.

F.2.8 Indirect Overheads

Optus states (at 4.104) that it requires more information in relation to indirect overheads. In its response to the ACCC's draft discussion, Telstra has prepared several

statements on the calculation of indirect overheads. These have been provided to, amongst others, Optus.

F.3 Trench Costs

Optus states (at 4.109):

> *…Optus considers that the ACCC's TSLRIC+ pricing principle is intended to establish a level of cost recovery consistent with Telstra's legitimate business interests.*

Optus appears to infer that the only limb of the statutory criteria for accepting an undertaking is Telstra's legitimate business interests. This is incorrect. Other criteria, in particular, the promotion of competition and encouraging efficient investment in and use of infrastructure, are also important in the consideration of assessing an undertaking price.

Optus claims (at 4.111):

> *Aspects of network design in the TEA model (e.g. the choice of copper technology) are protected from optimisation, with the intention of protecting Telstra's legitimate business interests…Forward looking cost estimates that are above historic cost cannot be regarded as reasonable. Such prices would not provide incentives for Telstra to operate efficiently and invest prudently, would not promote competition, and would distort end user retail prices in downstream markets.*

Optus summarise (at 4.114):

> *In summary, Optus proposes that in estimating the cost of the ULLS, assumptions about surface barriers (and indeed assumptions about any relevant factor) should be made with the objective of putting a ceiling on cost recovery: such that Telstra cannot recover costs that exceed its historical prudently incurred costs. To be specific, the model's assumptions about surface barriers should be based upon the surface barriers faced by Telstra historically in building its copper access network.*

Historic cost based prices (or prices with a historic cost ceiling) would not promote either Telstra's legitimate business interests or satisfy the legislative criteria more generally. Efficient, forward-looking TSLRIC+ is the appropriate cost standard for pricing wholesale access to Telstra's CAN. The ACCC has decided this issue and the ACT has concurred.[91] Indeed, the ACT explicitly commented on the relevance of historic costs:[92]

> *The starting point in assessing the submissions on this issue is, as throughout this proceeding, the principle that prices should be based on the forward looking costs of an efficient operator. The basic objective is to set prices that promote economic efficiency, which is the outcome that could be expected in a competitive market. It is because mobile termination has been declared as a service that inherently lacks the discipline of competitive forces that it is subject to Pt XIC of the Act.*

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[91] See *Telstra's ULLS Undertaking is Reasonable* at section C.2

[92] Re Vodafone Network Pty Limited Vodafone Australia Limited [2007] ACompT 1 at [68]ff.

> *Of course, the basis of reasonable prices in terms of s 152AH must proceed from the terms of that section, and it is those terms that direct the assessment process towards considerations of efficiency and competitive outcomes.*
>
> *What outcomes would eventuate in a competitive market? In such a market, pricing above the costs that would be incurred by a new entrant having access to the latest and most cost effective technology would invite the entry of such an operator.* ***Regardless of the actual costs, capital equipment and modes of operation of the incumbent operators, competition would force them to price as if they were using the latest technology. This would extend beyond the age and type of their capital equipment even to the design of their networks****.* [Emphasis added]

Furthermore, it appears that Optus might be suggesting that, rather than impose historic cost as a ceiling on TSLRIC+, one should mix and match inputs into a TSLRIC+ model such that the input to the model (either measured on the basis of historic cost or forward-looking cost) that provides the lowest overall cost is the correct one to use. It is inappropriate to mix and match methods of estimating inputs into a TSLRIC+ model. Such an approach is sure to ensure the outcome of the model does not meet any of the objectives for which it is intended. For example, basing a trench cost input on historic cost will surely mean that the output of the model does not achieve the objective of replicating the cost that would be incurred by a new entrant in a competitive market.[93]

Optus argues (at 4.112):

> *…Optus submits that the TEA model's approach to modelling such costs (which might be incurred in rebuilding the existing network "anew") results in trenching costs which exceed both the cost of Telstra's actual historically incurred costs…*

As stated above, the historic cost of the service is an inappropriate threshold to apply when assessing whether or not an undertaking is reasonable. In any case, Optus' assumption that Telstra's historic costs of trenching are less than the TSLRIC+ as calculated by the TEA model is very likely to be incorrect. The report entitled *Measure of TEA Model Efficiency: Band 2* illustrates that Telstra's actual network (on which historic costs are based) has 34.5% greater trench distance than what is included in the TEA model.

Optus also argues (at 4.112):

> *…an actual new entrant would adopt a more efficient network design than is assumed by the TEA model (after all, if a modern access network were to be built today it probably would not resemble the current form of Telstra's CAN)… Refer to the discussion under "efficient network design" in this submission.*

As explained in section F.1.1, Optus' discussion under the heading 'efficient network design' is premised on the incorrect assumption that all the structure points in

[93] Harris, Dr. Robert and Fitzsimmons, Dr. William (2008), *An Assessment of Telstra's TEA Cost Model for Use in the Costing and Pricing of Unconditioned Local Loop Services (ULLS)*, 4 November 2008, at section 2.4 and generally.

Telstra's actual network are carried through into the TEA model. However, this is incorrect for the reasons previously set out.

Optus claims (at 4.113):

> *Optus submits that the TEA model's assumptions regarding trenching highlight the absurdity of outcomes that can be derived from a TSLRIC+ modelling process if the purpose of the process is not kept upper most in mind. Under Telstra's suggested approach even if they had never excavated a single trench, the TEA model still compensates them as if they had. The TEA model implicitly compensates Telstra not only for costs that were not prudently incurred but for costs that were simply not incurred at all.*

The TSLRIC+ methodology is a construct that is designed to mimic the pricing outcomes in a competitive market. There are many costs included in a TSLRIC+ model that are not reflective of the costs that Telstra has incurred. For example, the TEA model assumes that Telstra is able to place joints in only efficient locations, place all cable in efficient routes, etc. Telstra often does not necessarily have joints or cables located solely in these efficient locations. There are many more costs that Telstra has actually incurred that are not included in a TSLRIC+ model. For example, the report entitled *Measure of TEA Model Efficiency: Band 2* shows that Telstra's actual network has 83.2% more manholes and 20.8% more pits than those included in the TEA model. That the results of a TSLRIC+ model do not necessarily accord with Telstra's historic costs is the nature of such models. It must be remembered that such models aim to replicate the outcomes of a competitive market. Whether Telstra incurs costs or not is irrelevant – as the ACT concluded:[94]

> *Regardless of the actual costs, capital equipment and modes of operation of the incumbent operators, competition would force [incumbents] to price as if they were using the latest technology. This would extend beyond the age and type of their capital equipment even to the design of their networks.*

Optus also claims (at 4.113):

> *In continuing to claim for costs that have not been incurred, Telstra continues to defy clear direction from the ACCC that states that the ULLS network costs should only include "those costs that Telstra legitimately incurs in the provision of the service".*

It is important to note that Optus has truncated the ACCC quote and, as a result, taken it out of context. The full ACCC quote is:

> *The ACCC considers that the ULLS network costs should only include those costs that Telstra legitimately incurs in the provision of the service,* ***(namely costs that are not recovered elsewhere), and are part of the forward-looking costs of providing ULLS****.* [Emphasis added to illustrate truncation]

The ACCC's statement appears to be in the context of recovering costs twice, not as Optus appears to have used it.

