

Public Version of Telstra’s Confidential Response to the Commission’s Draft Decision on Telstra’s ULLS Monthly Charges Undertakings Dated 23 December 2005

- 1 On 23 December 2005, Telstra lodged two access undertakings (“**Undertakings**”) with the Australian Competition and Consumer Commission (“**Commission**”) in relation to the monthly charges for the Unconditioned Local Loop Service (“**ULLS**”). On 15 June 2006 the Commission released its Draft Decision¹ (“**Draft Decision**”) to reject the Undertakings.

- 2 The Commission rejects each of the major components underlying the ULLS prices proposed in the Undertakings (“**Undertaking Prices**”) including:
 - the level of network costs included in the Undertaking Prices;
 - the geographically averaged structure of the Undertaking Prices;
 - the weighted average cost of capital used in annualising the (ULLS specific and network) capital costs associated with the provision of ULLS;
 - the recovery of ULLS-specific costs from users of ULLS; and
 - the USO adjustment that Telstra netted off its ULLS cost estimates.

- 3 Telstra welcomes the opportunity to respond to the Draft Decision.

A Introduction

- 4 Telstra believes that the Commission’s assessment of the Undertaking Prices against the relevant statutory criteria is incorrect for the following reasons:
 - The Commission’s general approach to assessing Telstra’s network costs is to compare them to a “hyper-efficient” new entrant that seeks out and achieves every conceivable efficiency possible. In Telstra’s view, this is inconsistent with an assessment of whether the terms and conditions of the Undertakings are reasonable. It also goes beyond what would be expected in a workably competitive market.
 - The claims made by the Commission’s consultants regarding the level of spare capacity included in Telstra’s cost estimates are incorrect. Capacity is required within Telstra’s pillars for technicians to undertake

¹ ACCC, *Assessment of Telstra’s ULLS Monthly Charge Undertakings, Draft Decision*, (June 2006).

maintenance activity. If this capacity were fully utilised then this maintenance activity would become difficult and costly. In addition, Telstra's cost model does not assume, as claimed, that every service in operation ("SIO") is dimensioned with 2 copper pairs. Further, dimensioning in rural areas is not excessive. The standard size of main cable in non-urban areas is 100 pair and it is not efficient for Telstra to dimension the network below this level.

- The Commission's concerns regarding Telstra's estimates of efficient O&M expenses are unfounded. These expense percentages are based on Telstra's actual expenditures adjusted for current generation assets and applied to the efficient asset base. Telstra's expert on cost modelling supports Telstra's approach to estimating O&M costs and finds the approach consistent with international best practice. In addition, Telstra has not double-counted network planning costs, as these costs are excluded from the calculation of O&M expenses.
- The Commission's suggestion that trench sharing assumptions should reflect all possible sharing over the past 10 years is inconsistent with its own principles regarding the measurement of efficient costs. Telstra's trench sharing assumptions appropriately reflect the level of sharing that would be available to an efficient network operator building a network today.
- The Commission's adjustments to Telstra's historic and current cost estimates of ULLS are incorrect. The Commission incorrectly excludes costs and attempts to spread costs over a wider range of services when such allocation has already been undertaken in the Regulatory Accounts. As a result, the Commission ends up with an incorrect result and consequently draws the wrong conclusion that Telstra's historic and current costs do not support the Undertaking Prices.
- The Commission relies on a cost study by consultants Analysys which claims that WiMAX is a more efficient technology than copper in rural areas. The Commission's own consultants concluded that the key conclusions of the Analysys study are likely to be invalid or at least questionable due to weaknesses within the cost analysis methodology and assumptions. Given this finding by its own consultants, Telstra does not believe that the Commission should be relying on this study to assess the Undertakings.

- The Commission and its consultants fail to recognise the areas in which Telstra's costs estimate is an underestimate, including the exclusion of lead-in costs and the exclusion of the higher trenching costs that an efficient operator would incur in deploying a copper network in built-up areas.
- In assessing Telstra's geographically averaged structure of the Undertaking Prices, the Commission fails to take into account the Government's social policy objective of maintaining average retail prices for all Australians. Rather, the Commission's assessment of Telstra's averaged prices ignores the Government's pricing parity requirements and proceeds on the basis of first-best economic principles. As a result, the Commission fails to recognise the important advantages of setting averaged ULLS prices including minimising inefficient cream-skimming, enhancing competitive activity in rural areas and helping to support a low, uniform price for basic access services throughout Australia.
- In rejecting Telstra's estimate of the weighted average cost of capital, the Commission has failed to provide any basis for finding Telstra's gearing and debt risk premium parameter estimates inappropriate. In terms of the debt issuance cost, the Commission rejected Telstra's estimate even though it is below that assessed as reasonable by the Australian Competition Tribunal in the GasNet Decision. In estimating both the asset beta, and the market risk premium the Commission relies on outdated data and rejects Professor Bowman's first principles assessment as applicable for estimating the asset beta despite this being a commonly used approach. The Commission's approach to taxation understates the tax payable by Telstra by assuming Telstra can access accelerated depreciation for tax purposes when these provisions were changed in 1999. The Commission's approach to equity issuance costs is inconsistent with the TSLRIC concept and previous Commission decisions.
- The Commission has erred in its assessment of ULLS specific costs. ULLS specific costs are related directly to ULLS demand and hence would not be incurred if no ULLS demand existed. Requiring access seekers to bear the costs that their demand imposes does not reduce their opportunity to compete. Rather, it promotes efficient outcomes by ensuring that access seeker demand is reflective of the costs that demand imposes. Further, given that ULLS charges (and specifically that part of the charge related

to ULLS specific costs) is a relatively small proportion of the total costs involved in providing a bundle of retail services over ULLS, it is unlikely that lower ULLS prices will materially impact retail prices. If the Commission continues to reject Telstra's approach, then Telstra believes that it is entitled to recover from ULLS access seekers the costs associated with the ordering and provisioning of other services including Line Sharing Service ("LSS") and retail and wholesale DSL services.

- In terms of including previously unrecovered ULLS specific costs, Telstra believes that the Commission has failed to recognise that recovery of these costs is consistent with Telstra's legitimate business interests and also with the promotion of facilities-based competition, as ULLS prices will be set to allow facilities-based competitors to fully recover their costs over time.
- The Commission's assessment of the USO adjustment included in Telstra's cost estimates fails to recognise that there is no relationship between the subsidy amount that Telstra receives and the cost of providing services in rural areas of Australia. Therefore, to criticise Telstra's pro-rata approach to allocating the subsidy to different network components appears odd. The subsidy Telstra receives in the form of USO payments would unlikely be sufficient to even cover the costs associated with the highest cost non-copper services, let alone any contribution toward copper-based services. The fact that Telstra has deducted a substantial proportion of the USO subsidy from the ULLS cost pool should be considered a very conservative approach. Further, even if the approach the Commission appears to suggest is implemented it does not change the result that the Undertaking Prices are reasonable compared with the costs of providing ULLS.

5 On this basis, Telstra believes that the Commission should accept the Undertakings.

6 This submission is structured as follows:

- Section B deals with confidentiality issues;
- Section C discusses the Commission's approach to assessing the Undertakings against the relevant criteria;

- Section D discusses the Commission’s position on whether the Undertakings specify terms and conditions for services other than the Telstra services;
- Section E provides Telstra’s response to the Commission’s assessment of ULLS network costs;
- Section F sets out Telstra’s response to the Commission’s analysis of the geographically averaged structure of ULLS prices;
- Section G provides Telstra’s response to the Commission’s assessment of the weighted average cost of capital;
- Section H is Telstra’s response to the Commission’s views on ULLS specific costs;
- Section I responds to the Commission’s assessment of Telstra’s USO adjustment;
- Section J sets out Telstra’s response to the Commission’s comments in relation to network modernisation;
- Section K discusses Telstra’s IEN costs associated with its obligation to be the carrier of last resort; and
- Section L includes the results of sensitivity analyses.

7 The Annexures to this submission are as follows:

- Annexure A: Trench Sharing in New Estates
- Annexure B: Network Design Parameters
- Annexure C: Averaging ULLS Charges
- Annexure D: The social consequences of errors in setting the WACC
- Annexure E: ULLS Specific Cost Items
- Annexure F: Network Modernisation

B Confidentiality

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

- 9 Telstra will provide a confidential version of this submission and the information contained in it to interested parties subject to those parties signing appropriate confidentiality undertakings.
- 10 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.

C The Commission's approach to assessing the Undertakings

C.1 The reasonableness criteria

- 11 In Appendix A of the Draft Decision, the Commission sets out its approach to assessing the Undertakings. The Commission states that in considering the "reasonableness criteria" in section 152AH of the Trade Practices Act 1974 (Cth) ("**the Act**"), "*the ACCC will apply, where appropriate, the 'future with and without' test expressed in the Sydney Airports case.*"
- 12 Telstra submits that it is inappropriate for the Commission to use the 'future with and without' test in the context of making a decision with regard to the reasonableness of an undertaking pursuant to section 152BV of the Act.
- 13 The 'future with and without' test has not previously been applied in the context of a decision to accept or reject an undertaking under section 152BV of the Act, or indeed in any case where a proposed access undertaking was considered. The test has previously been applied in the context of, for example:
 - Decisions as to whether or not to declare a service: Telstra Corporation Ltd v Seven Cable Television Pty Ltd (pursuant to section 152AL of the Act); Re Review of Declaration of Freight Handling Services at Sydney International Airport (pursuant to section 44H of the Act); and
 - A decision as to whether or not to exempt a carrier or a carriage service provider from standard access obligations: Seven Networks Ltd (No. 4) (pursuant to section 152ASA of the Act).
- 14 The 'future with and without' test involves the formulation of two factual scenarios (the "factual" and "counter-factual"). The factual and counter-factual are then contrasted and a decision is made on the basis that a particular decision is more

consistent with the relevant statutory criteria. The Commission suggests that a counterfactual can be formulated by reference to its views, since in the absence of an accepted undertaking access terms are likely to be set by reference to the Commission's views which "*are likely to influence industry in respect to achieving commercial or regulatory outcomes... where the industry could reasonably expect that it would seek to apply these views through its arbitral powers.*"

- 15 Where the Commission says it applies the test, it states that it has "*considered whether acceptance of the undertaking (the 'future with') based on the relevant cost claims made out by Telstra **would better achieve** those outcomes under section 152AH*".
- 16 The Commission also states that because its views are likely to influence industry, "*all relevant 'without' scenarios are likely to lie within a **reasonable bound** of the ACCC's views on **appropriate price and non-price terms and conditions***".
- 17 A fundamental problem with the Commission's approach is that, in applying the 'future with or without' test, the decision maker is effectively requiring the Undertaking to be what it considers to be the most appropriate approach, rather than merely a 'reasonable' approach, as the Act requires. The with or without test essentially decides which of two possible future scenarios is preferable. However, where the inquiry is whether or not a thing is reasonable (such as the terms and conditions of the Undertaking), the decision maker is required to assess the terms of the Undertaking against the relevant statutory criteria.
- 18 Telstra submits that this is one reason why a 'future with and without' test was not applied in cases such as *Re Application by GasNet Australia (Operations) Pty Ltd*.
- 19 The Commission must not accept an undertaking unless it is satisfied that the terms and conditions specified in the undertaking are reasonable. Section 152AH sets out the matters to which the Commission must have regard in determining whether the terms and conditions are reasonable. Section 152AB outlines the objectives to which regard must be had when considering one of the criteria enumerated in section 152AH, namely the long term interest of end users.
- 20 It is the terms and conditions of the Undertaking which must be reasonable rather than, for example, any one of them or the methodology used to arrive at one of them.
- 21 There is no statutory warrant for the Commission to enquire as to:

- Whether any particular term or the method employed in arriving at that term is “appropriate”, or “the most appropriate” or the “preferred”; or
 - Whether the method employed at each step in arriving at a term is reasonable having regard to the statutory criteria.
- 22 All that the Commission needs to determine, having regard to various methods for the estimation of costs, is whether the terms and conditions of the Undertakings are reasonable.

