

Telstra submission

Telstra's submission in response to the Australian Competition and Consumer Commission's Draft Decision in respect of Telstra's Undertakings for the PSTN Originating and Terminating Access and Local Carriage Services, dated 11 September 2006

20 October 2006

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Executive Summary

1. In this submission, Telstra responds to the Commission's Draft Decision to reject Telstra's Undertaking for PSTN OTA and LCS.
2. Telstra submits that the Commission has erred in its Draft Decision rejecting the Undertaking. Specifically, the rejection of the TSLRIC estimates derived from Telstra's PIE II cost model is not reasonable. Similarly, Telstra submits that it has adequately demonstrated that its Undertaking prices are reasonable and must therefore be accepted.
3. Telstra submits that the PIE II model provides a reasonable estimate of efficient costs of the relevant network elements. The model reflects the best in use technology for the delivery of these services, which enables the model to provide an efficient, forward-looking cost estimate. It is important to reiterate that at this stage, best in use technology for the delivery of PSTN voice services constitutes a modern digital circuit-switched network and not a 'next generation network'. Although next generation networks offer much, they are not yet proven in commercial operation at a scale commensurate with Telstra's PSTN for the delivery of PSTN equivalent voice services.
4. Telstra submits that the Undertaking prices are reasonable. The Undertaking enables Telstra to ensure it recovers the efficient costs (and no more) of providing the PSTN voice services (OA, TA and LCS). The Undertaking reflects the indisputable fact that fixed line PSTN traffic is declining at a greater rate than the consequent reduction in efficient PSTN costs. Telstra has provided substantial evidence to demonstrate that this decline is directly due to exogenous factors which are part of a dynamic world wide shift in the demand for telecommunications services. Rather than seeking to exacerbate this decline, Telstra's Undertaking seeks to mitigate and redress this by lowering LCS charges and implementing efficient two-part tariff pricing. This structure is consistent with retail offerings from Telstra and other retail service providers.
5. Telstra trusts that given the evidence presented in this and other submissions, statements and expert reports, that the Commission will find that the Undertaking is reasonable under the terms of the statutory criteria.

Background

6. On 22 March 2006, Telstra gave to the Australian Competition and Consumer Commission ("Commission") an undertaking ("the Undertaking") pursuant to section 152BS of the Trade Practices Act 1974 ("the Act") in respect of the public switched telephone network (PSTN) originating and terminating access (OTA) services and the local carriage service (LCS). At the same time Telstra provided to the Commission a submission in support of the Undertaking ("the Original Submission").
7. On 5 May 2006 the Commission published a Discussion Paper titled "Telstra's Undertakings for the PSTN Originating and Terminating and LCS Access Services" ("the Discussion Paper"). Telstra responded to many of the issues raised in the Discussion Paper in a submission provided to the Commission on 26 June 2006 ("the June Submission"). Telstra provided a subsequent submission to the Commission on 11 September 2006 on certain matters raised by other interested parties in their responses to the Commission's Discussion Paper ("September Submission").
8. On 11 September 2006, the Commission released its draft decision on Telstra's Undertaking. In this submission, Telstra responds to matters raised by the Commission in its Draft Decision. Telstra also responds to matters raised by other inquiry participants in response to the Commission's Position Paper.
9. Telstra has already provided extensive support for the undertaking in the September Submission, the June Submission, the Original Submission and in witness statements and expert reports. Accordingly this submission should be read together with these earlier materials.

Confidentiality

10. This submission has all of the confidential information deleted and thus may be disclosed publicly.

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11. Telstra will provide the confidential version of this submission and the information contained in it to interested parties subject to those parties signing appropriate confidentiality undertakings.
12. The confidentiality undertakings do not limit the extent to which interested parties, and the Commission, can analyse and comment on the content of this submission. Rather they are intended to prevent the distribution and use of the confidential material contained in this submission for purposes other than participating in the Commission's public inquiry relating to the undertakings.

Introduction

13. Telstra maintains that the prices for PSTN OTA and LCS contained in the Undertaking are reasonable. These prices ensure that Telstra fully recovers the efficient costs of services provided over the inter exchange network ("IEN"), which is essential to ensure that investment in the PSTN in Australia continues. Not allowing full cost recovery will make it difficult if not impossible to attract investment in the PSTN, causing a loss of the benefits from the operation and use of the PSTN. The price structure put forward by Telstra will ensure that the prices for PSTN services cover the total costs of the PSTN in a manner that is sustainable in a competitive environment.
14. Despite this, in its Draft Decision, the Commission chose to reject Telstra's proposed prices. This submission is divided into four parts:
 - Part A examines issues relating to the efficient network costs used by Telstra in determining its proposed PSTN OTA and LCS prices. In particular, Telstra responds to criticisms of the PIE II model (which Telstra used to determine the efficient costs of supplying PSTN OTA and LCS) and examines the Commission's comparison of these costs to its estimates of the costs revealed under Current Cost Accounting and Historic Cost Accounting approaches.
 - Part B examines the price framework Telstra has proposed for its Undertaking.

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- Part C examines issues raised in response to Telstra proposed Weighted Average Cost of Capital (WACC).
- Part D provides further evidence and responses to matter raised relating to averaging of the PSTN OTA prices the Undertaking and two-part tariff issues.

15. In the Draft Decision, the Commission references a number of submissions and reports which were provided to it in the context of the ULLS Undertaking process. For the purposes of the Undertaking Telstra relies upon and adopts all of the material provided by it in the context of the ULLS undertakings, to the extent that this material is relevant to the issues raised in the context of the Undertaking. This includes submissions on general issues, such as the approach which should be taken to the assessment of the Undertaking against the statutory criteria including all of the documents set out as Annexure A to this submission.

16. Further, Telstra refers to and relies on previous submissions provided by Telstra responding to submissions and reports tendered by Optus in the context of the ULLS undertakings and the Undertaking, including:

- [c-i-c].

17. Telstra incorporates all of these submissions by reference in the context of the Undertakings (see also Annexure A). In that regard, Telstra is unable to re-provide those submissions to the Commission as it is bound by confidentiality undertakings to either destroy those submissions or not disclose them in any context other than in which they were originally provided to the Commission. However, the Commission has those submissions and should take account of them in the context of the Undertaking.

Part A — Telstra’s network costs

18. In Telstra’s Original Submission in support of its Undertaking, the proposed prices were supported by TSLRIC estimates of the IEN derived from Telstra’s PIE II model.¹ Telstra also provided evidence of the historic and current costs of the PSTN to provide context to the PIE II TSLRIC estimates and estimates of the IEN costs derived by the n/e/r/a model.
19. In its Draft Decision, the Commission stated that it “cannot be satisfied of the reasonableness of the estimates that rely on the PIE II model.” (p. 36). In this section Telstra responds to criticisms of the PIE II model raised by the Commission and other interested parties. Telstra also examines the Commission’s assessment of Telstra’s estimates of the historic and current cost estimates of the IEN.

Reasonableness of the PIE II model

20. In order to calculate the efficient, forward looking costs of providing PSTN services, Telstra has developed the PIE II model. For the purposes of the Undertaking, the model was ‘rolled forward’ to account for changes in asset prices, the WACC, and forecast traffic volumes.
21. Telstra, in its Original, June and September Submissions, has provided a substantial amount of material documenting the architecture, assumptions and inputs that underpin the PIE II model. Extensive information has also been made publicly available on the model in the course of other regulatory proceedings.
22. In its draft decision, the Commission states:
- The PIE II model is not considered to be able to produce an accurate estimate of TSLRIC, and therefore the ACCC is not satisfied that the estimates of efficient network costs based on this model are reasonable (p. 8)*
23. The Commission is more expansive in its view in its Final Decision to reject Telstra’s recent ULL Undertaking, in which the Commission argued:

¹ Specifically, the switching and transmission elements of the model.

However, Telstra, in putting forward its own cost model, must satisfy the ACCC that its preferred set of assumptions are likely to generate cost estimates which could be held to be efficient cost estimates. In order to do so, the onus remains upon Telstra to enable the ACCC, and other parties, to sufficiently scrutinise its model and to enable sensitivity testing of its preferred assumptions and inputs such that the ACCC can be satisfied that the model is capable of generating efficient cost estimates. (p. 45)

24. In this section, Telstra will respond to these concerns. In particular, Telstra will address the Commission's concerns relating to the transparency and openness of the model, the appropriateness of the underlying technological assumptions in the model, and the reasonableness of the engineering and provisioning assumptions used to dimension the relevant IEN elements of the model.
25. Nevertheless, Telstra does not agree that the ACCC must be satisfied that the estimates of efficient network costs based on the PIE II model are reasonable. Neither is the Commission required to consider whether Telstra's efficient network costs are appropriate. Instead, the relevant test is whether the terms and conditions of the Undertaking are reasonable. Reasonableness in this context is a notion which implies a "range of choice reasonably open and consistent with" the criteria in section 152AH(1).² As such the Commission need not be satisfied on the reasonableness of each particular element of the PIE II model, and must instead consider the reasonableness of the terms and conditions of the Undertaking in light of the estimates produced by the model. Not only is this interpretation consistent with the plain reading of the section and precedent on what is "reasonable", but it is also has the important advantage of ensuring that access undertakings are not unduly rejected simply because the Commission has a view on something in respect of which reasonable minds could differ.
26. Access undertakings are intended to promote industry certainty. As the Commission only has power to accept or reject access undertakings, an approach where the Commission rejects an undertaking because it has a view on something in respect of which reasonable minds could differ can only make it less likely that undertakings will be accepted and that certainty achieved. Instead, we will see the current profusion of bilateral arbitrations.

² Re Application by GasNet Australia (Operations) Pty Ltd [2003] AcompT 6 at p29.

Transparency and openness of the PIE II model

27. In its draft decision, the Commission has criticized the PIE II model for not being necessarily open and transparent enough to be reasonable. Specifically, the ACCC noted that to be acceptable a model must:

- *Be sufficiently transparent that the ACCC and access seekers could reasonably assess the inputs and outputs at a disaggregated level.*
- *Allow users to test the assumptions in the model and analyse the impact of different changes in inputs (and architecture) on outputs by understanding the linkages within the model.*
- *Allow users to assess how element costs and capital are allocated within services.*

(p. 38)

28. Telstra is adamant that it has discharged its onus with respect to these points. The model has been made available to access seekers to examine. It is true that this access is not unfettered — but it still constitutes far greater access to the model than the Commission ever allowed with respect to its own network costs model (the n/e/r/a model). Telstra is therefore at a loss to understand how a lack of access necessarily evidences unreasonableness. Ultimately, the volume of criticism that has been directed at the PIE II model and its underlying assumptions belies the apparent inability of others to critique the model. It is very easy to ‘throw stones’ at an economic model. However, Telstra considers that the PIE II model should not be held to standards that are in excess of those to which the Commission held itself (in the case of its n/e/r/a model) or to standards which other comparable models are held in other jurisdictions. No model, by its very nature, can be perfect. Every model contains a series of compromises between simplicity and accuracy. Thus, to the extent that a model is simple, the assumptions (which must by necessity be a simplification and an averaging of the most appropriate assumptions) can be criticized. On the other hand, to the extent that very detailed assumptions are used (which are closer to the most appropriate assumptions), this will increase the model’s complexity and thus the model can be criticized for lack of transparency and ease of use.