[94] Re Vodafone Network Pty Limited Vodafone Australia Limited [2007] ACompT 1 at [68]ff.

F.4 Trench sharing

Optus states that Telstra has accounted for two types of trench sharing in the TEA model, sharing with IEN and sharing in new estates (at 4.122). In fact, Telstra has included five types of sharing in the TEA model: the two mentioned by Optus, sharing of conduit leased to third parties, sharing between the main and distribution networks, and sharing main network between fibre-fed and copper-fed DAs.

Of the sharing included in TEA, Optus takes issue with the level of sharing attributable to new estates. Optus does not believe that use of developer provided trenches in new construction (sharing attributable to new estates) should be limited to the availability of developer-provided trenches in a single year. The joint access seekers' submission makes a similar point (commencing in the last paragraph on page 11). Telstra has assumed that a new entrant would be able to place conduit in developer-provided trenches 1% of the time, because that is the amount of developer-provided trenching that is typically available in a year's time. However, Optus states (at 4.124):

> *Optus submits that the TEA model significantly underestimates the level of trench sharing in new estates ... and this is inconsistent with Telstra's prudent past ability to share trenches and its future ability to share trenches.*

Optus provides no specific support for a level of trench sharing in new estates above 1%, but bases its claim that Telstra has historically been able to place some of its conduit in developer provided trenches and will have some opportunities to do so in the future on its previous filings and the ACCC's previous decisions on the subject.

Telstra's historic ability to share trenches is irrelevant in a forward-looking TSLRIC+ model. In order to replicate the outcomes in a competitive market, where new entrants have competed ULLS prices down to the level of their respective costs, the principle that the new entrant would build a network over a relatively short timeframe to meet all the demand on the Telstra network must be adopted.

Otherwise, if a lengthy roll-out period were assumed in a TSLRIC+ model, costs would generally be much higher. The short rollout timeframe principle underlying TSLRIC+ has implications for many aspects of the cost calculation, far beyond the availability of developer-provided trenching. One significant implication of the short construction timeframe is the placement of a single vintage of equipment to meet the whole customer demand. Specifically, TSLRIC+ methodology assumes that the entire CAN is comprised of the newest available technology sized to optimally meet the total network demand, not a mix of different technologies installed and reinforced over time as new customers are added and the network grows. This approach allows the model to reflect the efficiency of a new network while retaining the economies of scope and scale of the existing network. The benefits of this expedited construction timeframe related to immediate, full utilization of the network, far outweigh the downside implications of lesser availability of developer provided trenches during the short construction period. Hence, changing the expedited construction assumption in a TSLRIC+ framework would require consideration of many more implications than merely the additional availability of developer-provided trenching.

[redacted]

Telstra has also addressed the issues of Telstra's future ability to share developer-provided trenches in its response to the ACCC's Discussion Paper (at pages 8 and 9).

Optus argues (at 4.125) that the U.S. FCC has previously found that trench sharing should assume several years of developer-provided trenches in new estates:

> *The FCC has given consideration to the appropriate degree of trench sharing to be assumed in a forward looking TSLRIC+ model of network costs and determined that a predictive judgment needs to be made as to what future sharing will be available to the incumbent. The resulting trench sharing percentages adopted by the FCC are substantially greater than that used in the TEA model.*

Optus references a report by T Hird who draws this conclusion from an FCC decision: *Federal-State Joint Board on Universal Service, CC Docket No. 96-45*. However, caution must be exercised in applying this decision on universal service to other contexts. Indeed, the FCC states:[95]

> *In developing the model and inputs necessary to calculate universal service funding, the Commission did not intend to provide any systematic guidance to states in the area of TELRIC rate-setting. Indeed, the Commission emphasized at the time that its decisions on particular inputs were made solely for the purpose of calculating universal service support and may not be appropriate for the calculation of UNE prices. For these reasons, we continue to discourage states from using the nationwide inputs for the purpose of developing UNE prices.*
>
> *In the absence of more specific guidance from the Commission, however, some state regulators have utilized our USF Inputs Order to reach conclusions regarding the TELRIC-based cost of building a network. Although we understand why state regulators might refer to the USF Inputs Order in developing forward-looking costs, in at least some cases there might be unintended and undesirable consequences that result from extrapolating from statements made in the context of universal service funding. For example, the Commission stated in the USF Inputs Order that it is necessary "to assume that the telephone industry will have at least the same opportunity to share the cost of building plant that existed when the plant was first built." This statement was intended to address only the issue of structure sharing in the universal service model, but it has been interpreted by some states as endorsing a backward-looking approach for other inputs in a TELRIC model, such as the relative frequency of various construction types (e. g., boring through concrete, trenching through dirt). Applying this particular statement from the USF Inputs Order out of context erroneously assumes away not just the features of an incumbent LEC's existing network but also attributes of the real world in which incumbents and competitors operate.*

Clearly, and contrary to Optus' submission, the FCC explicitly warns against transferring trench sharing inputs from its universal service order into the determination of ULLS prices.

Optus also incorrectly argues (at 4.126):

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[95] FCC Review of TELRIC NPRM 18 FCC Rcd. 20265 para. 47, http://fjallfoss.fcc.gov/edocs_public/attachmatch/FCC-03-224A1.txt.

The TEA model is inconsistent in its application of TSLRIC+ in relation to new estate trenching as it models costs based on a forward looking new entrant rebuilding the network today but it also requires that a certain network design (i.e. designated by Telstra design rules) be followed by that new entrant. Costing based on mixing these concepts will lead to a price that could encourage inefficient bypass (as a new entrant would adopt a scorched earth network if the new entrant were rebuilding the network today) and will lead to cost recovery greater than is required to serve Telstra's legitimate business interests.

The network design underlying the TEA model is an efficient network design that would be followed by a new entrant replacing Telstra's CAN. While Telstra has used its own network routes in order to identify existing rights of way, these routes have been optimised to develop the base data used in the TEA model. This approach ensures that the resulting network lies in the available rights of way throughout band 2 avoiding all the natural and manmade obstacles that exist in each exchange. No new entrant could build a network following any other more efficient routing because it would have to use the existing rights of way. There is no mixing of concepts in the TEA model in the way Optus suggests.

Optus references two quotes from the ACT to justify its position (at 4.128 and the paragraph that follows labelled 4.26), however, these quotes are taken completely out of context and do not support Optus' position in relation to the trench sharing input.

F.5 O&M costs and indirect cost factors

Optus identifies the following issues with the calculations used to develop factors for the TEA model:

- The factors are based on actual historic results;
- The factor calculation determines a factor for all bands as opposed to just band 2; and
- The factors are derived from the Regulatory Accounting Framework (RAF) reports and are based on the net book value (or, using Optus' terminology, wholly depreciated value) of the plant.

Each of these concerns is not justified and will be addressed below. However, it is important to recognise that factors are an input into the model not a part of the model design and are able to be altered by Optus should it wish to do so. Disputes regarding the value of inputs do not constitute a legitimate criticism of the model itself. It is also notable that Optus provides no alternative values for O&M factors that would support its case against Telstra's values.