C.2 Legitimate business interests of the carrier

- 23 Telstra agrees with the Commission’s view that the concept of legitimate business interests should be interpreted in a manner which is consistent with the phrase ‘legitimate commercial interest’ as used in Part XIC of the Act. However Telstra disagrees that the consideration of this criterion is limited in any manner and in particular is limited to a mere consideration of Telstra’s return on investment.
- 24 Even though the Commission uses the inclusive words “*it would cover...*” which could be interpreted as indicating that this is only one of a number of factors taken into account, in practice the Commission has not looked at broader considerations.
- 25 The Commission has to have regard to Telstra’s return on investment as part of its consideration of section 152AH(1)(a). To solely focus on this issue when considering ‘legitimate business interests’ of the carrier would render the requirement in section 152AH(1)(b) of the Act obsolete. Evidently, the legislation intended a broader consideration than that given by the Commission.
- 26 Telstra submits there are a number of other factors relevant to Telstra’s ‘legitimate business interests’ which must be considered. These factors include (but are not limited to):
- Obligations to shareholders (including the Commonwealth as the major shareholder);
 - Obligations to other stakeholders ;
 - The period over which costs will be recovered;
 - The timing of cost recovery (i.e. recovery of more now and less later);
 - Manner in which costs are recovered, i.e. structure of prices;
 - Market risk; and

- The ability of the carrier to compete in the market for end user services.
- 27 The Commission believes that the interests of persons who have a right to use a declared service (access seekers) includes being able to compete in a market environment free from any distortions caused by the terms and conditions of access imposed by Telstra. Telstra submits that those same considerations should be taken into account when assessing the legitimate business interests of Telstra. Any price set should not give an advantage to one player over another. Telstra notes the implicit tension between the interests of access seekers and access providers which is embodied in section 152AH(1)(b) and (d) of the Act. The Commission must clearly seek to resolve this tension for the benefit of all access seekers and access providers alike.

D Whether the Undertakings specify terms and conditions for services other than the Telstra services

- 28 In paragraph 5.3.2 the Commission queries whether the non-price terms in the Undertakings should apply to all possible forms of the declared services rather than simply the services as described by Telstra in the Undertakings. Telstra submits that this is an arid course of inquiry which will not assist the Commission in determining whether the Undertakings are consistent with the applicable SAOs as required by the Act.
- 29 Telstra submits that the approach adopted by the Commission in its assessment of Telstra Multimedia's Analogue Pay TV access undertaking provides a more useful guide to whether an undertaking is consistent with the SAOs. There the Commission stated that:

*The ordinary and natural meaning of "consistent with" is that there be some uniformity and adherence to the thing in question **but there is no requirement for exact or complete correspondence.***

- 30 Furthermore the Commission stated that in applying this test to the relevant subject matter, it would not require that "a matter be precisely in accordance with the applicable SAO, but rather, that there be at least a reasonable level of conformity with the obligation".
- 31 Telstra submits that the Undertakings certainly exhibit "a reasonable level of conformity" with, and indeed conform with, the relevant SAOs. This view, Telstra submits, is confirmed by the Commission's statement that "it has not identified any significant current or prospective use of the relevant declared services that would

not fall within the scope of the service definitions or specifications in the undertaking”. Furthermore, to require complete and exact correspondence between the Undertaking and the applicable SAOs would be contrary to the long term interests of end-users because it would not allow the Undertaking to specify with certainty and particularity the nature of the service to be supplied, given the relatively general nature of the description of the declared service. This would deprive both the access provider and the access seeker of some of the protection that the access regime is intended to afford.

- 32 The Commission’s analysis (in paragraph 5.3.2) also appears to assume that there is some point of demarcation between the service description in the Undertakings and the other terms and conditions of supply they contain. Telstra does not agree with this assumption. The non-price terms and conditions describe the technical manner in which the service will be delivered and are still terms and conditions of supply which must be assessed in terms of their reasonableness. If one were to take the Commission’s apparent position to its logical conclusion, then the inclusion of any terms and conditions in an undertaking beyond a strict recitation of the Commission’s description of the declared service could be inconsistent with the applicable SAOs. This could include price as well as the non-price terms and conditions which, to some extent, all “limit” the scope of the declared service by specifying how Telstra will supply it. Clearly this cannot be correct.

E Network Costs

E.1 General approach of the Commission to assessing network costs

- 33 The Commission appears to consider that the long term interests of end-users (“LTIE”) are best served when Telstra recovers from access seekers nothing more than the minimum revenue needed to recover the network costs that would be incurred by the most efficient hypothetical access provider. Such a benchmark goes far beyond what is necessary to achieve the outcomes that would be expected in a workably competitive market.
- 34 Consequently, the changes that the Commission proposes be made to the PIE II model go more toward estimating the costs of a hyper-efficient operator rather than the costs of an operator that would likely exist in a competitive, real world. In some cases the cost savings are not likely to be obtainable by Telstra in practice. Furthermore, the Commission seems not to consider that the PIE II model systematically underestimates many components of network costs, nor give that fact adequate weight when assessing the reasonableness of the Undertakings.

- 35 In any event, the Commission must assess whether the terms and conditions of the Undertakings are reasonable. Simply because the price is not based on the most efficient costs does not make it unreasonable. Neither does a price which is reliant on a model which may not be optimised in every respect. The question is simply, whether in light of the cost estimates, the terms and conditions are reasonable.
- 36 The Commission's approach has important consequences for the LTIE:
- In the short run, while the Commission might secure lower ULLS prices for access seekers, the benefits of lower ULLS prices will not necessarily be passed on to consumers;² and,
 - In the long run, Telstra's (and other access providers') incentives to invest in future networks that provide services at a much higher standard than is required by the USO, will be significantly reduced. Why would an access provider incur discretionary investments when it is allowed to recover only the costs of a hypothetical, hyper-efficient new entrant?
- 37 To support its position that a hypothetical network could achieve efficiencies greater than those considered in the PIE II model, the Commission relies on the reports submitted by Analysys and Marsden Jacob and Associates and Europe Economics ("MJA"). These consultants claim to identify a number of discrepancies between the PIE II model's estimate of network costs and the Commission's ideal of the most efficient network costs of a hypothetical access provider.
- 38 Even if the Commission's strict efficiency benchmark is appropriate, the discrepancies claimed by the consultant's are incorrectly identified. Telstra submits complete responses to the issues raised by the consultants and the Commission in Annexures A and B – these are summarised below. Telstra also lists places where the PIE II model systematically underestimates network costs.

E.2 Network provisioning

- 39 Telstra considers that it is reasonable to provision spare capacity in its network, since such provisioning would occur in a competitive market.³ Furthermore, Telstra considers that it is more efficient to recover provisioning costs from current customers. Recovering provisioning costs from future customers will lead to higher

² [c-i-c]

³ Expert Report of Dr Bridger Mitchell, dated August 2006.

costs overall.⁴ Although the Commission has opposed these positions in the past, they are not disputed in the Draft Decision.

40 The contentious issue in the Draft Decision is whether the PIE II model provisions a reasonable amount of spare capacity. The Commission refers to a number of points raised by MJA and Analysys that indicate that a hypothetical new entrant could potentially provision for less spare capacity than what is allowed for in the PIE II model. Telstra submits that these consultants have erred in their assessment. In particular:

- MJA comment that there is space in pillars for up to 100 more copper pairs. This space is intentionally left to allow technicians to work inside the pillar. With no spare space, it would be difficult and costly to undertake maintenance.⁵
- MJA claim that every SIO is dimensioned with 2 copper pairs in Urban DAs.
 - i. This is not correct. While the maximum capacity of a pillar allows for 500 pair of distribution cables to service Urban DAs and Urban DAs contain between 65 and 250 SIOs, the PIE II model does not necessarily dimension up to 500 pair of distribution cable in the DA. Additionally, it is not economical for Telstra to purchase smaller pillars.⁶
 - ii. Furthermore, MJA provide evidence that the Danish and Swedish cost models assume that the number of installed drop cables is twice the number of active drop cables.⁷ Hence, MJA appear to acknowledge in other parts of their report that dimensioning 2 copper pair for each SIO has precedence amongst regulators.
 - iii. In any event, provisioning of 2 copper pairs per SIO, on average, is good engineering practice for the reasons outlined in paragraph 51 of the statement of [c-i-c] dated 4 August 2006 (“[c-i-c] Statement”).

⁴ Expert Report of Dr Bridger Mitchell, dated August 2006.

⁵ See the [c-i-c] Statement.

⁶ See the [c-i-c] Statement.

⁷ MJA, *Comments on Discussion Paper: Telstra's Undertaking in Relation to the ULLS*, (3 May 2006), Table 4.

- Analysys claims that main cable dimensioning may be excessive in rural areas. However, as Telstra has demonstrated, the standard size of main cable in non-urban areas is 100 pair.⁸ If a distribution area has, say, 62 SIOs, then that DA will be served by a 100 pair cable. It is not efficient for Telstra to purchase customized main cable in 62 pairs (or any dimension less than 100 pair), due to the costs of holding in inventory and distributing to different parts of the network many different sizes of main cable.

41 Furthermore, the Commission claims that it cannot ascertain with any degree of confidence the impact of network provisioning on network costs. However, it is not a simple matter of turning provisioning on and off in the PIE II model and calculating the difference in costs. As described in Telstra's previous submission, the network provisioning rules are applied to different elements of the network depending on usage of that element and the dimensions of alternative elements.⁹ These rules are developed to balance simplicity (for example, simple rules are applied generally over large parts of the network rather than a multitude of rules that are applied to, say, each particular customer) with accuracy at determining the least-cost dimensioning for a sufficient amount of spare capacity. When attempting to compare spare capacity for particular customers in PIE II with "fill factors" used in other models, it should be borne in mind that "fill factors" are averages across the whole network. Parts of the network will necessarily have more or less spare capacity than the average.¹⁰

E.3 O&M factors

42 Telstra's O&M factors are based on actual expenditures and adjusted for efficiency gains by applying O&M ratios to efficient (not actual) capital costs. However, the Commission has expressed its concern that "it is not clear [O&M] costs reflect those of an efficient forward-looking operator". This opinion appears to be premised on the MJA and Analysys claims that a hypothetical network provider could potentially incur fewer O&M costs. Telstra considers that the MJA and Analysys claims are unfounded. In particular:

⁸ Annexure B of *Telstra's Submission in Support of the ULLS Monthly Charges Undertakings Dated 23 December 2005*, at paragraph 40.

⁹ See section C2 of Annexure B of *Telstra Submission in Support of the ULLS Monthly Charges Undertaking Dated 23 December 2005*.