29. The Commission charges Telstra with the onus to show that its model is reasonable by, requiring Telstra to go above and beyond what the Commission itself has done, or what is

common practice internationally, in order to clear this threshold. This is excessive and defeats the objects of the Act by making it near impossible to have an undertaking accepted.

The PIE II model could not be run

30. In its July submission, Optus comments that the version of the model provided to Optus is not capable of being run (p. 11). Telstra has provided Optus with the 2004/2005 base version of the PIE II model. It also provided to Optus (and other interested parties) the results of a run of the model, in which the inputs have been updated. Telstra, in its original and June submissions provided explanation as to what inputs into the PIE II model have been updated for the purpose of providing those runs of the PIE II model. Although these runs of the model cannot be 're-run', they enable users to see the impacts of updating the model (in terms of traffic volumes and input price trends for example) on the estimated cost base.

31. If interested parties wish to run the PIE II model in order to modify variables, they should use the 2004/2005 base model. Telstra has made this model widely available to interested parties and has provided extensive documentation on its features.³ In order to further assist the Commission and others in understanding how the adjustments to volumes and prices affect the unit prices, Telstra is also providing an additional spreadsheet.

Technology assumed in the IEN component of the PIE II model

32. In its draft decision, the Commission claims that Telstra's PIE II model is not forward looking because it is based on 'old technologies' (p. 39). Telstra does not understand how the Commission has reached this view in light of its own previously stated view as to what constitutes appropriate technologies for the purposes of TSLRIC modeling, and the evidence Telstra has previously supplied to the Commission:

"Furthermore, Telstra noted that the requirement that the model employ best-in-use technology has generally been held to require using technology and equipment that is

³ For example, Annex A to Telstra's Original Submission in support of the Undertaking and Annex A to Telstra's June Submission in support of the Undertaking.

actually deployed in operating networks and has been proven reliable and cost-effective and can be supported from the perspective of network operations.

Therefore technologies that are not yet in commercial use (such as IP-based technologies) would not qualify for inclusion in a costing model.” (p. 37)

33. It is worth noting that the first paragraph of the above quote is a paraphrasing of a quote from the Commission's own 1998 Pricing Principles, which Telstra included in its July submission in response to the Commission's Discussion Paper.
34. Telstra, in this submission, will not repeat the myriad of reasons why a NGN cannot currently be considered best in use technology for the delivery of PSTN services, except to reiterate that at 1 July 2006 (the starting date for the Undertaking) no telecommunications company **anywhere in the world** was providing a NGN service — capable of meeting the regulatory requirements and reliability levels achieved by the PSTN. Further, no telecommunications company anywhere in the world will have developed a NGN network capable of clearing the regulatory hurdles, customer demands and overall product requirements of PSTN services by June 2008 (the end of the timeframe of the Undertaking).⁴
35. Since 1998, the Commission has consistently found that the appropriate technology to represent in the model is that which is 'best in use'.⁵
36. However, in its Draft Decision the Commission appears to reject the technology choice in PIE II because it is not 'forward looking'. Telstra submits that forward looking is best in use. This approach has been accepted by regulatory bodies world-wide, including the ACCC. If the Commission is changing its approach from use of forward looking costs to use of future cost, it should make that clear so that Telstra and other interested parties can respond. If the Commission has not changed its long held view that costs should reflect forward looking, best in use technology, the basis for its finding that PIE II does not reflect forward looking technology is unclear.

⁴ For a thorough examination of why NGN technology cannot be considered to currently meet the 'best in use' standard, the Commission is encouraged to read the witness statement of Dr Hugh Bradlow (31 August 2006) and Telstra's supplementary submission to the Discussion Paper (11 September 2006) (as well as Telstra's earlier submissions), all of which examined this issue in depth.

⁵ see further Annexure B to Telstra's Original Submission, p.14 and Telstra's June Submission, p. 12

37. In support of its position that the technology modeled in PIE II is not forward looking, the Commission cite a number of parties, including Professors Joshua Gans and Stephen King who are quoted as stating:

TSLRIC estimates are usually based on 'forward looking' technology... (p. 41)

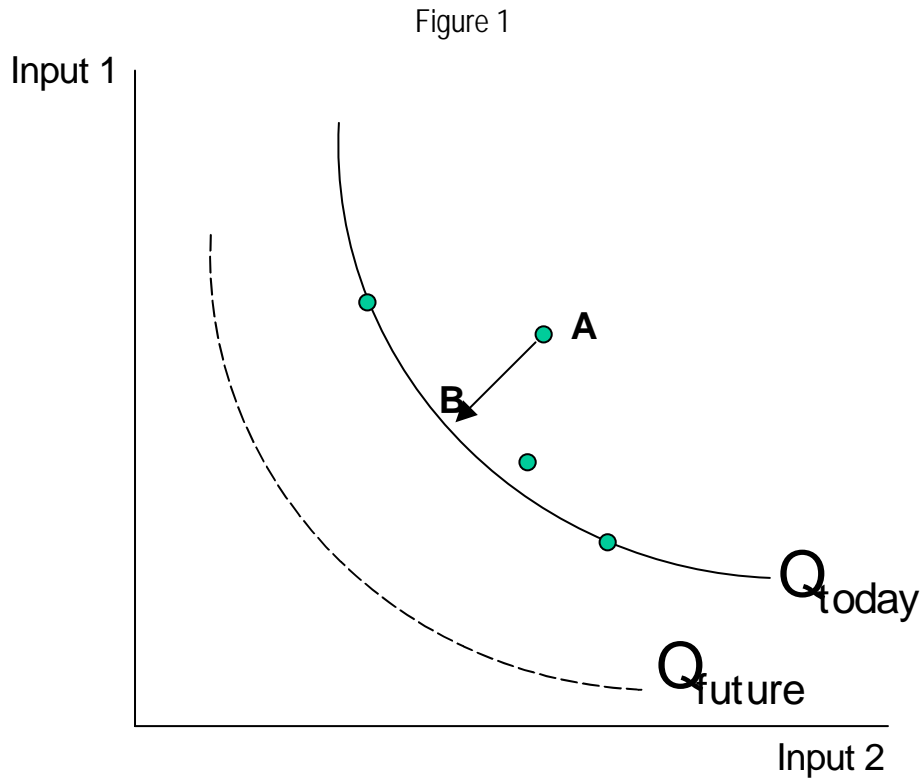
38. Telstra is of the view that the Commission has quoted Gans and King out of context, significantly misrepresenting their argument for the appropriateness of on 'forward looking costs' in TSLRIC modeling.⁶ In their article, Gans and King draw on the FCC decision (96-98) as evidence of the debate surrounding the use of forward-looking costs in TSLRIC models and as justification for their preference for the use of forward looking costs as opposed to historic or current costs. In this FCC decision, the argument was between the use of historic costs (that is the costs of the TSLRIC network should be based on the accounting book values of the assets actually in the network), current costs (the historic costs 'brought forward' to account for current prices of the assets) and the use of forward looking costs. The FCC's stated reason for adopting forward looking costs is to replicate the cost and efficiency pressures that are brought to bear in a competitive market:

Because a pricing methodology based on forward-looking costs simulates the conditions in a competitive marketplace, it allows the requesting carrier to produce efficiently and to compete effectively, which should drive retail prices to their competitive levels. We believe that our adoption of a forward-looking cost-based pricing methodology should facilitate competition on a reasonable and efficient basis ... (para 679 at p. 332).

39. Telstra agrees with the FCC's position with respect to the use of forward-looking costs in TSLRIC modeling.⁷ The purpose of forward looking costs in a TSLRIC model is to simulate a competitive market. In a perfectly competitive market, firms operate on or about an efficiency frontier (that is, in from point 'a' to point 'b' on the curve Q_{today} in figure 1, such that the same level of output can be produced with fewer inputs/lower costs).

⁶ Interestingly, although Gans and King do make this statement, they go on to say that "We do not consider [in the article] the arguments in favour and against the use of forward-looking costs when determining telecommunications pricing" (p. 7).

⁷ This is not to say that Telstra considers TSLRIC to be the most appropriate methodology for determining regulatory prices.



40. In contrast, what the Commission is asking the PIE II model to replicate, is something more than best in use, (in effect “best in use tomorrow”). This would represent requiring Telstra to operate on or about the equivalent of curve Q_{future} in figure 1. This is equivalent to the efficiency level one might expect a firm in a competitive market to operate on using **future technology**. No competitive markets — anywhere in the world, in any industry — utilise production technology from the future. If the Commission considers that the PIE II model is unreasonable on the basis that it assumes best in use technology *today* for the delivery of PSTN OTA and LCS, as opposed to a NGN framework which *may* be best in use for the delivery of these services in the *future*, then the Commission expect Telstra to do the impossible.
41. Based on this, Telstra is of the view that Gans and King (2004) would support the modeling of a circuit switched network to estimate the IEN costs. The IEN costs that are estimated by the PIE II model are not based on current costs or historical costs, rather the PIE II model uses the latest and most efficient technologies available that have been proven capable of delivering PSTN services at a scale and level of reliability required of Telstra. It is clearly a forward-looking cost model, reflecting all of the elements advocated by the FCC and Gans and King.

Other 'evidence' relied on by the Commission

42. At this time Telstra feels compelled to comment on the Commission's liberal quoting and use of rhetorical material, which only serves to 'muddy the waters' on this issue. Merely citing a range of unsubstantiated opinions from other parties (none of whom operate a national PSTN or are required by law to deliver the suite of PSTN services throughout Australia) adds little insight to this issue.
43. Ultimately, Telstra would hope that the Commission gives full consideration and appropriate weight to the large volume of evidence that Telstra has provided in its previous submissions, witness statements and expert reports, on this matter prior to its final decision, and arrives at that decision without relying on the baseless rhetoric of competitors [C-i-C]. It is important to separate hype from reality. Next Generation Networks are still very much 'under construction'. Although they potentially offer much in terms of new and exciting services and cost savings, they do not currently represent best in use technology. Being forward looking is not the same as having a time machine and on this point the Commission should take heed of the advice of Ofcom:

Whilst charges should send the pricing signal to use more efficient technologies where appropriate, this should not be used to artificially promote new technologies such as NGNs.⁸

44. The Commission should also examine more fully the material it has cited in support of the position that the PIE II model is no longer appropriate and that a NGN-based model should be used. For instance, citing a report prepared for Ofcom by the consultancy .econ⁹, the Commission expects an IP core network to have significant cost implications for Telstra's OTA services. The .econ report on which the ACCC relies is a qualitative assessment of the overall effect on the relationship of unit network costs to distance that might be expected once BT's next-generation network has been rolled out some five years hence. That report observes that it is only a starting point for a quantitative assessment of cost relationships in a network based on the next-generation technologies.¹⁰ The report

⁸ Ofcom, *Next Generation Networks: Developing the regulatory framework*, 7 March 2006, p. 56.

⁹ .econ, *Distance Gradients – Assessing the impact of NGNs on interconnection tariffs' distance gradients*, March 2006.

¹⁰ .econ, p. iv, 2.

accordingly says nothing relevant about the distant gradient issues in a PSTN relevant for the purposes of the present Undertaking.

45. Telstra submits that the impact of the implications claimed by the ACCC cannot be determined without detailed quantitative analysis. However, qualitative considerations suggest that their effects are at best ambiguous and certainly lie beyond the established methodology for forward-looking cost modeling. Further, as observed in the cited report, if voice and data services are supplied using a common protocol and share capacity dynamically this may increase the uncertainty with regard to future capacity requirements and increase the need to build ahead of growing demand.¹¹ Of course this is all a matter of conjecture as no telecommunications company, anywhere in the world, has yet deployed a NGN to replace circuit-switched PSTN.