F.5.1 Factors Based on Historical results

Optus argues that it is inappropriate to use historic costs as the basis for determining the operating, maintenance and indirect costs in forward looking cost models (at 4.133, 4.135 and 4.138). Optus provides no evidence that Telstra's actual current costs are, in fact, those of an inefficient provider or even any examples of inefficient

practices, Optus contends, that Telstra employs. Optus also does not ever provide a description of the method that it submits should be used to develop factors it considers appropriate. Instead, Optus simply speculates (at 4.140) that the use of factors derived from Telstra's historical results "*will be likely to overestimate the efficient cost of supply…*".

The factors in the TEA model are based on Telstra's most recently available (at the time the TEA model was compiled) actual maintenance, operating and indirect expenditures. These reflect efficient operating costs. Portraying them as historical is a misnomer.

There are two types of O&M factor calculations:

- Top-down; and
- Bottom-up.

Under the bottom-up approach, each individual component of operating, maintenance and indirect costs would be modelled from scratch. Each function involved in operating and maintaining plant over its total service life would need to be identified and costed. All the associated indirect costs such as accounting, network planning, billing, human resources, legal and executive would similarly need to be modelled and quantified (for example, one would need to determine the efficient number of mechanics to repair Telstra's fleet of service vehicles). Identifying each component of these costs over the life of ULLS assets would be a monumental, if not impossible, task. Even if it were attempted, it would be subject to an enormous amount of error and never-ending debate from interested parties in the context of an undertaking. Identification of applicable joint and common costs would be even more problematic. For this reason, virtually every TSLRIC+ model uses some form of top-down approach to calculate O&M and indirect costs.

Under the top-down approach, the actual operating costs of the company serve as the starting point for developing an estimate of future costs. All large competitive companies use actual costs for ongoing operations when attempting to estimate future operating costs for business planning, pricing or budgeting purposes. They do this for two reasons:

- Current history is always the best starting point for predicting the future; and
- The enormity of the task and the probability of mistakes when attempting to identify all the functions and the cost of those functions required for operating a large company make a bottom-up approach to forecasting infeasible.

Current operating results always provide the best basis for predicting future results. Current costs are comprehensive in that they reflect all efficient recently incurred costs for all the functions required to produce and bring a product to market (e.g. operating, maintenance, marketing, sales, accounting, human resources, etc.). Being comprehensive ensures that no critical functions are overlooked in estimating future operating result. The use of current historical costs in forecasting is also efficient. As previously stated, the sheer magnitude of the task of attempting to predict each and

every function that each and every employee would perform in operating a large business every year would be an insurmountable task and a complete waste of resources.

Regulators around the world have almost universally recognised the wisdom of basing forward-looking operating costs on actual expense levels and have shied away from the bottom-up approach.[96] Following is a table identifying the basis used by each regulator for identifying operating costs.

Method for Determining ULL Prices	Basis for Deriving Operating Costs		Countries
	Direct O&M	Indirect	
Incremental Cost (e.g. LRAIC, TSLRIC+, TELRC)	Carrier's cost accounts	Carrier's cost accounts	Denmark*, France, Germany, Sweden, UK, Ireland, New Zealand, US
FDC	Carrier's cost accounts	Carrier's cost accounts	Portugal
Other	Carrier's cost accounts	Carrier's cost accounts	Norway, Netherlands
Other	Carrier's cost accounts	Carrier's cost accounts	Finland, Italy
Retail Minus	N/A	N/A	Belgium
* A bottom up study was done for the direct operating and maintenance costs for two plan categories			

Current actual costs are the basis for virtually all O&M and indirect expense forecasts in all forward looking or historic models that develop costs for major established network elements, such as the loop.

Optus goes on to argue (at 4.138) that historical cost associated with a legacy network are not appropriate costs for determining the forward-looking expense factors for use in a TSLRIC+ model:

> *So a new entrant's network with modern equipment would be cheaper to maintain than Telstra' legacy network.*

No compelling basis for Optus' conclusion in this regard is advanced.

In fact, the TEA model calculates the total life cycle cost associated with a new network build. For example, capital costs (including depreciation) are levelised over the total lives of the relevant assets, since capital costs are significantly higher in the initial years of an assets life when assets are undepreciated and decline over time as assets are depreciated.[97] Operation and maintenance expenses need to be treated similarly. Thus, while new assets might require relatively less maintenance and maintenance costs, they increase as the assets age and, therefore, TSLRIC+ models need to reflect the average or levelised operating and maintenance costs over the total asset's life. This is accomplished by using the actual recently incurred expenses as the basis for developing forward looking costs. Some actual assets in Telstra's network are new while others are nearing the end of their life cycle. Thus, Telstra's

[96] Denmark used a bottom-up approach for determining the operating costs for network terminating points and copper cables. All other direct and indirect operating costs were based on the actual costs incurred by the telephone company.

[97] The return and related income tax requirements for undepreciated assets are significantly greater than the return requirement for assets nearing the end of their life cycle.

actual operating and maintenance cost appropriately reflect the cost of maintaining a mix of all vintages of assets.

Finally, if the TEA model was revised to reflect the initial year of an asset's life instead of the total life cycle, overall costs would increase significantly. This is due to the fact that the higher capital costs associated with new assets would overwhelm any potential reduction in O&M costs. Revising the TEA model to use the capital costs for the first year of the assets' lives increases costs by approximately 20 percent.

F.5.2 Developing Factors for Band 2 Exchanges

Optus argues (at 4.139) that the factors used by Telstra in the TEA model are flawed because they were not compiled using only Band 2 investments and expenses.

> *Third, Optus considers that the approach used by Telstra to estimate costs using the total value of all the services in the RAF is not reasonable, given that the undertaking is for only Band 2 and relates only to the CAN.*

Optus argues that the factor calculation should be based solely on band 2 operating expenses. Again, this directly conflicts with the standard factor calculations used in most TSLRIC+ models. To develop factors or expenses by band or density group, historic costs and investments would need to be developed and retained by band or density group. Telstra, like most telecommunication firms, does not account for the operating results (i.e. expenses and investment) by exchange or by band. The additional cost of performing this function would far outweigh any potential benefit. Optus has not provided any information that would imply that there is any benefit that could be derived that would justify the significant outlay of resources such an approach would require.

In the United States, virtually every state commission and the FCC derives operating and maintenance costs using a standard expense factor or a standard cost per line, even when prices are deaveraged by density groupings. All these commissions have recognised the potential benefit of shifting a small amount of costs between bands or density groupings would never justify the significant resources required to acquire the information to compile density group specific operation and maintenance expenses. Operating and maintenance expenses are only approximately 8 percent of the cost of the total loop. A significant shift in the assignment of these costs would have a minimal impact on the ULLS price for any Band.

Telstra is not aware of any country that actually develops forward-looking expense factors or per line costs using historical costs disaggregated by density zone or Band.