¹⁰ For example, if a non-urban DA with 20 customers is over-provisioned by a 100 pair cable (although Telstra does not agree that it is given the difficulty of sourcing and using main cable of a smaller dimension), a DA with 95 customers would be under-provisioned by a 100 pair main cable.

- The PIE II model, as demonstrated by Mitchell, is consistent with international best practice in terms of calculating O&M expenses. It also compares favourably to the cost approaches adopted by the FCC in the US and the Commerce Commission in New Zealand.
- No model has attempted the daunting task of modelling directly the O&M activities needed by an efficient yet hypothetical network.
- MJA claim that rural O&M costs are higher than urban O&M costs. However, this is not important since the costs are averaged across geographic bands to determine an averaged ULLS price. What is relevant is whether the sum of urban and rural O&M costs is reasonable.
- Mitchell demonstrates that the PIE II model calculation avoids overstating O&M expenses for long-lived assets despite the Commission's claim to the contrary. For short-lived assets, the calculation ensures that O&M costs associated with older and less efficient network assets are not used to project forward-looking O&M expenses.
- Mitchell discusses that the inclusion of aerial cable costs in O&M costs is likely to have only a minimal impact on the overall O&M expense estimate and also suggests that Analysys have overstated the impact in their calculation.¹¹

E.4 Network planning costs

43 The Commission claims that Telstra is twice recovering network planning costs – once through O&M expense factors and again through explicit network planning factors. However, as repeatedly stated by Telstra, the O&M expense factors have been calculated in a way that excludes network planning costs.¹²

E.5 Trench sharing

44 The PIE II model allows for 1% of SIOs to be supplied using trenches that are to be shared with developers in new estates.

45 This estimate is conservative. As set out in the statement of [c-i-c], dated 21 July 2006 (“[c-i-c] Statement”) the number of new services located in new estates for any year is less than [c-i-c]. There were [c-i-c] new services located in new estates in 2005/06. Thus the number of SIOs in new estates is below 1%. Further, [c-i-c] states

¹¹ See Expert Report of Dr Bridger Mitchell dated August 2006.
¹² See, for example, Annexure B to *Telstra's Submission in Support of the ULLS monthly Charges Undertaking Dated 13 December 2004*, (3 March 2005); and the Statement of [c-i-c] dated 4 August 2006, at paragraph 29.

that Telstra does not always receive access to a trench in new estates free of charge. Accordingly, the assumption that Telstra does not incur any trenching costs when trenches are dug by the developers of new estate developers is conservative.

- 46 The Commission considers that an efficient yet hypothetical network operator would be able to share trenches with the developers of new estates for 13% of SIOs, which reflects the number of SIOs in new estates that have been developed over the last 10 years. However, this assumption conflicts with the Commission's principle that a reasonable estimate of network costs should reflect that of an efficient new entrant. Such a new entrant would only be able to share trenches that are open when it builds its network – not the trenches that have, at some stage, been open over the last 10 years.
- 47 Telstra's assumption is consistent with Analysys' modelling of band 4 costs, which assumes a new entrant would build a new network in the first year of operation. Additionally, a consortium of access seekers (including Optus and the members of the CCC) have developed a cost model for a FTTN network which replicates part of Telstra's CAN network. The assumption underlying this model is that no trenches would be shared with developers of new estates.
- 48 Telstra's detailed response to the Draft Decision in relation to trench sharing in new estates is set out in Annexure A.
- 49 In addition, 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.

E.6 Network design parameters

- 50 Telstra adopts rectilinear distance and minimum spanning tree algorithms to estimate efficient network costs. The Commission has expressed its view that lower estimates of cost can be achieved by using different algorithms. Telstra submits that this is not true, and even if it were, the proposed alternative algorithms assume efficiencies that are unachievable in practice (for example, cables are laid in straight lines, despite geographic irregularities). These concerns appear to be fuelled by MJA and Analysis, who make several incorrect claims. Telstra's response to these claims are set out in Annexure B.

- 51 In relation to rectilinear distances, the Commission claims that shorter trench distances can be obtained in the PIE II model by adopting Cartesian (straight line) distance algorithms rather than rectilinear distance algorithms. However, Mitchell provides evidence which shows that the correction factor that could be applied to rectilinear distances is between 0.94 and 1.05, with a mean of 0.995, where 1 implies no correction factor should be applied.
- 52 In relation to minimum spanning trees, the Commission claims that Steiner Node algorithms can be used to reduce the length of trenches and hence reduce network costs. The Commission’s view appears to be derived from NERA’s analysis of three LAS areas and Analysys’ claim that the minimum Steiner tree is known to be up to a maximum of 13.4% shorter than the minimum spanning tree.
- 53 However, these views are biased and not necessarily correct. While NERA and Analysys measure all the benefits of using Steiner node, they do not consider the costs (for example, additional capital and O&M costs). Analysys admits to this bias in a report prepared for Ofcom in which Analysys states that “minimum spanning trees are often used as proxies given that finding such optimal minimum Steiner solutions is known to be difficult”.¹³

E.7 RAF analysis of ULLS costs

- 54 Telstra prepared estimates of ULLS costs from Telstra’s audited historic and current cost accounts. Telstra’s estimates of these costs broadly support the PIE II model’s estimate of CAN costs, which underlies the Undertaking Prices. Telstra’s calculation of those costs is set out in the statement of [c-i-c] dated 28 July 2006.
- 55 After making several adjustments to the calculation, which had the effect of reducing the cost estimates, the Commission concluded that it “does not concur with Telstra that the historic and current cost data substantiates Telstra’s Undertakings”. Telstra’s and the Commission’s estimates of the historic and current cost of Telstra’s CAN are illustrated in the table below.

	Historic Costs	Current Costs
Telstra Estimate	[c-i-c]	[c-i-c]
Commission Estimate	\$12.79	\$12.32

¹³ Analysys, *Cost of the BT UK Local Loop Network*, (21 February 2005).

56 The Commission has erred in making adjustments to Telstra's historic and current cost calculations:

- The Commission has excluded the cost of pair gain systems and radio bearer equipment. This is an error because:
 - i. Pair gain systems are installed by Telstra to reduce the cost of the CAN, by allowing Telstra to use the same copper pair to provide more than one customer with voice services. Radio bearer equipment is also used in Telstra's CAN to save cost. Removing the cost of the pair gain systems or radio bearer equipment would result in a cost estimate for an incomplete and non functional network.
 - ii. If the Commission removes pair gain systems and radio bearer equipment costs, it must add the additional costs replacing those pair gain systems and radio bearer equipment with additional copper pair and other assets. This would provide an estimate for a complete and functional network without pair gain systems or radio bearer equipment.
 - iii. However, the additional cost of the copper pair and other assets would be larger than the cost of the pair gain systems or radio bearer equipment (since the latter were installed to save cost). Therefore, a cost estimate that includes the cost of pair gain systems and radio bearer equipment in the calculation is a conservative estimate of the cost of a complete and functional network without pair gain systems or radio bearer equipment.
- The Commission assumes that Organisation and Product and Customer costs are made up of indirect O&M and ULLS specific costs. The Commission considers that, when calculating unit costs, ULLS specific costs should be divided by total lines not ULLS lines. This is an error because:
 - i. In Telstra's historic and current cost accounts, Organisation and Product and Customer costs have already been allocated between a number of PSTN services including ULLS. For example, only [c-i-c] of the Organisation costs and only [c-i-c] of the Product and Customer costs that are allocated to PSTN and ADSL access and calling services are allocated to ULLS.

- ii. The allocation of Organisation and Product and Customer costs to ULLS already undertaken in Telstra's accounts is lower than the allocation that the Commission does in its calculation of the cost of ULLS, which is based on the number of SIOs. On a per SIO basis, [c-i-c] of the Organisation and Product and Customer costs allocated to PSTN and ADSL access and calling services by the RAF would be allocated to ULLS.
 - iii. Organisation and Product and Customer costs are classified as expenses in Telstra's accounts. ULLS specific costs are predominantly information technology capital costs and are most likely to appear in account 2-2-01-4, which includes all information technology capital costs. This account does not appear in Telstra's calculation of ULLS network costs using the RAF.
- The Commission uses a lower value for the WACC than what is used in Telstra's accounts. This is a mistake because:
 - i. The Commission should use the value of the WACC that is consistent with the historic and current cost accounts.
 - ii. The Commission should use the value of the WACC that is consistent with the Commission's other uses of Telstra's historic and current cost accounts. For example, the Commission uses 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.
 - The Commission includes item "4-4-01-1 Holding Gains/Losses on Asset Adjustment" in its analysis of costs. This is an error because this item represents the notional profit (which is why it appears as a negative cost item) associated with the revaluation of assets from historic cost terms to current cost terms and would only be realised if Telstra actually sold its assets. Therefore, it is irrelevant to determining the cost of ULLS.

57 Once the above errors are corrected, even if the other changes the Commission has suggested to Telstra's calculations are made (which Telstra does not agree are appropriate), the average ULLS historic and current network cost is [c-i-c] and [c-i-c], respectively. Although Telstra does not agree that the corrected Commission

estimates of ULLS historic and current costs are an accurate reflection of Telstra's actual historical or current costs, those corrected estimates support the Undertaking Prices.

- 58 Furthermore, when using Telstra's historic cost accounts to compare with estimates from the PIE II model, it must be kept in mind that the historic cost accounts will tend to underestimate Telstra's actual asset base and capital costs. This is because, the accounting depreciation standards used in Telstra's historic cost accounts fully depreciate CAN assets that are older than their respective accounting lives, of which there are relatively many, even if they are still used to supply services to consumers. However, a TSLRIC model would correctly include the cost of those same assets in the asset base.

E.8 Commission draft conclusions on network costs

- 59 Overall, Telstra believes that the review undertaken by Analysys is not balanced. The Commission requested Analysys to deal only with certain criticisms which it had expressed in the past. It did not request a balanced view on the PIE II model. Accordingly, the Commission should not rely on Analysys report, as it is biased by the limited questions posed. Only a view of the good aspects of the model balanced by any aspects which in Analysys view could be improved would allow the Commission to assess whether the terms and conditions of the Undertakings are reasonable.

E.9 Technology choice

- 60 The Commission relies on a cost study by consultants Analysys which claims that WiMAX is a more efficient technology than copper in rural areas. However, WiMAX is significantly more expensive than indicated by Analysys' estimate, which suffers from a number of serious errors. In July 2006, the Commission commissioned Network Strategies to critically review the Analysys cost model. The Network Strategies report casts serious doubts upon the validity of the Analysys model and results, which, Network Strategies claims, seriously underestimates the cost of deploying WIMAX technology in Band 3 and 4 areas. The Network Strategies report summarises its position in the following way:

We found that the key conclusions of this study are likely to be invalid, or at least questionable, due to weaknesses within the cost analysis methodology and assumptions. These weaknesses include inappropriate assumptions concerning volumes and service quality of voice and other traffic, unsubstantiated geographic assumptions and incorrect modelling of some of the key physical coverage and capacity characteristics of WIMAX and 3G/HSDPA networks.