46. The Commission also cites a report by consultant's Ovum as evidence for the emergence of NGNs. This report, makes it clear that the expected timeframe for the deployment of NGNs is well beyond that of the current undertaking,

"The shift towards next-generation networks (NGNs) is possibly the most fundamental transformation the ICT segment has ever seen. However, it is an evolutionary rather than revolutionary development, which has long-term implications. As a rough timeframe for OECD countries, we expect NGNs to be in place by around 2012 for fixed and 2020 for mobile infrastructure."¹²

47. In sum, Telstra is firmly of the view that the technology represented in the PIE II model is "best in use" for the delivery of PSTN services.¹³ Best in use is the appropriate standard to apply to a forward looking cost model that is attempting to replicate the investment incentives of competitive markets.

¹¹ .econ, pp. 26-27, p. 49. "there is the possibility that new services may become widespread rapidly, causing a sudden increase in demand for network capacity that may be difficult to satisfy sufficiently quickly ... there might be a greater need to build ahead for risk management reasons."

¹² Dan Bieler, *Next-generation networks: challenges ahead*, available at <http://www.ovum.com/go/content/c,64671>

¹³ Specifically, the PIE II model assumes the use of AXE switches. Marsden Jacobs assert that Telstra's switch supplier no longer provides the AXE switch used in the PIE II model (p. 8) and the Commission repeats this assertion in support of its view that the PIE II model "is based on old technologies"(pp. 39-40). Firstly, this assertion is totally incorrect, Ericsson continues to supply Telstra with AXE switches and to support them. Further, in 2004 the BT cost model used the AXE10 and System X switches (BT, *Long Run Incremental Cost Model: Relationships and Parameters*, 17th August 2004. p. 37) Similarly, France Telecom's latest generation of circuit switches uses the AXE10.

Other assumptions relevant to the IEN component of the PIE II model

48. As previously mentioned, in its Draft Decision the Commission expresses its concern with respect to the engineering assumptions that are used in PIE II to construct the PSTN. In this section, Telstra will address these concerns and responds to other specific criticisms of the relevant aspects of the model, raised by both the Commission and other interested parties.
49. However, first Telstra considers it necessary to reiterate that it is only those elements of the model that affect the estimation of the IEN cost base (chiefly the switching and transmission elements) that are relevant to determining PSTN OTA and LCS prices. Both other parties and the Commission have frequently called into question aspects of the PIE II model that have little or no relevance to these proceedings. For example, in their July submissions in response to the Commission's Discussion Paper, Optus and the Competitive Carriers Coalition make repeated references to what they claim to be unreasonable assumptions made in the PIE II model with respect to the dimensioning and provisioning of the Customer Access Network (CAN) layer of the PSTN.
50. Optus comments that Telstra has failed to update the CAN layer of the model for 2006/07 (para. 17). This is, of course, irrelevant for the purposes of the Undertaking. The cost of the CAN is not relevant to the calculation of the TSLRIC of PSTN OTA and LCS, which is derived from the cost of the IEN. The relevant network elements for the purposes of calculating TSLRIC of PSTN-OTA is limited to the IEN.
51. Optus also comments that aspects of the methodology used to geographically disaggregate the CAN in the PIE II model (for the purposes of optimizing the network build) are not efficient. For instance, Optus claim that "there are fundamental inefficiencies in the grid method used by the PIE II model" (page 5). Similarly, Optus assert that it is not reasonable to extrapolate the costs of urban DA's from a reference DA (page 7). Again, these comments are entirely irrelevant to the cost base modeled by the PIE II model for the purposes of calculating costs relevant to the Undertaking.
52. Other irrelevant comments include:
- The placement of pillars (Optus PIE II response, paragraph 3.6)

- The use of mobile and satellite technology as an alternative to copper for access in non urban DAs (Optus PIE II response, paragraphs 3.40 to 3.43)

53. Unfortunately, even the Commission seems to have confused the elements of the model that pertain to the estimation of PSTN service costs. For instance, the Commission cites the fact that the PIE II model does not make use of WiMAX technologies as evidence that it is not 'forward looking'. Irrespective of whether or not WiMAX might be an appropriate access technology in certain circumstances — which remains a point of conjecture¹⁴ — it clearly does not represent best in use technology for the IEN.

While it is reasonable to use rectilinear distances in urban areas due to street grids, rectilinear distances in rural areas may overestimate costs

Telstra's engineering rules in country areas without the use of clustering algorithms may overestimate costs in rural areas

Telstra's PIE II model does not take into account new technologies such as WiMAX in country areas that have the potential to reduce costs.

54. Although Telstra bears the burden of proof to demonstrate its pricing proposals are reasonable, the onus is on the Commission to assess claims and allegations of the parties and discard those which are baseless and irrelevant to the decision at hand. Much of the criticism leveled at the PIE II model is erroneous in the current context. Perceived errors in the model relating to the CAN — justifiable or not — that have no bearing on the costing of the IEN are of no consequence to the question of whether or not the PIE II model produces reasonable TSLRIC estimates for the purposes of the Undertaking.

55. The remainder of this section will respond to those critiques of the PIE II model that are relevant to the estimation the TSLRIC of the IEN. The key assumptions and variables that determine the IEN costs are:

- The dimensioning of RAUs
- Price trends for assets

¹⁴ See the statement of Hugh Simon Bradlow dated 3 August 2006 and Network strategies, *An accurate assessment of the comparative costs of wireless access technologies in Australia*, 7 Jul 06.

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- Asset lives
- Call setup times and unsuccessful call times
- Busy hour call estimates
- Minutes of use forecasts
- Operational and maintenance factors

Network dimensioning and remote access units

56. One of the elements of the roll forward PIE II model that has been criticized by Optus, is the provisioning of remote access units (RAUs). Optus also make the incongruous point that the number of RAUs have remained unchanged. They claim that this is 'surprising' given the reduced demand for lines forecast by Telstra (p. 11 June 2006 submission).

57. RAUs are required irrespective of whether the copper line is connected to Telstra's PSTN, or to another carriers' network via the unbundled local loop service. Even if the copper has been 'cut', the RAU would still have to be provisioned. It would only be if every line that is connected to a given RAU were all disconnected, and Telstra was 100% per cent confident that it would never be required to fulfill its carrier of last resort obligations in the area serviced by the RAU, that the RAU could be removed (or not dimensioned in the PIE II model). This is the reason why the number of RAUs is the same, even through traffic volumes fall.

58. Optus go on to state that despite the reduction in volumes on the network, network elements seem to have increased in certain areas (p. 12).. This of course misses the point that overall the value of the equipment in the model is now less than in 2004/2005 (which is to be expected given the price trends for equipment in the model and the forecast reduction in demand).¹⁵

¹⁵ Optus in their response to the Discussion Paper at paragraph 5.11 suggest that this is the result of rural traffic volumes being forecast to grow. It should be noted that the traffic forecasts in PIE II were applied uniformly across Australia.

Network element capital costs have been updated

59. Optus has also claimed that Telstra has failed to update asset price trends in the PIE II model (p. 12). This is incorrect. Telstra has updated the price trends for key inputs to the PIE II model for the purposes of running the model for 2006/2007 and 2007/2008.¹⁶
60. The price trends used were based on the analysis of Telstra's Chief Economist, Mr Geoffrey Sims.¹⁷ Where appropriate, Australian Bureau of Statistics data were used to calculate network element price movements, other trends utilized data derived from Telstra's Current Cost Accounts. Marsden Jacobs, in their response to the Discussion Paper indicate that these sources a 'good starting point' for the derivation of the price trends (p. 20)
61. Marsden Jacobs highlight that, ideally, the price indices would be more disaggregated (p. 20). However, Telstra considers that these indices are the most reasonable method for updating the asset prices, as they correspond most closely to asset categories (and their inherent costs) in the PIE II model. Furthermore, the price trends used not only reflect the equipment costs, but also the underlying labour costs where appropriate. It is really inconsequential whether one trends the price of an input by a series of factor indexes, or uses a properly constructed weighted index (which reflects the underlying input factor prices changes) in adjusting asset prices.
62. These price indices are applied to the assets in the PIE II model by using a compound average growth rate (CAGR) to determine an appropriate figure for the annualized price trend to apply for the three years from 2004-05 to 2006-2007.
63. It should be noted that land and building costs have not been updated in the roll forward model (the price trend applied to land and buildings is zero). This is contrary to the claims of n/e/r/a in their PIE II report (p. 56). This is a very conservative assumption given the substantial increase in commercial property prices in across Australia since 2001-02.

¹⁶See Annex A to Telstra's June Submission.

¹⁷ For more detailed description of how the price trends were calculated and the underlying data used, see the statement of Mr Geoffrey Sims (13 September 2006).

In some cases, Telstra has adopted even more conservative price trends

64. In the roll-forward PIE II model used by Telstra, the prices for Optical Fibre, SDH Equipment, Local Switching, Signaling Transfer Point, and Transit Switching assets were adjusted by -8.5 per cent per year, rather than -10 per cent CAGR for that period. This was the price trend for the most recent year in the three-year CAGR period (2004/2005). Based on the arguments of Marsden Jacobs, a trend of -8.5 per cent (rather than -10 per cent) is more aligned with that observed in comparable cost models used internationally. Ultimately however the choice of either -8.5 per cent or -10 per cent has negligible impact on the costs of the IEN, changing the value of the network by around [C-iC].

Unsuccessful Call times and the percentage of unsuccessful calls

65. In the PIE II model, unsuccessful call holding times are assumed to last an average of 28 seconds. This is a reasonable estimate given the following:

- About one third of the unsuccessful calls are ended because the B-party number is busy. The A-party hangs up after about 4 seconds because the A-party hears the engaged tone as soon as the call set-up time has passed;
- Approximately two thirds of unsuccessful calls are unsuccessful because the B-party does not answer. In that case, for fixed to mobile calls or fixed-to-fixed with Messagebank the maximum ring time is 60 seconds (prior to the call going to Messagebank) and for fixed to fixed (without Messagebank) calls, is 90 seconds.

66. Based on this, it is reasonable to assume that, on average, the one third of unsuccessful calls that result in a busy tone are terminated after four seconds, and the remaining two thirds of unsuccessful calls are terminated at an average of 40 seconds. As such, the overall average length of unsuccessful calls is approximately 28 seconds.

67. In the PIE II model, it is assumed that 33 per cent of calls are unsuccessful. Marsden Jacobs contend that this assumption is unreasonable based on overseas experience (p. 15). Optus also questioned the reasonableness of this assumption (p. 19). Telstra does not agree that the 33 per cent assumption is unreasonable. Simply because a different ratio is being experienced in other countries, does not mean that it is also being experienced in Australia. Nevertheless, to address these critiques, Telstra has conducted

sensitivity analysis to determine the net impact on IEN costs of adjusting the unsuccessful call percentage from 33 per cent to [C-i-C]per cent (the percentage suggested by Optus as reasonable). The results indicate that adjusting the unsuccessful call percentage from 33 per cent to [C-i-C] per cent decreases total capital costs by less than [C-i-C] per cent.