F.5.3 Denominator in the Factor Calculation

Optus claims (at 4.137), that the operating and maintenance (O&M) factors used in the model were developed by dividing the total operating and maintenance expense by the net book (depreciated) value of the network assets on the Regulatory Accounting Framework (RAF) report. They go on to say that these factors are then applied to the undepreciated forward-looking investments produced by the TEA model.

> *First, the markup factors for O&M costs are derived from the proportions that exist in Telstra's RAF reporting (ie, the ratio of O&M costs in the RAF to network capital*

costs in the RAF). But these proportions are inflated because the value for network capital costs in the RAF is based upon the wholly depreciated value (WDV) of assets; while the O&M costs in the RAF are not depreciated.

Optus' claim is wrong and based on a misunderstanding of how the factors were compiled. The denominators for the O&M factors used in the TEA model are the total undepreciated historic or future value of the assets, as set out in *Operations and Maintenance and Indirect Cost Factor Study* (at paragraph 18) and as can be seen in column D of the *Investment Related Cost Development* table in the *Investment Costs* worksheet of the *Factor Calculation* Excel workbook, which identifies the costs as "Full investment cost".

Drs Harris and Fitzsimmons concluded that operations and maintenance expenses account for 10% of the estimated cost of providing ULLS calculated by the TEA Model. Nearly 9% of this 10% is attributable to operations and maintenance costs related to copper cables. They go on to show that increasing or decreasing the operations and maintenance expense factors related to copper cables by 10% increases or decreases the estimated monthly cost of ULLS by $0.80. This is a variation of only 1.7% on the default cost estimate of $47.86 per month. The result of any inefficiencies in the operation and maintenance factors is therefore likely to be negligible.[98]

F.6 Cost of capital

F.6.1 Market risk premium

Optus argues (at 4.147) that Telstra's market risk premium of 7% is inconsistent with regulatory precedent and, citing CEG, that "*there is a strong consensus amongst Australian regulators for an MRP of 6%*". Optus also refers to a table that shows almost unanimous support for a market risk premium of 6% (of the 16 decisions referenced in Optus' Table 4.3, only one deviates and suggests a range from 5% to 6%).

It is Telstra's view that, in each of these decisions, support for the appropriate market risk premium simply cascades from previous regulatory decisions. That is, support is drawn from other regulatory precedent, which, in turn, purports to draw support by adopting previous regulatory precedent. There is no independent economic evidence for an MRP of 6%. In Telstra's WACC report, a range of "economics-based" market risk premium estimates are presented, not figures simply adopted from precedent.[99] Telstra's analysis shows that the market risk premium ranges from 5.5% to 8% and that a reasonable point estimate is 7%. Recent financial events should only increase the MRP for all investments other than government bonds.

Optus also states (at 4.149):

> *…Telstra has very recently relied on estimates [of the market risk premium] produced by the WIK MNCM which rely on this parameter value [4.5%], amongst others.*

[98] Harris, Dr. Robert and Fitzsimmons, Dr. William (2008), *An Assessment of Telstra's TEA Cost Model for Use in the Costing and Pricing of Unconditioned Local Loop Services (ULLS)*, 4 November 2008, at 4.6.5, p 43 f

[99] Telstra's submission *Weighted Average Cost of Capital*, section 4.

Telstra does not and has not condoned the use of a market risk premium estimate of 4.5% in the mobile terminating access context. Telstra notes that WIK proposed a market risk premium of 4.5% and that resulted in a WACC of 11.68%.[100] The ACCC subsequently increased the WACC in the WIK model from 11.68% to 13% partly as a result of changing the market risk premium to reflect its view that "*a market risk premium of around 6 per cent was reasonable*".[101] After applying this and other changes to the WIK model the ACCC derives a TSLRIC+ for MTAS of between 6.1 and 6.6 cents per minute. Telstra considers that a mobile terminating access price around 6c would reflect Optus forward-looking efficient costs, and the WIK model supports that view. In any case, WIK's estimate of the market risk premium was for a global MRP rather than the Australian-specific MRP. This reflects the international perspective adopted by WIK-consult.[102] An Australian-specific MRP is appropriate for ULLS. There is no simple and direct transformation from a global MRP to an Australia-specific MRP and hence the relevance of the 4.5% global MRP to the ULL context is minimal if anything.

F.6.2 Beta

Relevance of Telstra-wide beta at the CAN-only level

Optus argues (at 4.152) that Telstra has incorrectly sought to apply a Telstra-wide estimate of the equity beta directly as an estimate of the CAN-only asset beta. Optus' argument is misconceived. Instead, Telstra has presented estimates of the Telstra-wide asset beta as a **guide** only to the likely estimate of the CAN-specific asset beta.[103] In Telstra's view, starting with Telstra-specific data and then adjusting towards an estimate that is relevant in the particular context (in this case towards an ULL-only provider) is preferable to starting from estimates unrelated to Telstra (such as those for gas pipelines and electricity distribution networks). The aggregate adjustments away from the Telstra-specific estimate are likely to be less significant (given the centrality of the CAN to Telstra's broader business), more controllable (in terms of rationale) and likely to rely on less arbitrary judgement. Conversely, adjustments from estimates based on the gas pipeline and/or electricity distribution networks towards a ULL-specific estimate are likely to be more arbitrary, less controlled and more significant (in terms of quantum).

Undoubtedly, there is a role for both top-down (that is, starting with Telstra-wide estimate and adjusting downwards to CAN-specific estimate) and bottom-up (starting with betas for gas pipelines and electricity distribution networks and adjusting upwards towards the CAN-specific estimate) approaches to estimating the asset beta at the CAN-only level. However, Telstra does not support uncritical application of betas originally estimated for gas pipelines or electricity distribution networks as unbiased estimates of the CAN-specific asset beta without any adjustment or proper consideration of the need for adjustment and its likely quantum. Uncritical application of an unadjusted beta from the gas and/or electricity contexts is likely to downward bias the estimate of the asset beta appropriate for the CAN-only provider, as discussed further below.

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[100] WIK (2007), *Mobile Termination Cost Model for Australia*, January 2007, page 35.
[101] ACCC (2008), *MTAS Pricing Principles Determination 1 July 2007 to 31 December 2008*, November 2007, pages 51 and 89.
[102] Wik-Consult, *Mobile Termination Cost Model for Australia*, page 32.
[103] See Telstra's submission *Weighted Average Cost of Capital*, at section 7.

Relevance of RBOCs

Optus considers (at 4.154 and 4.155) that the RBOCs are not suitable analogues for the CAN-only provider in the context of Telstra's undertaking because the RBOCs provide a wider range of services and therefore encounter a risk profile different to that of a fixed line CAN provider. This ignores the fact that access to the ULL will enable access seekers to provide a widening range of services, including services mentioned by Optus that in their view render the RBOCs irrelevant including VoIP services, long-distance calling, video-on-demand and other non-traditional services (all of which can be provided over ULLS). This wider suite of services provided by the RBOCs makes them a better analogue for the future CAN than if they had not continuously widened their service range away from traditional services only.

Relevance of gas & electricity businesses

Optus claims that investment in gas pipelines and electricity distribution networks have similar characteristics to investment in the CAN. They mention three characteristics, which, in their view, imply that the systematic risk associated with Telstra's CAN is similar to that of gas pipelines and electricity distribution networks (at 4.157).