*While Analysis states that the calculations are high-level in order to provide indicative costs, the problems we have identified are sufficiently substantiated that they cast doubt on even the high level results of the model. We conclude that **the Analysys results should not be interpreted as an accurate reflection of the comparative costs of wireless access technologies in Australia.** (Emphasis Added).*

- 61 The Network Strategies report makes two key findings.
- 62 First, its report argues that the Analysys model assumes technical characteristics for WIMAX and 3G/HSDPA technologies that are not feasible under real world conditions. The effect is that the Analysys model significantly overestimates the cost of wireless technology. Correcting these assumptions would lead to a higher estimate of ULLS equivalent costs. The report makes the following criticisms regarding the model's technical assumptions:
 - The Analysys model assumes that each WIMAX base station can operate 45 channels with a maximum capacity of 450MB/s. The Network Strategies report points out that this number of channels requires “*more than twice the spectrum actually available in Australia*”. The report argues that the feasible capacity for one base station is less than half the amount assumed in the Analysys model (18 channels or 180MB/s).
 - The Analysys model assumes that each WIMAX base station is capable of covering 100% of customers within a nominal coverage area. The report argues that Analysys' model does not account for the fact that a significant proportion of customers will be located in coverage ‘black spots’. The report estimates that the proportion of such customers may be as high as “10% or more” in hilly locations.
 - The Analysys model assumes that each channel at a WIMAX base station has a capacity of 10Mb/s. The report argues that the Analysys report fails to account for the inverse relationship between coverage range and capacity. Channel capacity drops to 4Mb/s at a range of 5km in rural

areas. The Analysys model assumes a coverage range of 12km in rural and remote regions.

- 63 Second, Network Strategies find that Analysys' assumed minimum required bandwidth for voice services (8Kb/s) is not feasible considering Telstra's Universal Service obligations and the requirements of non-voice services such as faxes and teletypes. The report notes that the independent WiMAX forum estimates a voice bandwidth requirement of 128kb/s. The report also notes that the Analysys model assumes a level of voice minutes for Australia that is less than half Telstra's reported voice minutes alone. The implication is that the Analysys model underestimates the capacity required to provide voice services. This may increase the amount of base stations required and increase fixed costs.
- 64 The findings in the Network Strategies report strongly suggest that the results reported by Analysys are not a reliable reflection of the cost of providing local access using wireless technologies.
- 65 In addition to Network Strategies' findings, in the statement of [c-i-c], dated 3 August 2006, ("[c-i-c] Statement") [c-i-c] states that the Analysys study:
- Does not take into account that WiMAX is an unproven technology, particularly for the purposes of providing voice services;
 - Assumes that there is a wide band of spectrum available in the 3.5GHz range for WiMAX deployment, which is in excess of what is possible both in theory, and in practice, in Australia;
 - Fails to take into account costs that would be necessarily incurred in providing a standard telephony service over WiMAX;
 - Over-estimates the number of information bits that can be delivered correctly to all data users;
 - Under-estimates tower construction and land costs;
 - Over-estimates the reach of WiMAX base stations and, therefore, the coverage of the network;
 - Over-estimates the proportion of the population that lives within the assumed maximum reach of a base station;
 - Under-estimates the cost of customer premises equipment;

- Omits important cost categories (for example, Operation Management Centre and Wireless Access Controller costs);
 - Under-estimates the capacity required for future broadband demand; and
 - Over-estimates the extent to which radio network resources can be shared.
- 66 Finally, ULLS is a copper based service. Estimating costs of providing services using alternate technologies is irrelevant when estimating the cost of ULLS.

E.10 Lead-in costs

- 67 Telstra considers that it is reasonable to recover the cost of lead-ins from ULLS prices. Such costs have not been included in earlier estimates of ULLS network costs and in the vast majority of cases Telstra does not recover these costs elsewhere.
- 68 The Commission enquired as to whether Telstra recovers these costs from connection fees.
- 69 The connection fee, which is levied at the time customers request a PSTN basic access service, depends on the work that is required to connect the service. Telstra charges an "in-place" fee of \$59 (GST Inc) for connections at premises that have an existing telephone socket and where a Telstra technician is not required to visit the property or premises. This charge recovers the cost of making the connection at the exchange and does not contribute to the cost of the lead-in. Telstra charges an "in-place" fee of \$125 for connections at premises where a previous service existed and where a technician is required to visit the customer's residence but where no cabling is required. This charge recovers the cost of making the connection and the technician's visit to the customer's premises. It does not contribute to the cost of the lead-in.
- 70 Telstra also charges a "new-service" fee of \$299 for connections at premises where a telephone service had not previously been connected at the property or premises or where the connection requires a technician to visit and undertake cabling work. In most cases, technician visits do not involve the installation of a lead-in, as most residential properties in new estates are pre-wired with lead-ins built out to the street at the time the new estate is constructed. In some cases lead-ins are installed at the time of the connection. However, these cases are limited, amounting to only 1,000 per month. Furthermore, the \$299 fee does not necessarily contribute to the ongoing costs of those lead-ins after the customer transfers the line to a ULLS access seeker.

- 71 Furthermore, Telstra's *Our Customer Terms* (section 3.15 Basic Telephone Service Section - Part A General) states that where a cable enters a building, the customer must arrange and pay for suitable trenching to the house from the property or building entry point (Telstra still bears the cost of installing duct and cabling). Given that Telstra does not bear the cost of the trench, trenching cost have not been included in Telstra's estimates of lead-in costs.
- 72 Telstra estimates that the additional lead-in costs that need to be added to the PIE II model amount to [c-i-c] per SIO per month. When the Commission assesses the reasonableness of the Undertakings, the Commission needs to take into account the fact that efficient network costs should include the amount of [c-i-c] in addition to Telstra's earlier estimate of ULLS network costs.

E.11 Trench Costs

- 73 The PIE II model assumes conservative values for several network design parameters in relation to trenching costs. For example:
- The PIE II model cost estimates do not take into account that there are driveways in the way of trenches, where trenches would need to be constructed by underground boring rather than digging. Equally, the PIE II model does not provide for the costs of cables having to be laid under concrete pathways rather than in nature strips, particularly when nature strips are too narrow to accommodate utility (water, electricity, gas) pipes and cables as well as Telstra's cables;
 - In the case where cables can be layed in areas which do not have existing infrastructure (such as paths or driveways), the PIE II model does not include the costs for back filling trenches with soil and re-instating the surface with turf, for main cable and IEN trenches.
- 74 Telstra considers that the following adjustments must be made to account for those additional costs which are not estimated by the PIE II model.
- 75 First, the estimated proportion of paved kerb in each of the cities in the footprint, in specified distances from the CBD, was sourced from field managers and are as follows.

Percentage of paved kerb (i.e. no nature strip)	Distance from the CBD			
	< 5 km	5 - 7.5 km	7.5 - 10 km	> 10km
	Band A	Band B	Band C	Band D
Sydney	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]
Brisbane	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]
Adelaide	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]
Melbourne	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]
Perth	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]

76 Second, a cost per metre of trenching including installing conduit was obtained from Telstra’s schedule of construction prices (“**Schedule B**”) for the following areas:

- Trenching in turfed areas where only soil reinstatements is required;
- Trenching in paved areas that includes breaking up the pavement, digging the trench and installing the conduit and reinstating the pavement or bitumen; and
- Trenching in a paved area where underground boring is used.

77 This data was used to calculate a ratio that compares the additional costs of installing cable and conduit in paved areas as compared with turfed areas respectively (“**the uplift**”).

	\$ per m	The Uplift (Ratio to A)
A: trenching in turfed area	[c-i-c]	[c-i-c]
B: trenching in paved area	[c-i-c]	[c-i-c]
C: underground boring	[c-i-c]	[c-i-c]
D: 85% trenching, 15% boring in turfed areas¹⁴	[c-i-c]	[c-i-c]

¹⁴ Assuming driveway is 15% of total property width.

- 78 Third, using the proportion of paved areas for each major city, the average uplift per city was calculated. For example, Brisbane Band A (< 5km) is assumed to be [c-i-c]% paved, so the uplift is [c-i-c]%.

Uplift factor	Distance from the CBD			
	< 5 km	5 - 7.5 km	7.5 - 10 km	> 10km
	Band A	Band B	Band C	Band D
Sydney	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]
Brisbane	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]
Adelaide	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]
Melbourne	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]
Perth	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]

- 79 Using location coordinates sourced from Telstra systems, the distance between the exchanges and the closest CBD were calculated. This was calculated as the straight-line (as the crow flies) distance from the exchange to the CBD. The location of the CBD was assumed to be the major exchange in each city as per below.

		ESA Code
Sydney	Pitt Street	PITT
Brisbane	Roma Street	RASH
Adelaide	Waymouth	WAYM
Melbourne	Lonsdale Street	LONS
Perth	Wellington	WLTE

- 80 The exchanges were categorised into the bands according to the calculated distance from the CBD exchange.
- 81 Fourth, the appropriate uplift factor was then applied to the annualised capital, O&M and network planning costs for the network elements which make up trenching, including conduit, duct, pits and manholes.
- 82 Based on this analysis, the network costs for each band increased by the following amounts

- Band 1: [c-i-c]
- Band 2: [c-i-c]
- Band 3: [c-i-c]
- Band 4: [c-i-c]

83 Telstra submits that the Commission should take these additional costs into account when assessing the reasonableness of the Undertakings.

E.12 Conservative elements of the PIE II model

84 The PIE II model systematically underestimates network costs in the following ways.

85 First, in the PIE II model there is no detailed information on the existence of the gradient within an ESA or Distribution area nor is there any information with respect to the existence of obstacles. Both these factors have an impact on the actual installed length of cables and trenches and should not be ignored. In the US, both the Hatfield and FCC models make allowances for these by using multipliers either as an uplift to the distance or as an uplift to the cost. To bring the PIE II model into alignment with the US models, the following multipliers could be added:

- Gradient multiplier – applied to cable and trench distances to account for the issue of the existence of a gradient when applying the rectilinear calculation. Telstra considers that a [c-i-c] uplift in cable and trench distances to account for this understatement of costs is appropriate.
- Obstacle factors and rectilinear adjustment multiplier - applied to cable and trench distances to account for the fact that trenches are not always laid in straight lines (due to obstacles such as lakes, rivers etc) and that connection points are not always on road intersections and, therefore, will turn back on themselves. Telstra considers a [c-i-c] uplift to cable and trench distances to account for this understatement of costs is appropriate.

86 Second, the PIE II model assumes that Telstra does not incur any trenching costs when trenches are dug by the developers of new estates. This assumption is conservative because developers often charge Telstra for access to trenches.¹⁵

87 These conservative assumptions will result in the PIE II model under-estimating network costs. Telstra has not attempted to adjust the model for the likelihood of

¹⁵ See [c-i-c] Statement.

under-estimation since to do so would involve making the PIE II model more complex than it currently is.