68. The results of this sensitivity analysis clearly indicate that even if one disagrees with Telstra's assumption of the unsuccessful call percentage, varying this percentage to that suggested by others, is utterly inconsequential to the size of the estimated cost base and, ultimately, Telstra's proposed PSTN OTA and LCS prices.

Successful call setup time and the costs of call setup

69. The PIE II model assumes that successful call setup takes an average of 10 seconds. Optus comment that it is unreasonable to allocate 4.8 per cent of the total cost pool to call setup (p. 18). It is irrelevant whether or not this amount is reasonable, as Telstra no longer uses that percentage in its modeling. Telstra uses the Commission's methodology.

Assumptions of the number of busy hours per day and busy days per year

70. To ensure the model dimensions a network capable of handling busy hour loads, an estimate of the percentage of calls that are 'busy hour calls' is required. For this purpose, the number of busy days per year is assumed to be 250 and the number of busy hours per day is assumed to be ten. Based on these assumptions, the proportion of busy hour calls traversing the network is assumed to be 0.04 per cent.

71. Marsden Jacob's comment that the number of busy days per year in the PIE II model seems reasonable (p. 15). n/e/r/a, is a report prepared for Optus, comments that the number of busy hour calls is higher than the percentage used in the n/e/r/a ACCC model. Telstra submits that the calculation of busy hour traffic is reasonable and conservative. Telstra submits that another reasonable estimate of busy days per year would have been 231¹⁸ (as compared to 250) and an alternative reasonable estimate of busy hours per day

¹⁸ 231 busy days, can be easily justified as follows. Weekend call traffic is substantially less than weekdays, meaning approximately 104 days of the year could be considered 'low traffic days'. Most businesses (which make up the bulk of call traffic) allow each staff member a period of four weeks annual leave meaning on average an additional 20 days of the year could be considered a 'low traffic days'. Finally, there are an additional 10 public holidays each year which could be considered 'low traffic days'. In total, 365 days, less 104 days, less 20 days, less 10 days, equals 231days.

could have been eight¹⁹ (rather than 10). These alternative busy day, and busy hour estimates are justifiable. The same cannot be said of the number of busy days and hours that would have to be assumed to arrive at a busy hour call percentage of [C-i-C] (which is assumed in the n/e/r/a model) (see table 1).

Table 1: Busy hour and busy day assumptions and resulting busy hour call percentages.

	Assumption in the PIE II model	A reasonable alternative	Assumption in the n/e/r/a / ACCC model
Total BH mins	1000	1000	[c-i-c]
Busy Days	250	231	[c-i-c]
BH minutes per day	4.00	4.33	[c-i-c]
Busy Hours per Day	10	8	[c-i-c]
Minutes per BH	0.40	0.54	[c-i-c]
Busy Hour Call %	0.040%	0.054%	[c-i-c]

72. Two conclusions can be drawn from table 1.[c-i-c]. Given this, Telstra does not believe that the n/e/r/a estimate seems reasonable. The second conclusion is that by adopting a more conservative estimate of busy days and busy hours than it could have, Telstra have reduced the busy hour call percentage from 0.054 per cent, to 0.040 per cent.

73. Sensitivity analysis undertaken by Telstra, reveals that if the PIE II model assumed 231 busy days and 8 busy hours, it would increase total network costs (across CAN and IEN) by over [c-i-c]. Conversely, if the n/e/r/a assumptions were adopted (which Telstra submits are, in any event, unreasonable) then costs would be [c-ic] lower than that achieved by the assumptions in the PIE II model. Based on this, Telstra submits that the assumptions in the model are reasonable.

Trench Sharing

74. Marsden Jacobs raise the issue of the division of the costs of trenches shared between the CAN and IEN (p. 20, footnote 28). The PIE II model allocates the common cost of all shared trench equally between the CAN and IEN cost pools. This is a reasonable assumption.

¹⁹ Based on Telstra's typical traffic flow, eight hours is in fact likely a more usual result than ten. The usual eight busy hours in a day are 9.00 am to 12.00 pm, 2.00 pm to 5.00 pm and 7.00 pm to 9.00 pm.

75. Telstra conducted sensitivity analysis, adjusting the percentage of sharing between the IEN and the CAN from [c-i-c]. Increasing the sharing percentage has two impacts. First, costs are shifted from the CAN to the IEN as a greater proportion of the CANs total trench sharing costs are now being shared with the IEN. The secondary effect, is to change the overall costs of the entire PSTN. In the analysis conducted by Telstra, the impact of increasing this sharing percentage is negligible, affecting the total asset base by just over [c-i-c].

76. Several parties have claimed that a greater proportion of trench lengths could be shared between the IEN and the CAN. However, as acknowledged by Analysys the opportunities for such trench sharing are limited since most of the IEN is in provincial and rural areas. Trench sharing is also difficult because of timing issues.

77. Optus comments that:

Optus submits that the level of sharing between the CAN and IEN networks within PIE II is significantly less than Telstra's capacity to share. In this regard, Optus notes that Telstra shares only [c-i-c] of its IEN network compared with the 15-70% shared in n/e/r/a international benchmarks. Optus also notes that while the PIE II model only allows main cable sharing when main cable extends for more than [c-i-c], Optus believes that Telstra already shares main cable well below this level. (paragraph 3.19 of Optus Submission on Telstra's PIE II Model, July 2006).

78. The above quote reflects a lack of understanding of trench sharing assumptions in the PIE II model. The quoted figure [c-i-c] is the percentage of IEN cable that shares trench with **both** the main cable *and* the distribution cable. This is far less than the [c-i-c] of IEN cable that is assumed to share with main cable (discussed above).

Asset Lives

79. Optus has criticized the asset lives used in the PIE II model:

Optus submits that the PIE II model has significantly underestimated the efficient asset lives of a number of specific asset categories. (para. 3.45, p. 13, Optus PIE II submission).

Telstra submission

80. Telstra maintains that the assumed asset lives for relevant IEN assets in the PIE II model are very reasonable and in many cases are conservative and are likely to significantly understate the TSLRIC. [c-i-c]

Telstra's forecasts for PSTN volumes

81. As outlined in previous submissions, all minutes of voice traffic that traverse the PSTN are used to dimension to the roll-forward PIE II model.²⁰ Telstra submits that the forecast minutes of use represent the most accurate forecasts available of PSTN use for the period of the Undertaking.

Traffic volumes on the PSTN are declining

82. Telstra has provided extensive evidence in its previous submissions on the falling volumes experienced by the PSTN.²¹ This phenomenon is consistent with fixed line networks around the world, which are losing traffic volumes — chiefly as a result of mobile substitution.²²

DSL Traffic

83. Vodafone comments in its July submission that the falling volumes might simply reflect a loss of market share from Telstra to alternative resellers of PSTN voice services. Vodafone claim that, "...it seems that Telstra is being highly selective in its depiction of its network utilization" (p. 4). This is incorrect. All traffic minutes that use the IEN layer (the relevant layer for the purposes of this undertaking) are considered in Telstra's forecasts for PSTN use.
84. Vodafone argues that VoIP calling is increasing and these call minutes should be included in the forecast minutes of use. This is an illogical argument. Although VoIP services that are delivered via DSL will travel on the CAN layer of the PSTN, they do not use the IEN core of the network — which is the relevant layer for the costing of PSTN voice services. Instead of using the IEN, DSL data (including VoIP calls) use the Telstra Broadband

²⁰ For details on the forecasting process see the statements of [c-i-c] (27 September 2006) and [c-i-c] (29 September 2006).

²¹ See further the statement of [c-i-c] (29 September 2006).

²² This convergence was acknowledged by Marsden Jacobs, who state "Telstra estimates of declining PSTN service use is appropriate and reflects international developments" (p. 37).

Network. Therefore, even if VoIP calls are increasing, forecast volumes for this type of call, as well as other ADSL broadband data — are not relevant to the dimensioning of PIE II (which is the purpose of forecasting future call traffic) and have no bearing on the costs Telstra seeks to recover from the PSTN OTA and LCS undertaking prices.²³ VoIP calls that terminate on the PSTN are counted as terminating traffic (as is any other TA call).

Mobile calls

85. The forecasting of call minutes from the PSTN to mobile networks (F2M) and from mobile networks to the PSTN (M2F) is somewhat more complicated than for other call types. All F2M are forecast by Telstra and included in the TELFOR PTP estimates that are used to dimension the PIE II model.²⁴ Similarly, M2F calls that originate on non-Telstra mobile networks are forecast and included (along with other calls which originate on non-Telstra fixed-line networks) in Telstra's TA forecasts. However Telstra, as part of the TELFOR system, does not forecast the number of mobile minutes from its network that terminate on its PSTN. For the purposes of populating the PIE II model, total M2F minutes are assumed to be a certain ratio of forecast F2M minutes. For the roll forward model, this ratio was set at [c-i-c].[c-i-c]. (Calls from other mobile networks to the PSTN are already included as part of the TA forecast). As price relativities between fixed and mobile calls change, this ratio is also likely to vary. Telstra considers that the ratio used in the roll forward model is very conservative (as it likely overstates the total number of minutes traversing the network).

86. Sensitivity analyses were undertaken to determine the impact on the estimated IEN cost base of changes to the M2F ratio assumption. [c-i-c] Overall costs decrease by around 0.001 per cent ([c-i-c]). The analysis indicates that whether the 'true' ratio is 1, .75, .25 or 0, the small variation in the assumption of total traffic traversing the PSTN will result in negligible change in the estimated cost base. As such, Telstra considers the assumption of a M2F ratio of [c-i-c] is reasonable.

87. Vodafone in its submission, raises a concern over supposed disparities in Telstra's forecasts for mobile traffic:

²³ Where PSTN voice traffic and DSL broadband traffic do utilize common network infrastructure, such as in the case of the intercity transmission network, this is taken into account by the PIE II model. This however is accounted for in the PIE II model. In this way PIE II is conservative and understates the per megabit cost for the transmission of PSTN traffic only.

²⁴ For details, see the statement of [c-i-c](27 September 2006).

Telstra does not present figures for mobile-to-fixed calls alone. Instead Telstra estimates a 2.4 per cent decrease from 2006-07 to 2007-08 for fixed-to-mobile and mobile-to-fixed calls. However, Telstra's half yearly financial statement shows that fixed-to-mobile minutes increased by 1.3 per cent based on the volume of minutes Telstra experienced from 31 December 2004 to 31 December 2005. (p. 4)

88. Vodafone's reasoning is faulty. It is comparing past actuals to forecasts. Although past trends might reflect future outcomes, they are unlikely to be as prescient as Vodafone would imply. In any case, the purported 'error' is less than five per cent of the forecast volume amount.