> *…these networks all:*
>
> - *have a similar cost structure – with high upfront construction costs and relatively low ongoing maintenance costs;*
> - *are subject to limited competition from other services; and*
> - *derive demand for services from the purchasing decisions of a large number of small end customers (mainly households).*

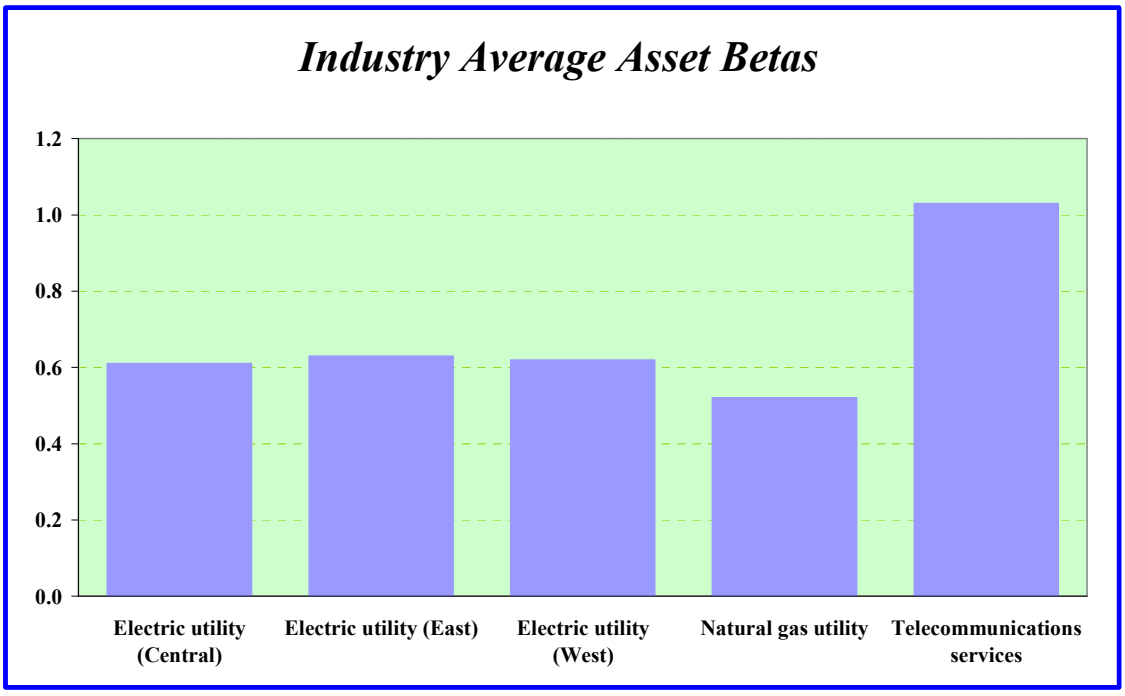
The second point is plainly incorrect. Electricity distribution systems are close to natural monopolies and gas distribution systems face only limited competition. The CAN obviously faces numerous competitors both from wired and more importantly wireless providers who are displacing an increasing number of CAN users every year.

In relation to Optus' first point, operating leverage in the electricity and gas sectors (that is, the extent of fixed costs) is likely lower than in the telecommunications sector because a significant portion of gas and electricity network operating costs relate to raw inputs that are variable with output. There is a strong positive relationship between operating leverage and asset beta given that, all other things constant, greater leverage means total costs fall less when demand falls. Hence, the net incomes of highly leveraged businesses are more volatile than those of lowly leveraged businesses. The likely higher operating leverage of the CAN relative to gas pipelines and electricity distribution networks in turn reinforces Telstra's view that the asset beta relevant for telecommunications assets (including for the CAN) will be higher than for gas and electricity.

The income elasticity for a particular service measures how changes in end-user income affect the demand for that service. More highly discretionary services are more significantly impacted by the economic cycle and hence generally exhibit higher asset betas. The services delivered over Telstra's CAN (especially the services

enabled via ULL) are more highly discretionary in nature than the services delivered over gas pipelines and electricity distribution networks. As a result, the sensitivity of CAN-related demand to the economic cycle is greater than demand for services delivered over gas pipelines and electricity. This in turn suggests that the asset beta for gas pipelines and electricity distribution networks should be lower than for the CAN. Although Optus is silent on this in their submission, CEG seem to accept that electricity and gas businesses may differ significantly from the FTTN (and, by their logic, the CAN) in terms of the variability of demand which would flow, all other things being equal, into a higher asset beta.[104]

One indicator of this higher demand variability and consequent higher asset beta across energy companies (electric utilities and natural gas distribution) and telecommunications companies, is information obtained on average asset betas for US companies in these industries from a website maintained by Professor Aswath Damodaran.[105] The beta information on this website is based on data from the Value Line database (of 7,364 listed entities) and data used is as at January 2008. The results for the average asset betas of the industries are as shown in the chart below.



This shows that the average asset beta for a large group of (69) electricity utilities is around 0.6 and for a group of (26) natural gas utilities was somewhat lower at 0.52. Both these estimates are substantially lower than the average asset beta for a group of (152) telecommunication companies (1.03).[106]

[104] CEG, *The Cost of Capital for the National Broadband Network*, para 55, page 17.
[105] http://www.stern.nyu.edu/~adamodar/New_Home_Page/datafile/Betas.html, accessed on 30 January 2002.
[106] Telstra notes that the telecommunications industry, as defined by Damodaran, is far too broad to be directly analogous to a CAN-only service provider but it does indicate significantly different systematic risk profiles for the telecommunications industry as opposed to the gas and electricity utility sectors. Given that the CAN is the critical asset for a telecommunications provider it would seem sensible that a significant portion of this divergence related to the CAN. The extent of divergence implies that

Furthermore, there are far more substitutes placing aggregate CAN cash flows at risk than there are for gas pipelines and electricity distribution networks (once the network and connection is in place). Therefore risk, and accordingly asset betas, for investments in gas and electricity infrastructure can be expected to be lower than those for telecommunications networks. Demand both for connections to and use of the CAN is relatively income sensitive. Since these are services that need to fund the greatest share of the CAN costs the net income of a pure-play CAN-only provider is likely to involve a material element of systematic risk relative to gas pipelines and electricity distribution network providers.

Given that regulatory intervention in telecommunications only follows breakdown of negotiations there is no certainty that the regulator will be involved whenever negotiations around access prices at any stage including for the period after Telstra's Undertaking commences. This means there is no guarantee that the regulator will be able to re-set access prices to reflect moves in market fundamentals including demand variability.

In the gas and electricity sectors, the regulated assets commonly have no alternate sources of revenue other than the prices established by the regulator at the mandated price reviews. In that context, the regulator has greater potential to ensure *ex post* outcomes are closer to the *ex ante* expectations of investors, to reduce long-term interest rate risk and to offset for demand fluctuations. Given the above, there are critical differences in the regulatory environments encountered by the CAN-only provider relative to those of the gas pipeline and electricity distribution network sectors. It is not clear that regulation demonstrably dampens the effects of demand variability on the long term path of revenue associated with the CAN. The CAN provider faces much more competition and thus more serious fluctuations in demand. Thus the regulator cannot and should not dampen out these variations in earnings.