F Averaged ULLS Charges

88 In Telstra's view, the Commission's assessment of Telstra's geographically averaged structure of ULLS prices against the statutory criteria is incorrect for the following reasons:

- First, averaged ULLS charges will not reduce competition in metropolitan areas. Given the public announcements made by different access seekers regarding the margins available on ULLS compared with resale products, averaged ULLS charges will not undermine the viability of ULLS-based investments in metropolitan areas.
- Second, the Commission's claims that average ULLS charges will discourage bypass-based competition in rural areas is incorrect. It is Telstra's obligation to provide average retail prices which will discourage bypass in rural areas, not ULLS prices. So long as Telstra's pricing parity requirements remain in place, it is highly unlikely that any access seekers will be able to compete viably in rural areas based on their own infrastructure. This is evidenced by the lack of investment in rural areas made to date, even at the deaveraged ULLS charge of \$100 per service. Given the retail pricing parity obligations, competition is much more likely to be encouraged in rural areas based on an average ULLS price.
- Third, the fact that Telstra has not previously claimed the deficit in rural areas does not mean that averaged ULLS prices are inconsistent with Telstra's legitimate business interests or the LTIE. The fact that ULLS take-up is accelerating means that Telstra's ability to continue to meet its pricing parity obligations and recover its costs is becoming unsustainable.
- Fourth, the Commission continuously expresses its concerns regarding above cost ULLS prices in metropolitan areas and the resulting allocative efficiency losses. However, it fails to recognise the fact that Telstra is obliged to provide averaged retail prices and in this second-best world, the first-best principles that minimise allocative efficiency losses need to be reconsidered. For example, the pricing parity conditions together with deaveraged ULLS prices would allow access seekers to compete profitably even if they are less efficient than Telstra.

- Fifth, ULLS averaging has international regulatory support, particularly, where retail prices are averaged.¹⁶
- 89 In Annexure C to this submission, Telstra provides a detailed response to the Commission’s assessment of Telstra’s averaged ULLS prices against the legislative criteria.
- 90 One of Telstra’s most serious concerns is that the Commission’s analysis of geographic averaging of ULLS charges fails to recognise that the Government’s clearly stated objective of pricing parity between metropolitan and rural areas of Australia means that a second-best policy outcome already exists. Instead of acknowledging this fact when assessing the Undertakings against the LTIE criteria, the Commission’s LTIE analysis appears to proceed on the basis that ULLS charges should be set assuming a first-best policy exists for retail prices.
- 91 Telstra acknowledges that there are a number of ways to address the Government’s social policy objective of average retail prices, but simply ignoring their existence as the Commission appears to do is not, in Telstra’s view, an option consistent with the legislative criteria. The two obvious mechanisms for addressing these social policy objectives are either direct Government funding or the averaging of ULLS prices as is proposed in the Undertakings. While direct Government funding for rural areas may provide the most efficient outcome from an economic perspective, in reality it is unlikely to ever eventuate. Therefore, the averaging of ULLS prices is the only outcome that can practically be implemented.
- 92 Another alternative is the implementation of an industry funded “High Cost Surcharge”. Telstra’s ULLS averaging proposal is effectively the implementation of such a High Cost Surcharge, with every service in low cost areas making a contribution to the cost of providing telecommunications access in high cost areas. This mechanism is currently embedded in Telstra’s retail and wholesale charges for basic access and local calls and Telstra believes that it should also be reflected in the structure of ULLS charges.
- 93 Telstra has calculated an explicit high-cost surcharge to compare this to the averaged Undertaking Prices. The surcharge is calculated by:
- Subtracting basic access revenues in rural areas¹⁷ from CAN costs in rural areas¹⁸;

¹⁶ See for example, OECD (2004), *Access Pricing in Telecommunications*, Paris: OECD.

- Subtracting the USO contribution¹⁹; and
 - Dividing by the total number of basic access SIOs in all areas²⁰.
- 94 The high-cost surcharge so calculated is [c-i-c] per SIO per month. If this is added to Telstra's estimate of network costs and ULLS specific costs and averaged over the Undertaking period, the resulting ULLS prices in 2006/07 would be:
- In Band 1 - [c-i-c]
 - In Band 2 - [c-i-c]
 - In Band 3 - [c-i-c]
- 95 Despite the price being below \$30 in Band 1, Telstra submits that the terms and conditions of the Undertakings are reasonable because the vast majority of copper lines are in Bands 2 and 3 (approximately [c-i-c]) where the price would be well above the Undertaking Prices. Further, Telstra notes that the vast majority of ULLS take up by access seekers to date has been in Band 2 (approximately [c-i-c]). Therefore, whether you base the calculations on the percentage of copper lines, or the percentage take up by access seekers, the average price per SIO for access seekers would still be above \$30.
- 96 Telstra has also commissioned Dr David Sappington to provide his expert opinion on the merits of implementing uniform prices for ULLS. The remainder of this section provides a summary of Dr Sappington's report.
- 97 Dr Sappington is the Lanzillotti-McKethan Eminent Scholar in Warrington College of Business at the University of Florida and Director of University's Public Policy Research Centre. In 2001 and 2002 Dr Sappington served as the Chief Economist of the US Federal Communication Commission. His research focuses on the design of regulatory policy in the telecommunications industry, which has culminated in numerous articles published in leading economics and law journals and a book titled *Designing Incentive Regulation for the Telecommunications Industry*.

F.1 The first-best policy outcome

- 98 The first section of Dr Sappington's report sets out his views on the first-best policy outcome, which involves regulation that replicates competitive outcomes. As costs

¹⁷ [c-i-c] per annum (average revenue of [c-i-c]/month multiplied by [c-i-c] SIOs).
¹⁸ [c-i-c] per annum (average cost of [c-i-c]/month multiplied by [c-i-c] SIOs).
¹⁹ [c-i-c] per annum (2006/07 USO levy of \$158m multiplied by the [c-i-c] share of total costs allocated to the CAN).
²⁰ [c-i-c].

in rural regions of Australia are higher than in urban regions, unfettered competition, which would drive prices to the level of costs, would produce higher prices for retail basic access services in rural regions of Australia than in urban regions. Therefore, if regulation were to replicate competitive outcomes, regulation would set higher prices for retail basic access services in rural regions of Australia than in urban regions.

99 Dr Sappington goes on to explain why the Government's price control determination, which requires Telstra to offer basic line rental services in non-metropolitan areas at the same or a lower prices as it offers those services in metropolitan areas, creates problems.

100 First, it inhibits competition in rural regions of Australia. While the averaged price of basic line rental service in urban areas is above Telstra's unit cost of production, it is below the unit cost of production in rural areas. This price structure encourages facilities and ULLS-based competitors to serve customers in urban regions of Australia, but discourages competitive activity in rural regions. A competitor with a cost structure similar to Telstra's can profitably serve customers in urban regions by charging a lower price than Telstra's averaged price. In contrast, an equally efficient (or even more efficient) competitor than Telstra cannot profitably undercut Telstra's prices in rural regions when Telstra complies with the mandate that it alone faces to set a uniform price for basic line rental service throughout Australia.

101 Second, the uniform retail price mandate encourages cream-skimming, which undermines the mandate. As competitors rationally choose to serve lucrative urban regions, prices will be driven down in these regions. If Telstra wishes to continue to serve urban customers, it will be compelled to lower the prices it charges for telecommunication services in urban regions. As cream-skimming reduces the number of urban customers with Telstra services and/or requires Telstra to sell bundled services to urban customers at low rates, Telstra's ability to finance low prices in rural regions will be jeopardised. Consequently, if Telstra is to continue to attract the capital it requires to provide high-quality service to its customers, the price that Telstra is permitted to charge for unbundled basic access service in rural regions will have to be increased. Failure to implement such a price increase would be contrary both to Telstra's legitimate business interests and to the long-term interests of end-users, as such failure would jeopardise the long-term supply of high-quality services to rural customers. Such failure also would not serve the best interests of the persons who have the right to use the ULLS because Telstra must be

able to attract the resources required to maintain and improve its network in order to continue to make high-quality ULLS available to competitors.

F.2 The second-best policy outcome

102 While Dr Sappington views the first-best policy outcome as being one where retail prices reflect the cost of supply, he also recognises that the Government mandate is in place and, therefore, the structure of ULLS charges must be set with respect to this constraint. Dr Sappington refers to this as the “fundamental Principle of the Second Best”. He explains that the Principle of the Second Best means that if one component of a fully ideal (“first-best”) policy is precluded, then it is no longer necessarily best to implement the other components of the first-best policy. In other words, once a single departure from the first-best policy arises, it can be best to intentionally implement additional departures to help offset the distortions created by the initial departure.

103 The second section of Dr Sappington’s report explains why he believes that, with uniform retail prices in place, deaveraged ULLS prices will facilitate cream-skimming, while uniform ULLS prices limit cream-skimming. Telstra’s unit costs of producing ULLS are lower in urban regions than in rural regions of Australia. Consequently, if ULLS prices (unlike Telstra’s retail prices) were geographically de-averaged to fully reflect Telstra’s efficient region-specific costs, competitors that employ ULLS would enjoy lower costs in urban regions than in rural regions. Such a cost structure would make competitors particularly capable of and especially interested in serving urban regions while rendering competitors less capable of and less interested in serving rural regions of Australia. Therefore, geographically deaveraged ULLS prices would encourage the cream-skimming that can both undermine the goal of securing a uniform price for basic access service throughout Australia and increase Telstra’s unit production cost and thereby, to the extent possible under retail price controls, compel Telstra to raise prices to rural customers. Dr Sappington notes that in support of geographically deaveraged ULLS prices the Commission states that “Telstra should not be compensated for the effects of competition or regulatory processes which promote more competitive outcomes”. Dr Sappington states that it is not clear that increased cream-skimming is properly viewed as a “more competitive outcome”. Unfettered competition enables more efficient competitors to drive less efficient rivals from the market. In contrast, cream-skimming can promote the operation of inefficient competitors in urban regions and preclude the operation of efficient competitors in rural regions.

104 Dr Sappington believes that uniform ULLS prices limit incentives for cream-skimming. Uniform ULLS prices that reflect Telstra's efficient (geographically averaged) unit cost of supplying ULLS in Australia endow competitors with a low-cost means of operation while limiting their ability and incentive to undertake the cream-skimming that subverts the goal of securing a low, uniform price for unbundled basic access service throughout Australia. Further, uniform ULLS prices can promote competitive activity in the rural regions of Australia by increasing the relative profitability of serving rural customers.

F.3 Why uniform prices are consistent with economic principles and industry practice

105 The third section of Dr Sappington's report provides his views on why uniform prices are consistent with economic principles, why they reflect the full costs of competitive entry and why the OECD advocates uniform ULLS prices. In this section, Dr Sappington also provides his views on first-best policies.

106 Dr Sappington explains that the advantages of uniform ULLS prices arise because they are consistent with basic economic principles. One might suspect that the ideal regulatory policy would be to ensure that ULLS prices replicate the discipline of competitive markets by setting prices that reflect the geographically deaveraged cost of providing ULLS. Although this logic is intuitively appealing, it is not correct because it ignores the fundamental Principle of Second Best. In the present context, the Principle of Second Best implies that once a decision has been made to preclude Telstra's retail prices for basic access service from reflecting the geographically deaveraged cost of producing the service, it is optimal to preclude the corresponding deaveraging of ULLS prices.

107 Dr Sappington believes the advantages of setting uniform wholesale prices are apparent. Uniform prices can: (i) limit cream-skimming; (ii) enhance competitive activity in rural regions; and (iii) help support a low, uniform price for basic access service throughout Australia. In doing so, uniform ULLS prices: (i) are consistent with the objective of promoting competition; (ii) further the objective of encouraging the economically efficient use of, and the economically efficient investment in telecommunications infrastructure; and (iii) promote the long term interests of end-users of telecommunications services in Australia.