Operations and Maintenance Factors

89. It is international practice to calculate O&M expenses in TSLRIC models using data obtained from the network operator's actual expenses and asset values. Cost models typically rely on the network operators' recent accounting data from which to calculate expense factors for major categories of operations, maintenance, and overhead expenses. Those factors can then be multiplied into TSLRIC asset values or direct expenses to obtain the estimated O&M expenses.
90. For relatively short-lived assets, the PIE II model calculates the expense factors as the ratios of O&M costs to asset values for the most recent vintages of these assets in Telstra's accounts (for example PDH equipment is excluded). It then applies those factors to the model's estimate of the volumes of these assets required for an efficient design to obtain the forward-looking O&M costs.²⁵ This calculation ensures that O&M costs associated with older and less efficient network assets are not used to project forward-looking O&M expenses. The model's estimates of forward-looking O&M costs for these assets thus incorporate an adjustment to reflect the improved efficiency of operating and maintaining new assets as compared with maintaining older equipment.
91. For relatively long-lived cabling and trench assets, the PIE II model uses the current costs of operating and maintaining those types of assets and calculates the ratio of current O&M costs to the model's TSLRIC value of cabling (or trenches) required for an efficient cable plant design in the same year. The use, in the denominator of the O&M expense factor, of

²⁵ Mitchell, 2003, ¶ 133.

the forward-looking value of long-lived assets, rather than the substantially smaller depreciated value of these assets, avoids overstating O&M expenses.²⁶ For subsequent years, the PIE II model then applies the O&M factors to capital costs of cable and trenches, respectively. O&M expenses for newly constructed trenches or newly installed copper cable are likely to be commensurate with the expenses for similar, previously-installed assets that remain in service. The PIE II model's estimates thus include reasonable adjustments to accounting data to obtain forward-looking cost estimates based on efficient technology.

92. In terms of accounting for efficiencies in O&M activities, the methodology used in the PIE II model to estimate O&M expenses compares favorably with other cost models in international practice:

- In the US, the Federal Communications Commission ("FCC") calculated the ratio of actual 1996 O&M expenses incurred by five large local exchange carriers to the current value of the corresponding assets and used the resulting average expense-to-asset value factor.²⁷ The FCC did not attempt, however, to adjust the numerator (O&M expenses) of the O&M factor to account for efficiency effects.
- In New Zealand, Telecom NZ did not adjust its operational expenditures "for a potential inefficiency pocket that may prevail in Telecom's operations."²⁸ The Commerce Commission used Telecom's approach, while acknowledging that the calculation may inflate the O&M costs above the level of efficient costs.²⁹

Network Provisioning

93. The Commission disagrees with Telstra's approach to network provisioning and refers to the concerns it expressed with respect to provisioning for spare network capacity it expressed in its ULLS Final Decision.³⁰

²⁶ Mitchell, 2003, ¶ 134.

²⁷ Mitchell, 2003, ¶ 135.

²⁸ NZ Commerce Commission, "Determination for TSO Instrument for Local Residential Service for period between 1 July 2002 and 30 June 2003", ¶ 52.

²⁹ NZ Commerce Commission, ¶¶ 256-7.

³⁰ Robert Wright, Letter to Tony Warren, 20 September 2006.

94. The issue raised in the Commission's ULLS Final Decision³¹ concerns the sizing of main cables for distribution areas (DAs) in the rural areas of the network. Whatever effect alternative provisioning assumptions about main cables would have on modelling the costs of customer access they would be unlikely to affect the efficient costs calculated for the OTA and LCS services.
95. The Commission also cites discussion in a Marsden Jacobs report that opines that the cost implications of provisioning spare capacity for future demand seem to be overestimated.³² However, Marsden Jacobs' view is not entirely clear. Marsden Jacobs agree that current prices should recover a proportion of the cost required to cater for future demand (p. 23), while stating elsewhere that "it seems reasonable" to allocate some of the provisioning costs for future demand growth to future, not existing customers (p. 20). Analysis by Professor Bridger Mitchell suggests that if none of the costs of spare capacity are recovered from current consumers then this is likely to result in somewhat higher current year prices.³³

In conclusion

96. In the course of this undertaking, and in other Commission proceedings, Telstra has provided a substantial amount of evidence as to the reasonableness of the assumptions in the PIE II model. Telstra has also spent a great deal of time and effort responding to criticisms of the model and have shown that many of the criticisms are invalid and have negligible impact on the estimated costs. Telstra submits that no critiques have shown that the model does not reasonably estimate an efficient IEN for the delivery of PSTN OTA and LCS. Further, the Comments of Marsden Jacobs and n/e/r/a are clearly not the comments of independent analysts weighing up the pros and cons of the PIE II model. Conveniently, these consultants have only raised questions on aspects of the model that they claim overestimate the efficient costs of the IEN. Some of the aspects of the model that will lead to underestimation of the 'true' efficient costs of building a new PSTN include:

³¹ ACCC, ULLS Final Decision, pp. 48-49.

³² ACCC, ULLS Final Decision, p. 47.

³³ Mitchell, 2005, Annexure B.

- The PIE II model assumes the ground is flat, whereas any network also needs to cross hills, mountains, rivers, lakes and other obstacles. Similarly the cost of backfill of trenches is not included.
- The PIE II model does not take account of network planning expenditure involved in designing a completely new network.

Current and historic cost estimates of IEN costs

97. In its March submission, Telstra supported the reasonableness of the TSLRIC estimates derived from the PIE II model by providing estimates of the network costs derived from historical and current cost data.

98. The historic costs reflect the costs actually incurred by Telstra in the provision of OTA. Current costs adjust these historical values to take account of changes to the replacement costs of the network.³⁴ In calculating the historic cost estimates, Telstra relied on the Regulatory Accounting Framework (RAF).

99. First, the total RAF costs from the product PSTN OTA (excluding the end user access adjustment) are divided by the volume of PSTN OTA, this unit cost is then multiplied by the total number of end use minutes for the PSTN services modelled in PIE II.³⁵ Installation costs, holding gains/losses on asset adjustments and inflation adjustments have been excluded from the RAF data to enable more accurate comparison of these figures to the PIE II TSLRIC estimates.

100. In section B.4 of its Draft Decision the Commission claims that it has attempted to replicate the Telstra analysis of historic and current costs but was unable to assess the accuracy of the Telstra cost estimates. In response to this comment Telstra requested a meeting with the Commission to provide it with any assistance required in understanding Telstra's estimates and to seek clarification from the Commission on how it had arrived at its estimates. Telstra also provided the Commission with a statement that explained the

³⁴ Telstra's historic and current cost accounts are prepared in accordance with record keeping rules determined by the Commission and are audited on an annual basis.

³⁵ It should also be noted that ISDN traffic has been excluded from the traffic volumes for the purposes of this calculation of end-use minutes. Therefore, the results of this analysis will understate the cost pool as compared with the results of the PIE II model, which includes ISDN traffic.

calculations in detail.³⁶ Telstra has not received any further queries or comments from the Commission on the analysis so assumes that the Commission now fully understands the calculations made and is therefore able to assess the accuracy of Telstra's cost estimates.

101. The alternative figures presented by the Commission in tables 3 and 4 of its Draft Decision are based on a completely different methodology to that used by Telstra. It is difficult to understand how the Commission came to adopt such a methodology when it has claimed to be replicating Telstra's analysis.

102. Based on the information provided by the Commission, Telstra understands that the methodology used by the Commission involved:

- identifying the direct costs associated with switching and transmission equipment for a range of Telstra's PSTN services (excluding ISDN services);
- excluding from the direct costs so identified a range of cost items, including all product and customer costs and scaling down other costs items;
- reducing the WACC applied in the regulatory accounts by approximately [c-i-c];
- then comparing the results of the above with Telstra's TSLRIC cost pool, which is inclusive of indirect costs, ISDN services and applies a substantially higher WACC.

103. If Telstra has misunderstood the Commission's methodology, please advise us as soon as possible so that we can adequately address the methodology used. Given the above approach, Telstra is not surprised that the Commission's historic and current cost results are some [c-i-c] below Telstra TSLRIC estimate using the PIE II model. However, this does not imply that Telstra's PIE II results are unreasonable. Rather, it suggests that the Commission's methodology is seriously flawed and cannot be used to make comparisons with Telstra's PIE II results.

104. The whole purpose of using the historic and current cost estimates as a test of reasonableness of Telstra's PIE II estimate is to take a completely independent set of cost estimates and without tampering with the figures, compare these with the PIE II results.

³⁶ For a complete description of the methodology employed in the calculation of these estimates, see the statement of [c-i-c] (5 September 2006)

Telstra prepared current cost and historic data to provide a yardstick comparison to the TSLRIC estimates derived from the PIE II model. Similarly, Telstra also sought to update the n/e/r/a model previously used by the Commission to also provide some insight into the reasonableness of the PIE II model cost estimates.

105. In contrast, the Commission's approach is to pick and choose particular costs from the historic and current cost accounts, adjust other cost items arbitrarily and then to compare the results with those from PIE II. Effectively, this approach gives the Commission equal latitude to determine any results it wishes under the historic and current cost approach as it currently does under its TSLRIC methodology. The objective of the historic and current cost exercise was to avoid such manipulation by the Commission so as to compare a completely separate set of cost estimates with Telstra's PIE II results. Telstra believes that the Commission's approach fails to do this for the following reasons.

106. First, the historic and current cost accounts are, by their nature, fully distributed cost estimates. Therefore, all shared costs are allocated across products in the accounts, even when there may not be a direct causal relationship between the production of the product and costs incurred. However, this is the nature of fully distributed costs and recognises that all costs must be recovered from somewhere. Telstra does not believe that it is appropriate for the Commission to then selectively choose particular cost items from the accounts for comparison with the PIE II results. Using such an approach immediately undermines the fully distributed cost nature of the results and incorrectly suggests that it is not legitimate for Telstra to recover these costs from the product at issue, namely PSTN OTA. For example, the Commission took only switching and transmission network cost items from the accounts, which for the PSTN OTA product omits over [c-i-c] of total network costs allocated to this product. Similarly, the Commission omits over [c-i-c] of product and customer costs that have been allocated to the PSTN OTA product (and under the Commission's approach other PSTN products as well). Product and customer costs account for [c-i-c] of total PSTN OTA costs.

107. Second, the Commission reduced the WACC used in the regulatory accounts by [c-i-c] and then compared the results of this with Telstra's TSLRIC estimate from PIE II. As part of its analysis in its Original Submission, Telstra did not adjust the WACC contained in the RAF. If one were to adjust the WACC, it would only be appropriate to adjust it to reflect the PSTN WACC assumptions in the PIE II model (appropriately altered to take account of the

pre-tax nature of the RAF). The adjustments made by the Commission were inappropriate, as the included WACC is firstly post-tax in nature and secondly is not based as the same assumptions as the WACC in the PIE II model. The WACC is a completely separate issue to that of comparing cost pools between historic, current and TSLRIC based costs. As far as comparing Telstra's and the Commission's estimates, of course the cost pools will differ if the WACC is adjusted downward by[c-i-c]. However, when the WACC in the regulatory accounts is set at approximately the same level as in Telstra's PIE II model then the PIE II results can be seen to be clearly reasonable when assessed against the historic and current cost estimates. The assumptions that underpin a reasonable WACC are completely separate issues, dealt with separately both in Telstra's submission and in the Commission's Draft Decision. Introducing the WACC as a factor that drives a wedge between the historic and current cost estimates and the PIE II results is misleading. It is also disingenuous in light of the fact that the Commission has no concerns with the higher WACC value when assessing Telstra's retail costs for the purposes of imputation testing under Limb 2 of the Record Keeping Rules and for setting indicative prices for the Local Carriage Service and Wholesale Line Rental on a retail minus basis, where the higher WACC value has the effect of providing lower wholesale prices through increasing the amount of discount determined in the retail minus calculation.