In Telstra's view, gas pipeline and electricity distribution networks are not good comparators to a telecommunications company or even a CAN-only provider. In fact, the inclusion of estimates from gas pipeline and electricity distribution networks in the sample of betas educating the CAN beta will likely distort the estimated beta for the CAN downwards.

F.6.3 Asymmetric consequences

Optus claims (at 4.165) that the point estimate WACC applied by Telstra (12.28%) should not be above the simple mid-point of the recommended range. Moreover, Optus seems to imply that, since the Telstra estimate is above the simple mid-point of the recommended range (10.49% to 13.91%), then it must have been uplifted to reflect or offset the asymmetric consequences of mis-estimating the WACC.

The rationale for Telstra's point estimate WACC being above the mid-point of the recommended range for WACC estimates, was not due to a mark-up to offset the asymmetric consequences of mis-estimating the WACC. The point estimate was above the simple mid-point of the recommended range because a number of

---

application of gas pipelines and electricity distribution networks beta values to Telstra's CAN, without understanding the sources of this divergence, is too simplistic and likely to understate the true asset beta for Telstra's CAN.

parameters had central tendency above the mid-point of their individual recommended range. This critically reflected the MRP estimates; although the point estimates of debt and equity issuance costs were also marginally above the simple mid-point of their respective ranges.

Telstra relied on a range of empirical estimates of the Australian MRP rather than decisions applied in various regulatory contexts.[107] This approach ensures that the MRP estimates are empirically supported. The average of the estimates presented by Telstra was close to 7%. On this basis, Telstra applied 7% as its preferred point estimate of the MRP based of empirical estimates.

The recommended range of empirical estimates was again referenced from the same table of estimates. The estimates presented in this table ranged from a low of 5.6% (Hancock) to a high of 8.1% (AGSM). Telstra then applied a loosely followed convention of applying the MRP rounded to the nearest 0.5%. This meant the low-point of the recommended range was modified downward (from 5.6% to 5.5%) along with the recommended high-point (from 8.1% to 8.0%).

As a result of these considerations, the recommended point estimate (7.0%) was above the simple mid-point of the reasonable range proxied by the range in the same table (5.5% to 8.0%, simple mid-point of 6.75%). Application of this point estimate MRP pushes the resultant WACC above the simple mid-point of the likely range for the CAN-only WACC based on the various high and low estimates for the CAPM component parameters. However, there is no incorporation of offsets to the asymmetric consequences of mis-estimating the WACC.

Optus also claims (at 4.164) "*a large proportion of the capital invested in the Telstra network is sunk*". In their view, the corollary of this is that mis-estimating the WACC will not affect the investment decision (for that sunk investment). This perspective ignores the significant annual augmentation to the Telstra network ($629m for the year ending 30 June 2007 for the CAN[108]) to maintain effective operability of the CAN to which access seekers are interconnected. Clearly, a returns conscious network builder would start to limit further network augmentation/expansion if regulated returns became insufficient relative to the (systematic) risks involved. On this basis, downward mis-estimating the WACC would jeopardise network expansion and augmentation which, ultimately, would have significant negative impacts on network capability and the quality and range of services available. This would ultimately be contra to the long-term interests of end-users.

F.7 Calculating annualised and unitised ULLS costs

Optus notes (at 4.167):

> *The TEA model does not incorporate a tilted annuity formulation for determining annual capital costs.*

[107] See Telstra's submission *Weighted Average Cost of Capital*, at paragraph 123.
[108] Telstra's 2007 Annual Report, page 44.

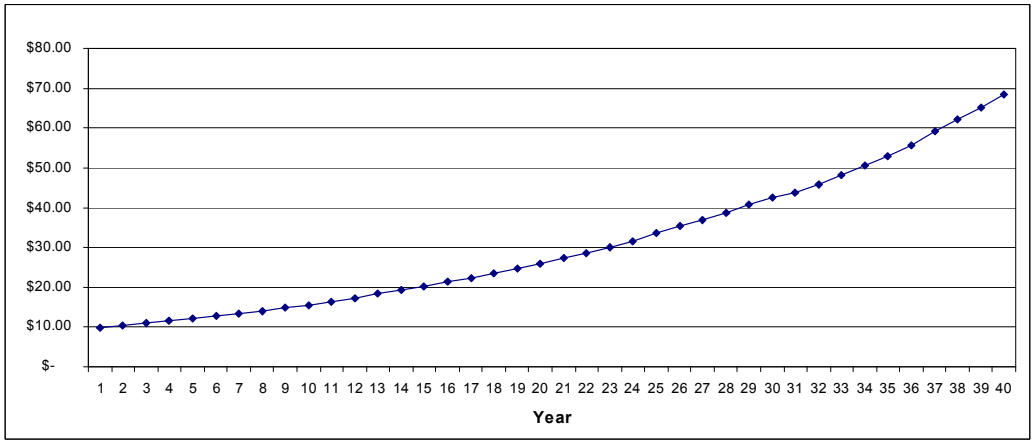
Optus then argues that a tilted annuity should be applied to the investment costs in the TEA model. Optus' argument is based on the following misconception (at 4.168-4.169):

> *"A tilt is placed in the annuity calculation to mimic the price path that might be expected in a competitive market. In such a market, one would expect the recovery of capital (or more precisely the price path) to reflect the following factors:*
>
> - *the level of competition in the market;*
> - *expectations of new technologies, and*
> - *changes in the replacement cost of relevant assets.*
>
> *A tilt is normally incorporated in the annuity function to reflect the expected price trends of assets that are being valued (as these incorporate expectations of new technologies and replacement costs), and allow regulators to replicate the cost recovery conditions that would be faced by a firm in a competitive market.*

In fact, the tilted annuity is exceptionally bad at mimicking the price path for ULLS that would be expected in a competitive market. This is perhaps best illustrated by the price path derived from the ACCC's use of the tilted annuity in the past and comparing this to the competitive pressures faced by Telstra.

The ACCC calculated a price path for ULLS, derived from the ACCC's use of the tilted annuity, for its final determination in a dispute between Telstra and Primus. The ACCC calculated investment costs for ULLS using its run of the PIE II model and applied a tilted annuity formula to convert the investment costs into annualised costs. While the ACCC determined only three years worth of annualised ULLS costs (from 2005/06 to 2007/08), it is possible to calculate the same for each year of the assets' lives using the same PIE II model used by the ACCC. Thus, one can set out the price path for ULL S as calculated by the ACCC's tilted annuity function over a time frame of forty years (the life of the longest lived asset in the TEA model). This is illustrated in figure 4 below.

Figure 4 ULLS price path using the ACCC's application of the tilted annuity



Source: PIE II model used by the ACCC in the Final Determination of the Primus arbitration.