108 Uniform prices accomplish these outcomes by raising ULLS prices above cost in urban regions and lowering ULLS prices below cost in rural regions. Uniform prices thereby help to (i) offset the artificial attraction of serving urban customers created

by the uniform retail price mandate; and (ii) increase the attraction of serving rural customers by lowering the costs of serving rural customers for competitors that employ ULLS. Uniform ULLS prices thereby make it more profitable for competitors to serve all of Australia rather than serving only selected (ie urban) regions of the country.

- 109 Dr Sappington also believes that uniform prices better reflect the full cost that Telstra incurs when it supplies ULLS to competitors than do geographically deaveraged ULLS prices. Telstra's full cost of supplying ULLS includes both the physical production cost and the increased financial deficit it faces when competitors employ ULLS to attract profitable customers away from Telstra. When Telstra loses profitable customers to competitors, Telstra forfeits the financial contribution these customers formerly made to help cover Telstra's fixed costs of production. The reduction in contribution that arises when Telstra supplies ULLS to competitors is more pronounced the greater is the profit Telstra formerly secured from the customers that competitors now serve.
- 110 Finally, Dr Sappington notes that the OECD's comprehensive assessment of access pricing policies in the telecommunications industry make it clear that where there is a mandate to preserve geographically averaged end-user prices, it is essential to geographically average ULLS prices. The OECD observes that most countries employ uniform ULLS prices and notes that Australia is an exception in this regard.
- 111 Dr Sappington notes that geographically deaveraged ULLS prices can introduce corresponding distortions even as they facilitate cream-skimming and undermine uniform retail tariffs. In particular, deaveraged ULLS prices coupled with uniform prices for basic access services can allow inefficient competitors to operate profitably in urban regions while precluding the profitable operation of even competitors that are more efficient than Telstra in rural regions. Thus neither uniform nor geographically deaveraged ULLS prices ensure that industry output is delivered by the least-cost industry supplier.
- 112 Dr Sappington concludes this section by noting that the distortions that arise under both uniform and geographically deaveraged ULLS prices could be avoided if Telstra were permitted to set prices for unbundled basic access service that fully reflect the efficient production cost. Alternatively, concerns about the affordability of basic access services in rural areas of Australia could be addressed through more direct and more targeted programs.

F.4 Response to MJA report and Optus submission

113 In section 4 of his report, Dr Sappington provides responses to the MJA Report and Optus' submission to the Commission on Telstra's ULLS Undertakings ("**Optus Submission**").

114 Dr Sappington finds that the MJA report underestimates the value of uniform ULLS prices in counteracting the problems introduced by the uniform retail price mandate in Australia. The MJA report suggests that "[f]rom a purest economic view, unbundling should be deaveraged regardless of retail prices being averaged". Dr Sappington believes that this conclusion is incorrect because it appears to overlook the fact that uniform prices can help reflect relevant opportunity costs, despite the MJA report explicitly recognising that "a price based on opportunity costs send the right signal to consumers". By accounting for relevant opportunity costs, uniform ULLS prices can help to limit cream-skimming by inefficient suppliers, and thereby encourage the economically efficient use of, and the investment in, telecommunications infrastructure in Australia. Further, by helping to support the uniform retail price mandate and by helping encourage competition in rural regions, uniform ULLS prices also can help to promote the long-term interests of end-users.

115 Dr Sappington finds that the Optus submission also underestimates, or alternatively ignores, the role that uniform ULLS prices can play in reflecting relevant opportunity costs. The Optus submission fails to acknowledge the drawbacks to geographically deaveraged ULLS prices, such as enabling inefficient competition in urban areas and precluding efficient competitors in rural areas. Further the submission fails to discuss in any detail the fact that geographically deaveraged prices promote the continued undermining of the uniform retail price mandate.

116 Dr Sappington also finds that the Optus submission fails to provide a balanced discussion on the OECD's comprehensive study on ULLS pricing. The Optus submission fails to report the OECD's conclusion that "If the regulator wishes to preserve the geographically averaged structure of end-user prices, it is essential to geographically average ULLS prices". Instead the Optus submission recounts the OECD's observation that retail prices ideally should reflect the relevant (de-averaged) costs of providing the retail services.

117 [c-i-c]

118 [c-i-c]

G Weighted Average Cost of Capital

119 In response to the Commission's analysis of the WACC, Telstra has commissioned Professor Bowman to provide his expert opinion. Professor Bowman agrees with the Commission's approach to WACC but not the parameter values. In particular, Professor Bowman shows that the Commission has understated the appropriate WACC for ULLS in a number of areas, including:

- Gearing – the Commission provides no basis for not accepting Professor Bowman's estimate of [c-i-c], instead applying a ratio of 40%, 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;
- 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 Telstra bonds, when the default risk associated with ULLS services will be largely comparable to Telstra as a whole;
- 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 precedent.
- 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 ULLS network.
- Market risk premium – the Commission has not demonstrated that Professor Bowman's proposed value of 7% 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.
- Taxation – the Commission understates the tax payable by Telstra through application of an effective tax rate of 20%. 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.

- Equity issuance costs – the Commission’s approach to consider these as only relevant when they arise is inconsistent with the TSLRIC model. It is also not consistent with the Commission’s approach to debt issuance costs and previous decisions of the Commission.

120 In setting the WACC the Commission has also taken no account of the social consequences associated with under-estimating and over-estimating the WACC. It is widely agreed that in a regulatory environment, the net social costs of underestimating the cost of capital are higher than are the net social costs of over estimation.²¹ Therefore, on this ground the Commission should set its regulatory WACC above its point estimate of the WACC.

121 Telstra has calculated and relied on for costing purposes two distinct WACCs – one specific to the costing of the PSTN used in the supply of the ULLS and another particular to the specific assets, mainly software systems, used to enable the ULLS. This accords with the costing approach which essentially assumes that the stand-alone ULLS provider purchases network inputs from a PSTN access provider. The key assets owned by the ULLS provider relate to the software assets needed to enable delivery of the ULLS. This dual WACC approach also allows Telstra to factor into the distinct WACC estimates the differential systematic risk attached to network assets vis-à-vis software assets. It also allows Telstra to use riskfree rates in each context, the maturities of which match the different lives of the respective assets and thus maintains the consistency with the Capital Asset Pricing Model (“CAPM”) as established by the Australian Competition Tribunal in the GasNet decision.

122 To maintain the internal consistency required by the CAPM, several other WACC component parameters are differentially quantified for the two asset categories. For instance, the market risk premium needs to be calibrated with the maturity of the riskfree rate. Since the asset types have different useful lives, the market risk premium (“MRP”) will also be different in each context to maintain the integrity of the CAPM relationships.

²¹ One respondent to Telstra’s Undertakings disagrees (see Statement of Jason Ockerby, 12 April 2005). Telstra’s responses to Ockerby’s arguments are set out in Annexure D.

- 123 The Commission advocates the application of the WACC from the PSTN OTA context to both the network and software assets employed in delivering the ULLS. In Telstra's view there is no reason to accept the Commission's perspective that the risks associated with the net cash flows from the ULLS, which is relevant to the assessment of the ULLS specific costs, should be the same as the risk associated with the net cash flows from the set of services supplied by the PSTN.
- 124 The PSTN assets are used to provide a wide range of services, so that the overall risk associated with those assets is to some extent mitigated by a portfolio effect. In supplying the ULLS, that part of Telstra is effectively an entity that sells access to, and services from software, to access seekers. The demand of these access seekers will depend in significant part on the final demand for ADSL, but will not necessarily mirror that demand given there are other ways in which access seekers can provide ULLS. As a result it is reasonable to expect that ULLS demand will have a higher degree of systematic risk than demand for the complex of services provided by the PSTN assets.
- 125 Further, the cost structure of the PSTN differs from that of the ULLS specific assets. The ULLS is characterised by substantial fixed costs so that combined with volatile demand there is consequent higher operating leverage. The resultant greater sensitivity of the ULLS net cash flows to the economic cycle translates into a higher asset beta (and hence WACC) for the ULLS software assets.
- 126 In Telstra's view the preferred approach of capturing these differences in the costings is to effect separate WACCs for the network and for the software assets.

H ULLS Specific Costs

H.1 Unitisation of ULLS specific costs

- 127 Telstra unitises ULLS specific costs over only ULLS lines. The Commission considers that a lower ULLS price could be achieved by unitising ULLS specific costs over a larger number of lines (for example, all CAN lines or all ADSL lines). The Commission claims that a recent decision by the Australian Competition Tribunal (ACT) in relation to the line sharing service (LSS) supports its position.
- 128 However, Telstra submits that the Commission and the ACT have erred in their assessment of how ULLS or LSS specific costs should be unitised. In particular:

- ULLS specific costs are not caused by declaration – access seeker demand for ULLS is. Even if ULLS was declared, specific costs would not be incurred by Telstra if access seekers did not demand ULLS.²²
- Requiring access seekers to bear the specific costs that they cause does not undermine their opportunity to compete on their merits. Access seekers’ opportunity to compete must be in proportion to the efficiency of their mode of competition. If ULLS-based competition requires additional costs to be incurred relative to other modes, then spreading ULLS access seekers costs to other modes of competition does not equate to giving them an opportunity to compete on the basis of their own efficiency (that is, on their merits).
- A lower ULLS charge would not promote efficiency by resulting in lower retail prices and giving Telstra greater incentives to lower costs. ULLS prices are only a small component of the costs to access seekers of providing ADSL, therefore, lower ULLS prices would not necessarily result in much lower retail prices. In addition, ADSL might not be highly elastic. Furthermore, Telstra faces great incentives to lower costs (its costs are subject to a great amount of regulatory scrutiny) without the additional incentive of not allowing Telstra to recover specific costs from access seekers.
- The likely efficiency losses associated with a broader unitisation are likely to overwhelm any efficiency gains. If access seekers do not face the costs specifically related to their supply, they may expand their supply even if the overall resource costs which such expansion imposes on society are greater than those associated with alternatives. As the higher costs of inefficient supply could be incurred over all units of access seekers’ supply, the associated efficiency losses would likely swamp any efficiency gains from lower retail prices, which are incurred over only marginal units of supply.
- There is a large risk that Telstra will not recover its specific costs, despite them being unitised over its own retail demand. In the long-run, platform competition would not allow Telstra to recover any costs other than those it incurs to provide its own retail services.

²²

For example, Conditioned Local Loop is a declared service. Notwithstanding, Telstra has not incurred any Conditional Local Loop specific costs because there is no access seeker demand for this declared service.

129 In addition, Telstra refers to a report written by Dr David Sappington which shows that:

- Recovering all ULLS specific costs from ULLS users is consistent with basic economic principles and is in the long term interests of end-users; and,
- Recovering ULLS specific costs over all lines may impose a tax on consumers who are harmed by such a policy and may fail to tax those who benefit from expanded use of ULLS; and,
- Recovering ULLS specific costs from non-users of ULLS constitutes entry assistance and is not competitively neutral.

130 If a broader base of demand is adopted for the unitisation of ULLS specific costs, for example, to include LSS and wholesale and retail DSL services, then Telstra considers that it is entitled to recover the costs associated with the ordering and provisioning of those other services. Telstra estimates that the average cost of ordering and provisioning for ULLS, LSS and ADSL services is [c-i-c].²³ This estimate of average specific costs supports the Undertaking Prices.