108. Third, unlike Telstra's approach, which takes costs from the PSTN OTA product alone in the regulatory accounts, the Commission's approach is to identify selective cost items across a range of PSTN products. The problem with this approach (and the reason that Telstra did not use this approach itself) is that it is impossible, at the level of detail available in the regulatory accounts, to identify which of the cost items in the other PSTN products are associated with the IEN, that part of the network relevant for providing PSTN OTA and LCS services. For example, a share of the costs allocated to the domestic long distance product may be associated with parts of the network other than the IEN, such as long-distance transmission. Similarly, a share of the costs allocated to fixed-to-mobile calls could be associated with the mobile network. Given that it is impossible to extract the share of costs (including all allocated network costs, product and customer costs and organisational costs) associated only with the IEN from products other than PSTN OTA (and potentially local calls), Telstra used the approach of taking costs for the PSTN OTA product and scaling these costs in line with traffic volumes to align the cost pool with the total IEN costs estimated in the PIE II model.

109. Fourth, the Commission includes the holding gains/losses in its current cost estimates. In Telstra's view, this is incorrect. Holding gains and losses are notional amounts which represent the revaluation of the asset base from period to period. Telstra would only ever realise these gains or losses if it sold its network. The holding gains and losses are calculated to ensure that over the full life of the asset, only the original purchase price of the asset is recovered. In effect, this aligns current costs with historic costs, which the Commission has expressly rejected as an appropriate basis for setting access prices on many occasions.

110. The concept of holding gains and losses are also inconsistent with the objectives of the legislative criteria and the Commission's TSLRIC pricing principle. When the replacement cost of assets is increasing over time, a holding gain (ie a negative cost) is recorded in the current cost accounts, thereby reducing the overall cost of the service; and the converse applies when the replacement cost of assets is decreasing. This is in contrast to a TSLRIC methodology, where the cost of the service would reflect its replacement cost (on an efficient basis) and hence would be higher than historic costs when replacement costs were increasing and lower than historic costs when replacement costs were decreasing. The current cost approach is clearly inconsistent with the efficient investment criteria in the legislation, as it would result in prices below efficient costs when replacement costs were increasing and prices above efficient costs when replacement costs were decreasing. In Telstra's view, the notion of holding gains and losses is inconsistent with the concept of TSLRIC and should be excluded for the purposes of comparing the current cost results with results from a TSLRIC model.

111. [c-i-c] Telstra [c-i-c] has undertaken to calculate the impact of using local call costs for calculating the cost pool relevant to local calls and PSTN OTA costs for calculating the cost pool associated with other traffic types. This was done using the following steps:

- Dividing the PSTN OTA product costs by PSTN OTA traffic and then multiplying by call types that are provided using PSTN OTA: PSTN OTA, national long distance, international and fixed-to-mobile calls.
- Dividing Internal Wholesale costs for local calls by the volume of retail local call minutes and then multiplying by the sum of retail local call minutes plus LCS call minutes.

- Summing the results of steps 1 and 2 to arrive at the total IEN cost pool.
112. Telstra has included ISDN traffic from schedule 8 of the Regulatory Accounts in the above calculation by allocating ISDN traffic across call types using the PSTN proportions. ISDN should be included in the calculation as it is included in the PIE II cost pool.
113. The result is an historic cost pool of [c-i-c], still higher than the PIE II cost pool compared with the Commission's suggestion that it should be [c-i-c]below the PIE II cost pool. The resulting current cost pool is c-i-c], only [c-i-c] below the PIE II cost pool, compared with the Commission's suggestion that it is [c-i-c] below the PIE II cost pool. In Telstra view, this demonstrates that even taking into account the Commission's suggestion regarding local call costs, the historic and current costs suggest that Telstra's PIE II cost pool is reasonable.

Comparison of costs in the PIE II and the n/e/r/a-ACCC models

114. In its submission in support of its Undertaking, Telstra compared the efficient costs of the IEN as estimated by the PIE II model and the Commission-n/e/r/a model.
115. Telstra notes that the Commission does not address this analysis in its Draft Decision. It is curious that much of the criticism of the PIE II model has been based on the Commission and other interested parties (notably Optus) comparing the PIE II model and the n/e/r/a model in order to highlight perceived unreasonable assumptions of the PIE II model. Telstra has shown in this Undertaking, that the cost estimates derived by rolling forward the n/e/r/a model to account for changes in forecast PSTN traffic are significantly higher than those estimated using the PIE II model.
116. Two conclusions can be drawn from this. Either the n/e/r/a model is a reasonable model, that produces higher cost estimates than the PIE II model or, the n/e/r/a model is unreasonable. If the former is the case, then the Commission should accept Telstra's Undertaking. If the latter is the case, then the n/e/r/a model cannot be used as a benchmark upon which to judge the PIE II model, much of the criticism of the PIE II model falls away and it is hard to see the reasonable basis upon which the Commission can reject the model and the Undertaking.

Commission's assessment of Telstra's internal wholesale costs

117. In section B.5 of its Draft Decision the Commission claims to be assessing the prices in the Undertaking against the internal wholesale price of Telstra's retail services. The Commission first presents EBIT figures. Telstra cannot reconcile these figures with the regulatory accounts. Specifically, the retail cost of capital figures presented by the Commission are substantially below those in the regulatory accounts, even after the adjustment for the Commission's WACC. Second, the Commission has omitted the end-user access adjustment altogether from the analysis, even though these costs must be recovered across non-access services and are substantial.

118. Even ignoring these factors, it is unclear what the purpose of the EBIT calculations are, given the Commission claims to be assessing the prices in the Undertaking with Telstra's historic and current costs (although there does not appear to be any table presenting current cost results).

119. Based on its analysis, the Commission then goes on to claim that the Undertaking price for LCS is below the wholesale historic cost of a local call and the Undertaking price for PSTN OTA is above the historic cost of PSTN OTA. On this basis it concludes that given these significant difference, it is not satisfied that the proposed PSTN OTA prices are reasonable. Telstra does not understand on what basis the Commission could come to such a conclusion. As Telstra explained in its Original submission supporting the Undertaking, the IEN cost pool is common to all types of PSTN and ISDN traffic. There are many ways to allocate these costs between individual products. The historic regulatory accounts use largely a usage-based methodology to allocate costs to products. In the Undertaking, an alternative methodology was adopted, but one which maintained competitive neutrality between wholesale and retail services. Nowhere does the Commission explain why the methodology used in the historic accounts is superior to that used in the Undertaking and hence why it would expect the PSTN OTA price in Telstra's Undertaking to align with the unit costs from the historic regulatory accounts.

120. The issue that is relevant is whether the total IEN cost pool that Telstra is seeking to recover across all PSTN services is reasonable and whether the allocations to individual products ensure competitive neutrality between retail and wholesale services. Telstra has demonstrated both of these points.

Part B — Telstra’s approach to the establishment of PSTN OTA and LCS prices

121. In its Draft Decision, the Commission comments that “Telstra is proposing the PSTN OTA and LCS prices in the Undertaking as a package” (p. 53). The Commission goes on to state:

Based on its consideration of the matters set out in s. 152AH of the TPA, the ACCC is not satisfied that the packaged approach to the establishment of PSTN OTA and LCS charges proposed by Telstra is, on balance, reasonable. (p.63).

122. In this section, Telstra will respond to the Commission’s and others’ criticisms of its proposed pricing framework.

The proposed pricing framework is not a ‘bundle’

123. Throughout its Draft Decision, the Commission refers to Telstra’s proposed price framework for PSTN OTA and LCS as ‘a package’. In one sense this is correct. As the Commission rightly points out, the starting point for determining these prices is the efficient network cost estimate derived using the PIE II model (p. 53). Telstra has then determined the RMRC price for LCS, subtracted this from the TSLRIC pool and from this remainder determined the OTA price. As such, the pricing framework represents an internally consistent package of prices for PSTN OTA and LCS, which ensure full recovery of efficient costs (and no more).

124. However, Telstra rejects the notion that the proposed pricing framework represents a bundle or a ‘package’ in the usual sense. The term package implies that the access seekers would be required to purchase both LCS and OTA. Marsden Jacobs’ state that access seekers should face “no obligation to buy services as a bundle or package” (p 46). Telstra agrees with Marsden Jacobs. Of course, it has never been suggested by Telstra that access seekers would be required to purchase both OTA and LCS. Marsden Jacobs’ suggestion is wrong.

The proposed pricing framework is reasonable and appropriate given the constraints faced by Telstra

125. The pricing framework proposed by Telstra is reasonable given the Commission's emphasis on setting LCS prices based on a RMRC methodology. Further, the approach also ensures that Telstra recovers the efficient costs of providing these services (and no more) in an environment of retail price controls.

126. Telstra considers that the pricing framework is reasonable under the statutory criteria. For the regulated prices of PSTN OTA and LCS services to be economically efficient it is crucial that they allow for the full recovery of the efficient, forward looking costs of the IEN. Full recovery of efficient costs is essential to ensure that Telstra can continue to attract the capital it requires to finance the ongoing infrastructure investment that allows Telstra to provide high quality services to access seekers and end-users alike. Thus, full recovery of efficient costs respects Telstra's "legitimate business interests" while promoting "the interests of persons who have rights to use" LCS and PSTN OTA services (i.e., access seekers), and "the long-term interests of end-users" of telecommunications services in Australia.

127. Optus criticizes Telstra's Undertaking on the grounds that it "is not at all consistent with the ACCC's pricing principles for PSTN services" (p. 4). Optus is correct that Telstra's Undertaking introduces a departure from historic practice. However, the Undertaking is faithful to the directive of the Commission to employ the RMRC methodology to set LCS prices. The Undertaking also is faithful to the important principle of full recovery of (only) efficient costs.³⁷

Unbundled starting price reduces "ratcheting down"

128. Telstra supports the Commission in its Draft Indicative pricing decision to set the unbundled starting local call price (consistent with existing practice) as the starting price for the RMRC calculation. Telstra has adopted this approach in its Undertaking. As we have noted in previous submissions, setting the price in this manner reduces so called

³⁷ Optus appears to ignore the benefits of full recovery of efficient costs when it claims "there are no benefits to be gained by the industry in having the undertaking services offered as a package" (p. 15). Viewing the individual service prices in Telstra's Undertaking as components of an overall package highlights the important principle that LCS and PSTN OTA prices together must allow Telstra to recover efficient network costs. If one component of the proposed package of prices is reduced below the proposed level, another component of the package must be increased above the proposed level in order to ensure full recovery of efficient costs.

“ratchetting down”. “Ratchetting down” refers to the situation where Telstra’s wholesale prices are determined by the movements in Telstra’s retail prices. As a result, access seekers can lower their retail prices, forcing Telstra to respond, which leads to a reduction in the wholesale prices. To break this ratchetting down cycle, LCS prices are currently calculated with reference to Telstra’s unbundled local call and basic access retail prices. This provides Telstra with the ability to respond to competitors by lowering its bundled prices, without these changes flowing through to wholesale prices. In Telstra’s view, ratchetting down remains a substantial problem. While the best solution to this problem is to move to TSLRIC-based pricing for LCS, if this does not eventuate then the next best solution is to set the RMRC with respect to the unbundled starting price. This is the only way that Telstra is able to compete for the full bundle of PSTN services without creating a spiralling effect of ever declining wholesale and retail prices for local calls – which would obviously severely compromise the funding of the network.

129. It has been suggested that ratchetting down could be addressed by setting LCS prices for the duration of the regulatory period, that is, instead of incremental changes to LCS prices during the regulatory period, there would be a large change in LCS prices at the beginning of the new regulatory period. However, this does not resolve the problem. It merely delays it to the next regulatory period.