For the first year of the determination, the ACCC set ULLS prices for band 2 areas as low as $12.30 for 2005/06. This was made up of $9.81 of network costs. As can be seen from the illustration above, the reason the ACCC was able to set such a low price for ULLS was because of its use of the tilted annuity method of calculating depreciation costs. The tilted annuity method results in very low prices by back-loading depreciation payments into the future. In effect, it means the ACCC requires Telstra to recover only a small amount of the cost of the assets (depreciation) in the present on the promise that it will be allowed to recover a much larger proportion of that cost in the future. Indeed, under the ACCC's own modelling, the network cost component of ULLS prices would need to increase from $9.81 to approximately $68 per SIO per month toward the end of the ULLS assets' lives.

Quite clearly, the tilted annuity, in its attempt to mimic a competitive market, suggests that the risk of competition falls away so much over the forty years after 2005/06, that Telstra is able to set the network cost component of ULLS prices over six times the value it can initially charge.

This is quite inconsistent with the increasing risk of competitors bypassing Telstra's CAN over time. The risk of bypass to Telstra comes from various sources:

- Optus HFC network, which is used to provide effectively the same retail services as ULLS, already covers 3 million homes, most of which are in band 2, and there is a risk that Optus will extend this;

- Voice and broadband services delivered over competitive mobile networks are increasingly substitutable with Telstra's fixed CAN; and,

- Alternative network operators are increasingly investing in their own fixed and fixed wireless networks to supply voice and broadband services.

Optus also argues (at 4.171):

> *The rationale for the tilt is as follows:*
>
> - *when input prices are falling, the incumbent operator will know that a new entrant in the future will have a lower cost base. As a result, incumbent operators will only invest in the market today if they can recover more of their capital in the early periods, because they know they will face a lower cost entrant in the future; or alternatively*
>
> - *when input prices are rising, the incumbent operator will know that a new entrant in the future will have a high cost base, therefore their future return will be 'protected', they are can [sic] therefore afford to invest and compete price down today in the knowledge they will not face a new entrant with a lower cost base in the future.*

In relation to the second point, which is most relevant to the ACCC's historical application of the tilted annuity to CAN assets, the rationale makes no intuitive sense. It implies that, in early years, there is competition by entrants that are 'early' to invest in competing infrastructure, which prevents Telstra from being able to recover a relatively high amount of depreciation. Then, in later years, it assumes that there is reduced competition by virtue of higher asset prices faced by entrants that are 'late'

to invest in competing infrastructure. However, it says nothing of why the 'early' entrants, who have already purchased their assets, apply less competitive pressure on Telstra in later years. Indeed, they are likely to apply more competitive pressure as they gain experience and confidence in the relevant markets and develop a large customer base over time.

F.8 Depreciation

Optus states (from para. 4.178):

> *Optus considers that the asset life variable generally has a significant influence on the final ULLS price. Optus has found that the TEA model is very insensitive to changes in the asset life variable and that this is an unusual, and concerning, result that suggests further review by the Commission would be appropriate.*
>
> *In regards to the previous network cost model (the PIE II model), Optus calculated that increasing the asset life of 'main cable' by 5 years decreased the ULLS price by approximately 14% and 11% in bands 1 and 2 respectively. However, similar changes made in the TEA model decrease the price by only 2%.*
>
> *Optus accepts that the PIE II and TEA models are quite different; nevertheless it would expect that the main drivers of costs, and hence sensitivity associated with changing parameters associated with these drivers, would remain reasonable [sic] similar. The fact that the model does not react as expected in regards to this variable (and others) is cause for concern and suggests that the model may be intrinsically flawed.*

On Telstra's calculation, using the ACCC's version of PIE II, increasing the main cable asset life by 5 years, decreases the ACCC's band 2 ULLS price for 2007/08 by 6% from $14.30 to $13.47.

Notwithstanding, the fact that the TEA model reacts differently to changes in asset lives than does the PIE II model does not suggest the TEA model is flawed. Indeed, as discussed below, the approach adopted in the TEA model is more robust and consistent than the approach adopted in the PIE II model.

The TEA model annualises cost by depreciating assets using a straight-line depreciation profile and then levelises annual costs (including depreciation and the cost of capital) over the lives of the assets. Hence, an increase in the life of an asset from, say, 5 years to 6 years affects the annualised cost of that asset by:

- Reducing depreciation in each of the first 5 years but adding a depreciation cost in the 6th year; and,
- Increasing the cost of capital in all 6 years (since the cost of capital is calculated by multiplying the WACC by the written down value of assets, which is higher in each year due to the slower depreciation of the asset).

The net effect of increasing an asset's life, after levelising over the life of the asset, is to reduce the annualised cost. This can be tested by comparing assets with different lives in the '*Capital Cost calculation*' sheet in the Calc Module of the TEA model.

In contrast, the PIE II model used a tilted annuity to determine depreciation and, rather than levelising annual costs of the lives of assets, it takes only the first year of annual costs. Hence, when asset lives are increased in PIE II, depreciation is delayed into later years much like the TEA model. However, because there is no levelisation in the PIE II model, the delayed depreciation is never accounted for, while in the TEA model it is. This is a flaw in PIE II (and the use of a tilted annuity) and is the cause of unreasonably wide fluctuations in the costs estimates relative to the TEA model.

The example that Optus cites – that when main cable asset life increases from 10 years to 15 years the ULLS price increases by 11% in band 2 – is testament to the flaw of using the tilted annuity approach in PIE II. Main cable assets make up [redacted]% of the total investment cost. To have ULLS prices drop by 11% by increasing the life of main cable assets (that makes up [redacted]% of total investment costs) is a very wide and unexpected swing. While the tilted annuity approach does not need to be analysed when assessing Telstra's Undertaking, it is notable that this analysis suggests the tilted annuity approach is quite unstable relative to small changes in inputs.

Optus argues (at 4.183):

> *Optus contends that the asset life for main cable used in the TEA model (10 years) is far too short and as a result the capital costs of the CAN are likely to be significantly over-recovered.*

Optus claims (at 4.184):

> *Optus submits, however, that the asset life for copper cable should be adjusted to at least 15 years as a conservative estimate of the economic life of the asset. A 15 year asset life is a reasonable estimate, consistent with international standards and aligns with Telstra's own statements on the asset life of main copper cable in the CAN.*

However, Optus' submissions in relation to the main cable asset life are confused and, in fact, support the use of a 10 year asset life for main cable. Optus refers to many external estimates of the asset life for copper cables generally (both distribution cables and main cables), however, Optus incorrectly attributes these estimates to main cable only. To rectify this mistake one would need to compare these external estimates with the weighted average of the main cable and distribution cable asset lives in the TEA model, which is 14.5 years.

Interestingly, all of the evidence Optus submits supports the TEA model's weighted average asset life for main and distribution cable of 14.5 years. For instance, Optus' evidence shows that the weighted average of main and distribution cable asset lives is:

- Between 10 and 20 years throughout Asia, Europe and the US according to a PwC study (at 4.187);
- On average 15 years according to the same PwC study (at 4.188) (Optus incorrectly claim that this refers to main cable only);

Notwithstanding, the following additional observations can be made in regard to the sources upon which Optus apparently relies.