131 If ULLS specific costs are to be allocated in such a way that all competitors face equal costs, then Telstra would need to estimate:

- The ordering and provisioning costs associated with all services that competitors supply or can supply using ULLS (including voice, ATM, Frame Relay, and other data services). Given the range of services that can potentially be provided over ULLS, determining the extent of services over which costs should be allocated becomes impractical and uncertain. The only sensible certain way of Telstra recovering its ULLS specific costs is from Telstra's ULLS users; and
- The ordering and provisioning costs incurred by competitors for substitutable services using their own infrastructure and internal systems (including, for example, services on Optus' HFC and wireless broadband providers, fibre network owners offering access services to business customers etc). Such an estimate would be almost impossible to derive.

²³ The net present value of specific costs for the three years from 2006/07 to 2008/09 amounts to [c-i-c] for retail and wholesale ADSL services, [c-i-c] for ULLS services and [c-i-c] for LSS services. The net present value of the sum of ADSL, ULLS and LSS demand for the same three years is [c-i-c] SIOs. The NPV of these costs divided by the net present value of demand is [c-i-c].

132 Telstra has therefore not endeavoured to undertake such an assignment, since it is impractical to accurately measure the service specific costs of these other services and almost impossible to accurately measure the costs incurred by other competitors.

H.2 Recovery of previously unrecovered costs

133 Telstra's ULLS specific cost model carries forward unrecovered annualised costs from previous periods into the current undertaking period. The Commission considers that Telstra should not do this on the premise that it was inconsistent with an *ex-ante* approach and leads to a self-fulfilling prophecy of high average ULLS costs, which leads to low ULLS take-up, which leads to high average ULLS costs and so on. However, this would preclude Telstra from recovering efficiently incurred and still-in-use costs that it would otherwise have been able to recover but for the Commission's erroneous choice of modelling parameters in previous regulatory decisions.

134 Telstra submits that the Commission has erred for the following reasons:

- An *ex-ante* approach to regulation should not involve the write-off of assets or costs that are still in use. The previously unrecovered ULLS specific costs that the Commission proposes Telstra should not recover relate to assets and costs that are still in use for the provision of ULLS to access seekers.
- The Commission's claim of a self-fulfilling prophecy of high ULLS specific costs is without justification. The Commission has, in the past, recommended ULLS specific costs of \$10 per month.²⁴ Despite that, Telstra did not recover its costs when setting ULLS prices on this basis (Telstra is now seeking to recover that shortfall), the ULLS specific costs Telstra claims are as low as [c-i-c] in the second half of 2005/06 and [c-i-c] in 2007/08, using the lower WACC. Hence, even though Telstra proposes to recover previously unrecovered ULLS specific costs, the specific cost component of ULLS prices has and will decrease over time.

135 In addition, Telstra submits that recovering previously unrecovered ULLS specific costs in this undertaking will promote the LTIE for the following reasons:

²⁴ ACCC, *Final Determination for Model Price Terms and Condition of the PSTN, ULLS, and LCS Services*, (October 2003).

- It promotes facilities-based competition, since it allows potential facilities-based competitors that are at least as efficient as Telstra to recover their fixed ordering and provisioning costs when supply ULLS or equivalent services.
- It promotes efficient ULLS-based competition, since purchasers of ULLS face the costs of the resources they consume and not less. If Telstra did not recover previously unrecovered costs in its Undertaking, then access seekers would be able to acquire ULLS for less than the resource cost of providing it.
- It promotes efficient investment in and use of infrastructure, since it limits under-recovery and over-recovery of costs. The Sappington expert report discusses the mechanics of this in more detail.²⁵
- It promotes Telstra's legitimate business interests, since it ensures that Telstra recovers its efficiently incurred ordering and provisioning costs, and no more or less. Without a reconciliation, Telstra could substantially over-recover costs if demand forecasts are too low or under-recover costs if demand forecasts are too high.
- It promotes ULLS-based access seekers' legitimate business interests, since it ensures that access seekers pay no more or less than Telstra's efficiently incurred ordering and provisioning costs.
- While access seekers might face higher risk relative to a situation where the Commission sets constant ULLS prices over time, to some extent this risk is diversifiable risk and, therefore, under the CAPM approach to costing, does not impose any costs on efficient access seekers investing in ULLS networks.
- To the extent that the risk is not diversifiable, then either Telstra or access seekers must bear the cost of the non-diversifiable risk. If the risk is imposed on Telstra, then its WACC should include a premium to allow for the additional cost of the non-diversifiable risk. Thus, even if access seekers do not bear the risk, they must face higher ULLS prices. If access seekers do bear the risk, they would face lower ULLS prices, but must bear the cost of the non-diversifiable risk. Therefore, even if Telstra can manage this risk at lower cost, but the risk is imposed on access seekers,

²⁵ Expert Report of David Sappington on the Recovery of Past ULLS Specific Costs, dated 28 July 2006, at section II.

the net cost to those access seekers (the difference between the cost of them holding the risk and the increase in ULLS prices that would compensate Telstra for holding the risk) will not be high, relative to the benefits gained which are relevant to the other statutory criteria.

H.3 Other issues

136 The Commission raises concerns in relation to the quantum of ULLS specific costs claimed by Telstra. Telstra responds to these concerns in detail in Annexure E.

137 The Commission quotes Optus' concern that Telstra has an incentive to underestimate demand forecasts. However, the David Sappington expert report demonstrates that Telstra has no such incentive and Optus and other access seekers have no incentive to overestimate demand, when unrecovered and over-recovered costs are reconciled in the ULLS specific cost model.²⁶

I USO Adjustment

138 Telstra does not disagree with the Commission's view that there are potential problems with the ACA's 1997/98 report and at the time of the costing study Telstra raised a range of problems with the analysis. However, given that Telstra's cost estimates for the USO were rejected and there are no other estimates available that breakdown the individual cost estimates of the USO, Telstra believes that its approach is reasonable.

139 In addition, it should be kept in mind that even the ACA's estimate of the NUSC for 1997/98 was never used to set the USO subsidies. Rather, the amount set by the Government was completely unrelated to costs and has remained substantially below costs ever since. On this basis, Telstra believes its approach is highly conservative in that the USO subsidies it receives are unlikely to even cover the costs associated with non-copper CAN costs in rural areas, let alone make any contribution to copper costs.²⁷ Therefore, the fact that Telstra has deducted a substantial proportion of the USO costs from its ULLS cost pool should be considered conservative.

140 In terms of the Commission's analysis, it is not clear what the Commission's concern is in regard to the information it presents in section F.4.1 of its report. Here, the Commission demonstrates that substantially more of the USO subsidy in the years

²⁶ Expert Report of David Sappington on the Recovery of Past ULLS Specific Costs, dated 28 July 2006.

²⁷ See Statement of [c-i-c], dated 21 July 2006.

of the Undertaking is allocated to Payphones rather than to the provision of the Standard Telephone Service compared with the 1997/98 breakdown that Telstra used. This implies that Telstra has over-allocated the amount of the subsidy to the ULLS cost pool. The information the Commission presents in this section suggests that the amount that Telstra deducted from ULLS costs should have been lower.

141 In section F.4.2 the Commission appears to suggest that Telstra's PIE II mix of technologies should be used to calculate the proportion of the NUSC that is allocated to ULLS. Even if an extremely conservative approach is taken to do this, the maximum amount that would be deducted from ULLS would be [c-i-c] per line rather than the maximum of [c-i-c] per line Telstra used in its Undertaking²⁸. Even if a further [c-i-c] per month was deducted from Telstra's ULLS cost estimates, the Undertakings are reasonable.

J Network Modernisation

142 The Commission raises concerns in relation to Telstra's network modernisation provisions in Appendix G of the Draft Decision. Telstra submits the network modernisation provisions contained in the Undertakings are reasonable. In particular:

- Telstra clearly has the right to modernise its network. This right has been recognised by the Commission;
- The proposed provisions were designed to address Telstra's need to modernise its network to meet both retail and wholesale customer demand and to maintain the integrity of its network. They were not revised in response to any possible FTTN network rollout. This is clear from the fact that the provisions have been in every ULLS undertaking Telstra has submitted and in every agreement for the supply of ULLS that Telstra has entered into since it commenced supplying the service. It is this on which the Commission should be focusing in reviewing the reasonableness of the Undertakings - not the possibility of FTTN;

²⁸ The maximum amount is for 2005/06 and is calculated by first making the adjustment for Payphones as suggested by the Commission in section F.4.1 so that 92.28% of the subsidy (\$158m) is relevant to the STS. The total CAN component of this is calculated using the ACA's 1997/98 breakdown, which suggests that of the total USO costs (excluding payphones) 74% is related to CAN. Making the extremely conservative assumption that all technologies have the same costs and using the SIO figures in Figure 5 of the ACCC's draft decision, the subsidy relevant to copper services would be [c-i-c] of the total CAN contribution or [c-i-c] per month for 2005/06. This declines to [c-i-c] in 2006/07 and [c-i-c] in 2007/08.

- In undertaking network upgrade and network modernisation activity (including in determining when and how to provide notice to access seekers of such activity), Telstra is constrained by the provisions of the Act - provisions Telstra takes very seriously;
- The Commission has previously acknowledged that Telstra has the right to modernise its network and that Telstra should be entitled to proceed with any network modernisation activity subject to certain restraints. Any unreasonable restraint or limitation on Telstra's ability to modernise its network (for example, such as a requirement that upgrades only proceed if they are absolutely necessary or an unreasonably long minimum notice period) is likely to be detrimental to the LTIE and to efficient investment in infrastructure in Australia; and
- Telstra believes that the fact that Optus was the only access seeker to express any concern over the network modernisation provisions is significant in the context of the current Undertakings given the emphasis the Commission is trying to place on FTTN, and that it reflects the fact that access seekers generally have not had an issue with Telstra's network modernisation terms.

143 A more detailed response to the Commission's comments on network modernisation is included in Annexure F.

K IEN costs

144 Telstra has an obligation to be the carrier of last resort for all end users, including those who acquire retail Standard Telephone Services ("STS") from a competing carrier using ULLS. This obligation imposes costs on Telstra, and a benefit to ULLS access seekers and their STS customers. For this reason, Telstra should also recover these costs from ULLS prices. Telstra has quantified these costs and demonstrated the reasonableness of recovering them from ULLS prices.²⁹

145 Telstra submits that the Commission should have regard to the costs associated with Telstra's carrier of last resort obligation when assessing whether the Undertakings are reasonable.

²⁹ Telstra's Submission In Support of the ULLS Monthly Charges Undertaking Dated 13 December 2004, March 2005; Expert Report of Henry Ergas on ULLS and SSS Prices – IEN Costs, May 2005; Statement of [c-i-c], 25 May 2005; Telstra's Submission in Response to the ACCC's Discussion Paper in Respect of ULLS Received March 2005, 27 May 2005.