130. The use of a bundled starting price for LCS would limit Telstra’s flexibility in setting retail prices for bundled services. For example, Telstra may in the future want to change the structure of its retail pricing such that there will be no identifiable price for basic access and local calls.³⁸ Rather, as other competitors are doing in the market, Telstra may wish to move to a structure of pricing that involves a single price for a bundle of services. This would make the use of bundled pricing for LCS impracticable. It would also limit Telstra’s ability to offer innovative pricing structures in response to customer demand and competition.

131. Accordingly, despite the calls of some parties Telstra suggests that any change to the Commission’s endorsed practice of setting the unbundled retail price as the starting price for the application of the RMRC pricing principle is unwarranted.

³⁸ See further the statement of Mr Gary Pianko (11 August 2006).

The Commission's assessment of the reasonableness of Telstra's pricing framework

132. The Commission also expresses concern about the PSTN OTA and LCS prices that Telstra proposes on the basis of its estimate that "Telstra will generate additional incremental revenue as a result of the proposed charges" (p. 60). The Commission suggests that "This seems to be a further indication that Telstra would be over-recovering the costs of providing PSTN OTA and LCS services when considered in combination if the undertakings were in force" (p. 60). In essence, the Commission appears to be suggesting that Telstra has recovered efficient IEN costs in the past, and so any incremental revenue from LCS and PSTN OTA services would promote over-recovery of efficient IEN costs.

133. This suggestion is inappropriate because, historically, LCS and PSTN OTA prices have not been set to ensure the full recovery of efficient IEN costs. In particular, Telstra has not been permitted to increase the prices of PSTN OTA services or other declared services to offset the shortfall that arose when Telstra was unable to recover from LCS and local calls all of the efficient costs of providing those services. Because Telstra is starting from a position of historic under-recovery of efficient IEN costs rather than a position of full recovery of these costs, the increase in net revenues the Commission cites may help to bring Telstra closer to full recovery of efficient costs rather than permit over-recovery of these costs.³⁹

³⁹ [c-i-c]

Part C — The WACC

134. In its Draft Decision, the Commission rejects the WACC proposed by Telstra:

The ACCC considers that Telstra's proposed WACC is too high, and therefore is not satisfied that is reasonable. (p. 8)

135. The Commission also comments on the two WACC scenario's proposed in Professor Bowman's March report:

Similar to other aspects of Telstra's undertakings, it is not clear to what extent Telstra relies upon either of these WACCs when determining prices to apply under the undertakings. (p. 65)

136. Telstra can only assume that the Commission is not aware of all aspects of its own Draft Decision, as at page 44 it states:

[c-i-c] Telstra's Undertaking is based on the lower bound estimates provided by the PIE II model using Telstra's WACC of [c-in-c] percent. That is, Telstra is using the lowest estimate of the cost pool in determining its proposed charges in the Undertaking

137. To be clear, Telstra has estimated a WACC for the PIE II model of [c-i-c]. It has also estimated an upper bound WACC of [c-i-c]. This upper bound estimate explicitly recognizes that despite the symmetric risk of the estimated WACC being too low or too high, the consequences of underestimating the WACC are more severe (the costs are greater) than if the WACC were overestimated. For the purposes of setting prices in this Undertaking, the lower-bound estimate of 10.76 per cent is used.

138. In Telstra's Original Submission, it was noted that there are three possible outcomes when estimating a WACC — it will either be correct, or over-estimated or under-estimated. For the Commission to reject Telstra's proposed WACC of [ci-c] as being unreasonable, it must be viewed by the Commission to unreasonably overestimate the true WACC faced by Telstra. Telstra remains of the view that the Commission has not adequately shown how it has arrived at this conclusion.

139. Telstra maintains that the estimates set forward for its WACC are reasonable. In response to the Commission's analysis of the WACC in the ULL undertaking, Telstra

commissioned Professor Bowman to provide his expert opinion. In particular, Professor Bowman considers that the Commission has understated the appropriate WACC for ULLS in a number of areas, including:

140. Debt risk premium – the Commission fails to demonstrate why it is not appropriate to reference the debt risk premium off publicly available data on yields on Government and Telstra bonds of similar maturity, when the default risk associated with OTA and LCS will be largely comparable to Telstra as a whole;
141. Debt issuance costs – the Commission refuses to accept Professor Bowman's estimate despite this being lower than the value set by the Australian Competition Tribunal for GasNet. The value it prefers is lower than past Commission decisions.
142. Asset beta – the Commission refuses to accept first principles assessment as applicable for estimating the asset beta despite this being a common approach to beta estimation. Furthermore, while it relies on similar comparators to Professor Bowman it restricts itself to data from the mid 1990's despite significant changes in the usage of the PSTN.
143. Market risk premium – the Commission has not demonstrated that Professor Bowman's proposed value of 7 per cent is inappropriate. Importantly, it has not given consideration to the fundamental point that historical evidence of the MRP prior to the mid-1980s is of little relevance to a forward-looking MRP for an open and international market such as Australia.
144. Taxation – the Commission understates the tax payable by Telstra through application of an effective tax rate of [c-i-c]. This assumes that Telstra can access accelerated depreciation for tax purposes, when in practice these provisions were changed in September 1999. In theory the TSLRIC model should assume all assets are put in place at the current time, in which case these provisions are irrelevant. Even if the provisions are considered relevant for assets put in place before September 1999, the effective tax rate on these assets may well be above the statutory rate due to the exhaustion of accelerated depreciation provisions over time.
145. Equity issuance costs – the Commission's approach of considering these relevant only when they arise is inconsistent with the TSLRIC model. It is also not consistent with the

Commission's usual approach to debt issuance costs and previous decisions of the Commission. Further, the Commission's argument in its draft decision that the once-off costs associated with equity issuance should be added to the asset base is novel and not an appropriate treatment of recurrent expenses.

146. Gearing – the Commission provides no basis for not accepting Professor Bowman's estimate of [c-i-c], and instead applying a ratio of [c-i-c], which was developed from the book value of Telstra at the time of its initial public offering in 1997. This is subject to two fundamental errors: that gearing should be derived from the book value of the assets and that a value a decade ago is still applicable. Although Telstra recognises that gearing will not have a significant material effect on the WACC estimate, it is nevertheless inappropriate for the Commission to rely on book gearing.

147. Taking all of these factors into consideration, it is unreasonable for the Commission to find that Telstra's WACC of [c-i-c] exceeds a reasonable WACC range. Further, the estimate of [c-i-c] does not explicitly take into account the asymmetric risks and consequences of underestimating the WACC.

The asymmetric consequences of misestimating the WACC

148. In its Draft Decision, the Commission states:

The ACCC is particularly concerned with Bowman's advocacy of the appropriateness of accounting for a claimed 'asymmetry in social outcomes' from over- or under- estimating the WACC. (pp. 94–95).

149. First, it is disappointing to Telstra that the Commission has apparently only taken into account the arguments put forward by Professor Bowman in his March report and in his subsequent response to Mr Jason Ockerby (27 July 2006). Telstra, in its response to the Commission's Discussion Paper provided substantial additional argument on the reasonableness of the proposed WACC scenarios — however this evidence appears to have been ignored by the Commission. Specifically, in its June Submission, Telstra provide extensive coverage on the views of other regulators on the asymmetric consequences of WACC misestimation.

150. The Commission laments that, "The claims made by Bowman and Ockerby are based around qualitative statements and counter-statements." (p. 91) The Commission go on to state that, "The ACCC view is that substantive and quantifiable evidence be presented to legitimise a claim; a feature lacking in the overall discussion of this idea of asymmetric social costs." (p. 91). The Commission also state that on the issue of asymmetric consequences,

... Bowman provides no references to economic or financial literature to support this contention. Further, and more importantly, Bowman makes no attempt to relate this general statement to the matters specifically under consideration in these undertakings, nor does he advance any quantitative evidence to support his claim of asymmetry in consequences. (p. 91)

151. Telstra fully agrees with Professor Bowman's suggestion that the Commission is going against widely held views on the asymmetric consequences of regulatory error. What is most peculiar and disappointing is that the Commission has ignored the evidence on the WACC provided by Telstra in its June submission to the Commission's Discussion Paper. In its June submission, Telstra cited extensive evidence from economists, regulators and policy makers on both the asymmetric risk in regulatory decision making (that is, that regulators are more likely to err on the low side) and on the asymmetric costs to society of regulatory errors. It is disappointing that the Commission did not reflect this evidence in its deliberations in the Draft Decision.

152. More fundamentally, the likely asymmetric outcomes of underestimating the WACC can be explained supported from first principles. There will be deadweight losses both in cases where the WACC is too high and where the WACC is too low (assuming that the ability of the access provider to supply the market is not compromised). In the former case the deadweight loss is the loss of consumer surplus from marginal customers who decide not to purchase the service because of higher access prices. In the latter case, as noted, the deadweight loss represents the loss in producer surplus associated with marginal customers who purchase the service despite valuing the service at less than the cost of producing it. Whether this relationship is symmetric or not will depend on the shape of demand and cost functions. However, the deadweight losses associated with setting prices too high are likely to be small compared to the welfare losses from the substantial

contraction of output caused by the refusal to invest that may be prompted by setting the regulatory WACC below the actual cost of capital.

153. Putting these effects together the consequences, in the long run, of under-pricing are likely to be more serious than those of over-pricing. In the case of under-pricing, the long run effect is to reduce incentives to continue to invest in the access service, which risks losing the total social surplus associated with the service. By contrast, in the case of over-pricing, society suffers only from a loss in the benefit of the investment relative to the first-best world. This means that if the likelihood of overestimating the WACC is equal to the likelihood of underestimating the WACC, then the expected value of efficiency losses can be minimised by applying a regulatory rate of return that is above the expected value of the WACC.

154. The Productivity Commission reached a similar finding in its Inquiry into the National Access Regime:⁴⁰

Nonetheless, the Commission accepts that there is a potential asymmetry in effects:

- Over-compensation may sometimes result in inefficiencies in the timing of new investment in essential infrastructure (with flow-ons to investment in related markets), and occasionally lead to inefficient investment to by-pass parts of a network. However, it will never preclude socially worthwhile investments from proceeding.

- On the other hand, if the truncation of balancing upside profits is expected to be substantial, major investments of considerable benefit to the community could be forgone, again with flow-on effects for investment in related markets.

In the Commission's view, the latter is likely to be a worse outcome. Accordingly, it concurs with the argument that access regulators should be circumspect in their attempts to remove monopoly rents perceived to attach to successful infrastructure projects.

155. In conclusion, Telstra submits that the Commission should not continue to ignore the weight of evidence and considered opinion from bodies such as the New Zealand Commerce Commission and the Productivity Commission, which acknowledge that

⁴⁰ Productivity Commission 2001, *Review of the National Access Regime*, Report no. 17, AusInfo, Canberra, p 83.

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underestimating the WACC will have greater (more negative) social consequences than overestimating the WACC.

Part D — Averaging and the two-part tariff.

156. The final part of the Commission's Draft Decision examines Telstra's proposal to partially average parts of the PSTN OTA price and introduce a two-part tariff

Partial averaging of PSTN OTA prices

157. In its Draft Decision, the Commission states that it has determined to reject the averaged PSTN OTA charge in Telstra's Undertaking because it:

*adversely affects competition in the markets for basic telephony and broadband services;
and*

distorts usage and investment decisions, resulting in the inefficient use of, and investment in, telecommunications infrastructure. (p. 101).