First, some of the sources referred to by Optus are between 5 years to almost a decade old.[109] Obviously, those sources could not take into account the roll out of FTTN or substitution from fixed to mobile services. The imminent roll-out of FTTN in Australia is a highly relevant factor in determining the copper main cable service life. This is because where FTTN is rolled out, fibre will replace the main copper cable. Clearly this reduces the asset life of the copper main cable.

Second, the more recent sources referred to by Optus relate to different countries and telecommunications markets (that is, Canada and the UK).[110] It is not clear that Optus takes into account the differences in the telecommunications markets when drawing comparisons to between these countries. For example, Optus relies (at 4.195 to 4.198) on a decision by the Canadian regulator (CTRC). However, this decision was in relation to assets in rural areas which might have different service lives to assets in urban areas due to different risks of, for example, stranding by competition, and/or substitution to mobile etc.

Third, most of the sources referred to by Optus do not distinguish, in the service life adopted, between copper main and copper distribution cable.[111] Indeed, the report prepared by Marsden Jacobs Associates ("MJA") that Optus relies upon (at 4.200) makes a distinction between main and distribution cable but the sources on which MJA relies to set the copper main cable asset life do not.[112] Those sources, in turn relied upon by Optus, adopted a range of between 5-25 years for copper cable. Optus argues, on the basis of those sources, that an asset life of 15 years should be adopted. As mentioned above, Telstra notes that 15 years is consistent with the weighted average of the service life for main and distribution copper cable as used in the TEA model, which is 14.5 years.

Fourth, Optus implies (at 4.202) that the midpoint for Telstra's asset lives is 17.5 years. However, this is just the simple midpoint of the range of service lives Telstra uses to depreciate all cables, whether they be main or distribution, copper or fibre. It is improper to infer that the main cable asset life is 17.5 years.

Fifth, Optus indicates (at 4.204) that Telstra has argued that the asset life for the main cable should be 20 years. This is incorrect. In the context of the FANOC special access undertaking, Telstra's discussion regarding copper cable related to distribution copper cable and not main copper cable.[113]

F.9 Reasonableness of the non-price terms and conditions

Optus argues (at 4.217):

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[109] PricewaterhouseCoopers (1999), *Telco network service lives*, March 1999; and Ernst & Young (2002), *Global Telecom Depreciation Survey*, October 2002.
[110] Ofcom (2007), *Valuing Copper Access*: Final Statement, 18 August 2005; and CRTC (2007), *Telecom Decision CRTC 2007-5: Price cap regulation for Northwestel Inc*, 2 February 2007.
[111] PricewaterhouseCoopers (1999), *Telco network service lives*, March 1999; Ofcom (2007), *Valuing Copper Access: Final Statement*, 18 August 2005; CRTC (2007), *Telecom Decision CRTC 2007-5: Price cap regulation for Northwestel Inc*, 2 February 2007, Telstra (2006), *Telstra's Financial Reports*, 30 June 2006; and Robert Bowman (2005), *Report on the appropriate weighted average cost of capital for the ULLS (Public Version)*, December 2005. In that regard, Telstra notes that the service life quoted in Robert Bowman's report does not distinguish between asset classes, let alone copper main and distribution cable.
[112] Marsden Jacobs Associates (2006), *Comments on Discussion Paper – Telstra's undertaking in relation to the Unconditioned Local Loop Service Report for the Competitive Carriers Coalition*, 4 May 2006, pages 28 to 31.
[113] Submission in response to the Commission's Discussion Paper "*FANOC Special Access Undertaking in relation to the Broadband Access Service - Discussion Paper*", 27 August 2007 ("**FANOC Submission**").

> *…in order to be consistent with the reasonableness criteria set out in the Act, it is necessary that Telstra's undertaking contain non-price terms and conditions that ensure that access is provided to access seekers and to Telstra itself on an equivalent and non-discriminatory basis*.

Optus' submission is misconceived because:

- The Undertaking is not required to be exhaustive nor is it required to include terms and conditions which *ensure* that access is provided on an equivalent basis; and,

- The assessment of reasonableness is concerned with the terms and conditions *specified in the Undertaking*.

These matters are discussed below.

The Undertaking is not required to be exhaustive and is not required to include terms and conditions which ensure equivalence

Optus' submission is concerned with the absence of terms and conditions in Telstra's Undertaking rather than the terms and conditions included in the Undertaking. As already noted above, the fact that an undertaking does not specify all terms and conditions is contemplated by the Act. The note to s 152BS (1) provides that:

> *[T]he undertaking need not specify all terms and conditions - see subparagraph 152AY(2)(b)(ii).*

Section 152AY(2)(b)(ii) of the TPA provides that failing agreement on a particular matter, the carrier or carriage service provider must comply with the SAOs on such terms and conditions relating to that matter as are determined by the ACCC in an arbitration if an access undertaking is in operation but does not specify terms and conditions about that particular matter.

There is no requirement under Part XIC that an undertaking include non-price terms and conditions which *ensure* that access is provided to access seekers on an equivalent basis. Such a concept is fundamentally at odds with the fact that the legislative provisions contemplate that the Undertaking does not need to specify all terms and conditions.

The fact that an undertaking need not be exhaustive has been acknowledged by the ACCC and the ACT.[114] In the ACCC's final decision on Optus' 2004 MTAS Undertaking, the ACCC comments that: [115]

> *As Optus has correctly observed, it is entitled under the statutory regime to submit an undertaking that does not stipulate all the terms and conditions of access. Further, the Commission is required to assess whether the terms and conditions specified in the Undertaking are reasonable.* [Emphasis added]

[114] ACCC (2005), *Assessment of Telstra's ULLS and LSS monthly charge undertakings Final Decision*, December 2005, p 17
[115] ACCC (2006), *Optus' s undertaking with respect to the supply of its Domestic GSM Terminating Access Service (DGTAS), Final Decision*, February 2006 , p 180

The assessment of reasonableness is concerned with the terms and conditions specified in the Undertaking

The ACCC's assessment of reasonableness under s152BV(2)(d) is limited to the terms and conditions *specified in the Undertaking*. In its Discussion Paper, the ACCC states that it considers that it can take into account the absence of terms and conditions about certain matters in conducting its assessment under subsection 152BV(2). As set out in Telstra's response to the Discussion Paper, none of the terms and conditions *specified in the Undertaking* can be said to be unreasonable due to the absence of terms and conditions regarding equivalence. Further, on the basis of Optus' own submission, the terms and conditions are reasonable. Optus notes (at 4.212):

> T*he terms and conditions in the undertaking …will promote competition if they are non-discriminatory.* [Emphasis added]

The terms and conditions in Telstra's Undertaking are not discriminatory and Optus has not raised any matter which would suggest otherwise.

Optus' allegations regarding Telstra's practices in relation to exchange building access and other non-price matters are irrelevant to an assessment of whether the terms and conditions specified in Telstra's Undertaking are reasonable. If Optus has concerns regarding matters which are not the subject of terms and conditions in the Undertaking then, as has already been stated in this submission, it is open to Optus to lodge an access dispute in relation to access to the declared ULLS. As such, Telstra has not addressed those allegations in this submission. As noted above, however, this should not in any way be taken to be acceptance by Telstra of those claims.