158. Telstra maintains that the partial averaging of charges is reasonable in terms of the statutory criteria and prevailing government policy. The Australian Government's aim of securing similar prices throughout the country is most evident in the requirement imposed on Telstra to charge the same price for unbundled basic access service everywhere in Australia.⁴¹ However, the aim applies more broadly, as is evident from the observation that "The Government has committed to pricing parity for phone services, including line rental services, for Australians living in rural, regional and remote Australia and has also committed to equitable access to broadband services across the country."⁴²

159. In principle, other regulatory instruments could be employed to support uniform retail prices for key telecommunications services throughout Australia. For example, taxes imposed exclusively on the services supplied by Telstra's competitors in low-cost urban regions could be employed for this purpose. However, reluctance to employ these other

⁴¹ "Telstra must offer basic line rental services to residential and charity customers, in non-metropolitan areas, at the same or a lower price and on the same price-related terms as it offers to residential and charity customers in metropolitan areas." Also, "Telstra must offer basic line rental services to business customers, in non-metropolitan areas, at the same or a lower price and on the same price-related terms as it offers to business customers in metropolitan areas" (*Telstra Carrier Charges – Price Control Arrangements, Notification and Disallowance Determination No. 1 of 2005 (Amendment No. 1 of 2006)*, § 19A(1),(2)).

⁴² Media release of Senator the Hon Helen Coonan, "Wholesale Access Prices for ULL and Retail Pricing Parity", 144/05, 19 December 2005 (http://www.minister.dcita.gov.au/media/media_releases/wholesale_access_prices_for_ull_and_retail_pricing_parity).

instruments leaves partially averaged PSTN OTA prices with a useful role to play in supporting uniform retail prices for key telecommunications services throughout Australia.

160. If PSTN OTA prices were fully de-averaged to reflect the different costs of supplying PSTN OTA services in different geographic regions, rural PSTN OTA prices would be substantially higher than the corresponding prices proposed by Telstra in its Undertaking. Telecommunications suppliers would find it more costly to serve rural customers if PSTN OTA prices increased in rural regions. Higher costs inevitably lead to higher retail prices in competitive industries, as industry suppliers are compelled to increase retail prices in order to remain profitable as their costs rise. Therefore, fully de-averaged PSTN OTA prices would put upward pressure on retail prices in rural regions of Australia as retail prices increasingly reflect competitive forces rather than regulatory mandates. Therefore, the long-term impact of fully de-averaged PSTN OTA prices would be to promote retail prices for telecommunications services that are higher in rural regions of Australia than in urban regions.

161. In any event the difference between averaged and de-averaged prices for IEN services (such as PSTN OTA services) is less pronounced than the difference between averaged and de-averaged prices for CAN services (such as basic access). Therefore, as Marsden Jacob states "The case for de-averaging is less clear for core network services than access services." The more limited impact of averaging on the prices of IEN services such as PSTN OTA arises because the geographic variation in IEN costs is less pronounced than the geographic variation in CAN costs.

Two-part tariff.

162. In the Undertaking, Telstra proposes a two part tariff for preselect OA. In its Draft Decision, the Commission notes the potential merits of two-part tariffs, stating that "the introduction of two part tariffs have, in theory, the potential to improve economic efficiency by moving usage charges closer to marginal cost ..." (p. 102). The Commission then cites a lack of evidence that the particular two-part tariffs proposed by Telstra "will result in improvements to economic efficiency at the wholesale level" (p. 102). In this submission, Telstra seeks to provide additional evidence and respond to claims raised by Optus and Marsden Jacobs to the two-part tariff structure.

A two-part tariff accords with the cost structure of the IEN

163. The average variable efficient IEN cost of providing calling traffic is no more than [c-i-c] per minute, while the average monthly non-variable efficient IEN cost of providing calls exceeds [c-i-c] per service in operation. These numbers suggest that a price structure for preselect PSTN OA that reflects underlying costs would entail an even larger fixed cost and a lower usage charge than Telstra proposes. Consequently, the proposed price structure can be viewed as one that is intermediate between the historic price structure and a purely cost-based structure. By moving the usage charge closer to marginal cost, the proposed price structure provides “improvements to economic efficiency at the wholesale level” without implementing a change in the price structure that some might view as too substantial or too rapid.

164. A higher fixed charge is conceivable and would permit a further reduction in the variable charge toward marginal cost. However, to guard against the possibility that a higher fixed charge might discourage network subscription unduly, Telstra proposes to allocate only half of the relevant costs to the fixed component of the two-part tariff. The proposed fixed charge allows the variable charge to be reduced by [c-i-c], thereby stimulating the consumption of OA services by pre-select subscribers, which promotes efficient utilization of Telstra’s network.

165. The two-part tariff proposed for preselect OA services also reflects prevailing retail price structures. As the statement of [c-i-c] explains, Telstra and other industry suppliers routinely implement two-part retail tariffs.⁴³ The Commission has supported the use of wholesale tariffs that reflect retail price structures.⁴⁴ The proposed two-part tariff for preselect OA services is faithful to this principle.

⁴³ Statement of [c-i-c] 11 August 2006.

⁴⁴ For example, in assessing the appropriate allocation of the access deficit contribution between a flagfall and a per-minute charge, the ACCC recommended an allocation that “would result in a total PSTN charge reflective of Telstra’s emerging retail price structure” (ACCC, *Final Determination for Model Price Terms and Conditions of the PSTN, ULLS and LCS Services*, October 2003, p. 58).

Two-Part Tariffs Facilitate Lower Usage Charges

166. Optus expresses concerns about the proposed increase in per-minute OTA prices, and notes that “it is not at all clear that the current pricing structure of PSTN with per minute based charges remain appropriate” (p. 10).
167. Telstra’s Undertaking includes steps to reduce per-minute OTA charges without jeopardizing the full recovery of efficient network costs. In particular, Telstra proposes to reduce the per-minute charges for preselect PSTN OA service by implementing a two-part tariff. The amount of revenue Telstra must secure from the per-minute charge for this service is reduced dollar-for-dollar by the revenue generated from the fixed component of the tariff. Consequently, the proposed two-part tariff structure enables Telstra to set a lower per-minute price for preselect PSTN OA services.
168. A broader implementation of two-part tariffs would be desirable in order to facilitate reductions in the per-minute charges for TA and non-preselect OA services also. Unfortunately, such implementation is not feasible. As Telstra observes, for “all terminating minutes on the PSTN and originating minutes for over-ride and special services ... there is no practical way to levy a fixed charge on a per customer basis ... [because the relevant] minutes utilizing the PSTN are not directly associated with a customer on whom a fixed charge can be levied.”⁴⁵

Implementing the Two-Part Tariff as an Option Requires Higher Rate Elements

169. Optus appears to recognize the merits of two-part tariffs. Optus notes, for example, that the lower per-minute charges facilitated by a two-part tariff can “encourage more efficient use of the network” (p. 19). Optus also recommends that “access seekers should be given the opportunity to choose between the existing per minute charging structure and a two part tariff approach” (p. 19). Such a choice would require increasing some of the tariff rate elements. Otherwise, the simultaneous availability of the two tariffs could reduce Telstra’s revenue and thereby jeopardize Telstra’s ability to recover efficient network costs.
170. When access seekers are afforded a choice among tariff structures, each access seeker will choose the tariff that allows it to make the smallest possible payment to the access provider for the set of services the access seeker purchases. For example, an

⁴⁵ Telstra’s Submission in Support of its Undertakings Dated 23 March 2006, pp. 29-30.

access seeker that purchases very few units of service will tend to select the linear tariff in order to avoid having to pay the fixed charge on the two-part tariff. In contrast, an access seeker that purchases a large number of units of the service will tend to select the two-part tariff. Such an access seeker finds it economical to pay the fixed fee in order to be able to apply the lower usage fee to the large number of units of the service it purchases. When each access seeker chooses the tariff that entails the smallest total payment to the access provider, the provider's revenues generally decline below the level the provider would derive from selling the same set of services to the access seekers using a single tariff.⁴⁶ Consequently, an increase in one or more tariff rate elements is required to permit full recovery of efficient network costs.

Higher Flagfall Charges Admit Lower Per-Minute Charges

171. As noted above, the monthly per-customer charge that Telstra proposes for preselect OA service permits a lower per-minute charge for this service. Similarly the flagfall charge that Telstra proposes for TA and non-preselect OA services permits a lower per-minute charge for this service. However, Optus expresses concerns about the proposed flagfall charge, suggesting that such a charge will cause end-users to "face retail prices that are not economically optimal and allocative efficiency may be reduced because end-users consume a lower number of calls" (p. 17).

172. Optus is correct that a higher flagfall charge can induce consumers to make fewer calls. However, the lower per-minute charge facilitated by a higher flagfall charge allows consumers to make longer calls at lower cost. This potential benefit of a lower per-minute charge must be weighed against any potential disadvantages of a higher flagfall charge. Following standard Ramsey principles, the ideal combination of a flagfall and per-minute charge will vary both with relevant set-up and conveyance costs and with subscriber sensitivity to flagfall and per-minute charges.

⁴⁶ The possibility of resale could necessitate additional increases in tariff rate elements. One access seeker may be able to purchase a large number of units of the service using the two-part tariff and then resell some of the service to another access seeker at a price below the price specified in the access provider's linear tariff. Such resale of the service can reduce the access provider's revenue and thereby require an increase in the fixed charge and/or the usage charge in the two-part tariff to avoid under-recovery of efficient costs.

173. Telstra has presented evidence of particularly low sensitivity of both the number of calls and call duration to the flagfall charge for OTA services, and substantially higher sensitivity to the per-minute charge.⁴⁷ This evidence supports the recovery of a substantial portion of the relevant contribution from TA and non-preselect OA services from the flagfall charge.
174. Telstra proposes to recover [c-i-c] of the relevant contribution from TA and non-preselect OA services from the flagfall charge and [c-i-c] from the per-minute charge. Telstra notes that this “[c-i-c] split is reflective of Telstra’s PSTN revenue being recovered as flagfall charges.”⁴⁸ In response, Optus “submits that the way Telstra chooses to set its retail prices should have no bearing on the structure of wholesale interconnect prices” (p. 18). Optus’ view on this matter appears to conflict with the ACCC’s view.⁴⁹ Optus’ statement in this regard also is difficult to reconcile with its claim that “the wholesale price trends [in Telstra’s Undertaking] are inconsistent with Telstra’s recent retail marketing initiatives for fixed voice services” (p. 7). It is not clear how the wholesale prices that Telstra proposes can be “inconsistent” with its retail price structure if Telstra’s retail price structure “should have no bearing on” the appropriate wholesale price structure.

⁴⁷ *Telstra's Submission on the ACCC's Discussion Paper "The Need for an Access Deficit Contribution for PSTN Access Service Pricing"*, 2003, Attachments 14 and 16.

⁴⁸ Telstra Submission, p. 34.

⁴⁹ In assessing the appropriate allocation of the access deficit contribution between a flagfall and a per-minute charge, the ACCC recommended an allocation that “would result in a total PSTN charge reflective of Telstra’s emerging retail price structure” (ACCC, *Final Determination for Model Price Terms and Conditions of the PSTN, ULLS and LCS Services*, October 2003, p. 58).

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ANNEXURE A - [c-l-c]

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Annexure B: [c-i-c]