L Sensitivity Analyses

- 146 Telstra has conducted sensitivity analyses on several variables underlying the estimate of ULLS costs.
- 147 First, a flat (rather than tilted) annuity methodology was adopted for both ULLS network and ULLS specific costs. The PIE II model and the ULLS specific cost models are flexible so that the "tilt" can be removed from the annuity calculations. This is done by replacing the existing price trends for each asset category with a 0% figure. The price trends can be accessed in the PIE II model through the following front end menus: 1) Costing and Analysis, 2) Detailed Cost Reports; 3) Costing Variables; and 4) Asset Class Variables. The price trends in the ULLS specific cost model are located in the "General Data" sheet. When flat annuities are adopted, ULLS network costs increase to [c-i-c] and ULLS specific costs increase to [c-i-c] in 2005/06, [c-i-c] in 2006/07 and [c-i-c] in 2007/08 using the high WACC and [c-i-c] in 2005/06, [c-i-c] in 2006/07 and [c-i-c] in 2007/08 using the low WACC.
- 148 The second sensitivity test was conducted on the extent of trench sharing in new estates assumed in the PIE II model. A 1 percentage point increase (from 1% to 2%) in the proportion of trenches shared with developers of new estates results in network costs in band 2 decreasing by approximately [c-i-c].
- 149 Third, the Commission stated in the Draft Decision that the use of rectilinear distances in non-urban areas may results in a trench lengths being overstatement of 2%. Reducing CAN trench length by 2% in the PIE II reduces total CAN costs by approximately [c-i-c].
- 150 Fourth, the Commission also notes in the Draft Decision that NERA reports that there is a possibility of [c-i-c] overstatement in the length of trenches resulting from the use of minimum spanning tree algorithms. Reducing the length of CAN trenches in the PIE II model by [c-i-c] reduces CAN costs by approximately [c-i-c].
- 151 Fifth, Analysys states that there is a risk of overstatement of O&M costs in the PIE II model by as much as 10%. If O&M costs in the PIE II model are reduced by [c-i-c], ULLS network costs reduce by [c-i-c]. Further reductions in O&M percentages beyond [c-i-c] would reduce ULLS costs linearly.

M Conclusion

- 152 For the above reasons, Telstra considers that the terms and conditions of the Undertakings are reasonable and urges the Commission to accept the Undertakings.

Dated: 7 August 2006

ANNEXURES

Annexure A: Detailed Response to Commission's Comments in Relation to Trench Sharing in New Estates

153 The Commission stated:

While it is valid for Telstra to point out that approximately 1 percent of services are connected in new estates, it is also true that the CAN would not be able to be constructed in one period (or instantaneously). Further, as Analysys points out, in practice the length of time required to build the network would take several years during which the new entrant could progressively make use of open trenches in new estates. Hence Analysys concludes that a new entrant would be able to access trenches in new estates higher than that currently acknowledged in the PIE II model. The ACCC therefore continues to believe that trench sharing in new estates should be of the order of 13 percent, reflecting historical trench sharing measures, rather than Telstra's 1 percent of trench costs.³⁰

154 In the final decision on the model terms and conditions, the Commission stated:

As a result of its estimation of Telstra's past ability to share trenches with utilities in new estates, the Commission considers that the PIE II model should reflect the assumption that new estates make up around 13 per cent of Telstra's network...Based on conservative estimates of the accumulative stock of new estimates over the last 10 years.³¹

155 The Commission's preferred proportion of trenches in new estates reflects the total number of new estates that have been developed over the last 10 years. This assumption is inconsistent with the Commission's principle that the appropriate cost should reflect that of an efficient new entrant. In relation to other assumptions in the same matter, the Commission has set out this principle clearly:

- When discussing the sharing of trenches between CAN and IEN infrastructure, the Commission adopts Analysys' view that the amount of trench sharing in the model should reflect that of an efficient new entrant.

³⁰ Draft Decision, page 47.

³¹ ACCC, *Final Determination for Model Price Terms and Conditions PSTN, ULLS and LCS Services*, October 2003, page 37.

Furthermore, in considering trench sharing between CAN and the IEN, Analysys point out that based on historical information the PIE II model assumes that 5.6 percent of total IEN length is shared. Analysys argues that a new entrant would be able to optimise the sharing of trenches between the CAN and IEN and therefore reduce the costs in the access network.³²

- When discussing O&M costs, the Commission stresses the importance of using the costs faced by an efficient new entrant, rather than having regard to historical practices:

The use of historic O&M costs raises a number of issues. Telstra's historic costs are not necessarily those of an efficient and forward-looking operator. Further, even allowing for adjustments due to the exclusion of legacy technologies, it is not clear these costs reflect those of an efficient forward-looking operator.³³

- When investigating Telstra's estimate of costs in Band 4 areas, the Commission use a benchmark of the cost of a hypothetical new entrant that builds a WiMax network to service Band 4 areas (putting aside for the purpose of the current matter the fact that WiMax is an unproven technology that has not been deployed anywhere in Australia to supply telephony services).

156 Furthermore, in relation to trench sharing in new estates, the Commission's consultant (Analysys) appears to support the new entrant benchmark by stating that "in practice the length of time required to build the network would take several years during which the new entrant could progressively make use of open trenches in new estates". However, Analysys has erred in the implementation of the new entrant benchmark. It is not appropriate to consider the amount of trenches that might be available over several years in the future, when assessing the cost of supplying services in the present, as this would imply that for the first year of supply, a new entrant can share more open trenches in new estates than are actually available in that year.

157 Indeed, Analysys' own modeling undertaken for the Commission assumes that a hypothetical entrant builds a network in the first year relevant to the costing exercise. Analysys' cost model for WiMAX assumes that a hypothetical new entrant offering WiMAX in Band 4 remote areas would need to incur 100% of network capex³⁴

³² Draft Decision, page 47.

³³ Draft Decision, page 45.

³⁴ Excluding customer premises equipment.

in 2006 – the first year of operation. The same assumption is made for Analysis' modeling of 3G network capex.

- 158 Having regard to the number of open trenches in only the first year is also consistent with the Commission's proscribed TSLRIC modeling approach for PSTN services, which involves re-optimising the network each year. Under this approach, the network of a hypothetical new entrant is (in theory) rebuilt every year. Hence, it would be unrealistic to assume that the hypothetical new entrant would be able to share trenches that are not open in the relevant year.
- 159 Consequently, it is reasonable and consistent with the underlying cost modeling principles adopted by Telstra and the Commission to assume that the proportion of open trenches in new estates is that which reflects the number of open trenches available to a new and efficient entrant in the one-year period to which the forward-looking cost relates.
- 160 Furthermore, Optus has recently published information on the cost of rolling out a new optical fibre network that would replace a large proportion of Telstra's CAN (from the exchange to the node). Optus assumes that 0% of the trenches needed for its proposed network can be shared with the developers of new estates.³⁵ This view is presumably endorsed by the other joint venture parties to Optus' FTTN network.³⁶

³⁵ It is assumed that 1700m of new ducting is required for 1700m of cable for a node in metro areas of Sydney – The Allen Consulting Group (2006), *A Competitive Model for National Broadband Upgrade*, 10 July 2006, Table 4.4.

³⁶ These parties include AAPT, iiNet, Internode, Macquarie Telecom, Optus, Powertel, Primus, Soul and TransACT.

Annexure B: Detailed Response to the Commission's Comments on Network Design Parameters

161 Telstra adopts rectilinear distance and minimum spanning tree algorithms to estimate efficient network costs. The Commission has expressed its view that lower estimates of cost can be achieved by using different algorithms.

162 In relation to rectilinear distances:

- MJA and Analysys claim that the PIE II model overestimates costs in rural areas because it uses rectilinear distances without applying a correction factor. However, Mitchell refers to a study which shows that the correction factor that should be applied to rectilinear distances is between 0.94 and 1.05, where 1 implies no correction factor should be applied.
- Analysys claims that the study referenced by Mitchell suggests that the appropriate correction factor to apply is 0.977. However, Analysys have not referenced the correct table in the study. The correct factor suggested by that study is 0.995. Furthermore, that study suggests that in rural areas a correction factor of 1.05 is appropriate, which indicates that in rural areas rectilinear distance algorithms underestimate costs.
- [c-i-c]
- To the extent that the PIE II model proxies trench distances with road distances, this is likely to understate costs. MJA report that the Danish Hybrid model estimates that efficient trench distances are up to 90% longer than road distances (and as low as 20% shorter).

163 In relation to minimum spanning trees, the Commission claims that Steiner Node algorithms can be used to reduce the length of trenches and hence reduce network costs. The Commission's view appears to be derived from [c-i-c] and Analysys' claim that the minimum Steiner tree is known to be up to a maximum of 13.4% shorter than the minimum spanning tree. However, these views are not cause for concern that the PIE II model has overestimated network costs, since:

- As discussed by Mitchell, Steiner node algorithms reduce costs by reducing trench lengths but increase costs by adding additional network elements. [c-i-c]

- Analysys' claim is also biased in that it reports only the maximum difference between Steiner node and minimum spanning tree algorithms.
- In 2005, Analysys built a cost model of BT's local loop network for Ofcom, for which it stated that minimum spanning tree algorithms are often used as a substitute for Steiner node algorithms given the difficult nature of implementing them:

The minimum Steiner tree solution is up to a factor of $\sqrt{3}/2$ of the length (i.e., a maximum of 13.4% shorter) of the so-called "minimum spanning tree" which does not admit the use of arbitrary intermediate points. In practice, the minimum spanning tree is often closer to than this to an optimal solution, within a few percent of the optimum, and minimum spanning trees are often used as proxies given that finding such optimal minimum Steiner solutions is known to be difficult.³⁷

- In that study, Analysys' also disclosed problems associated with its conclusion that Steiner node algorithms provide for distances up to 13.4% shorter than minimum spanning tree algorithms:

In the case of BT's access network, there are additional constraints which apply and which make the problem slightly more complex than the theoretical one discussed above: The copper loop network should be designed to minimise total cost including the cost of cables, joints distribution points and primary cross-connections, as well as duct and manholes; it should also take ongoing costs into account as well as capex and installation costs.

- The fact that [c-i-c] and Analysys have failed to consider the additional costs of the Steiner node algorithm (that is, they have only looked on one side of the coin), should lead the Commission to conclude that these criticisms are unfounded. It is inappropriate to investigate the benefits of adopting a different approach without also investigating the costs.
- Telstra would prepare further evidence to show that minimum spanning tree algorithms perform well in relation to Steiner node, taking into account the possibility of shorter distances AND the cost of additional network elements (that is, both sides of the coin). However, as stated by Analysys and Bridger Mitchell, it is in practice very difficult if not impossible to make the comparison accurately.³⁸

164 In relation to other issues raised by Analysys and MJA:

³⁷ Analysys, *Cost of the BT UK Local Loop Network*, (21 February 2005), at page 20.
³⁸ See for, example, Analysys, *Cost of the BT UK Local Loop Network*, (21 February 2005), at page 20 and footnote 2.

- MJA and Analysys claim that centering pillars in distribution areas is not optimal. However, as shown by Mitchell, this assumption is standard practice in TSLRIC modelling.
- MJA and Analysys claim that lower provisioning costs are achievable by employing clustering algorithms to optimise the location of pillars within DAs. Clustering algorithms would need to take into account the feasibility of locations (due to natural features such as rivers, hills, etc) which is not possible given the unavailability and immense cost of surveying for such data.
- MJA incorrectly asserts that particular models of switches are no longer supported. However, this is simply not true.³⁹

³⁹

See [c-i-c] Statement

Annexure C: Telstra's detailed response to the Commission's comments on averaging ULLS prices

Promotion of competition

165 The Commission considers that:

Higher ULLS charges in CBD and metropolitan areas, above efficient costs, would negatively impact on the business case for ULLS based infrastructure and, as has already been seen in the market, the roll-out of ULLS based competition would slow, if not halt, in these areas.⁴⁰

166 Telstra submits that the effect of averaged ULLS prices on CBD and metropolitan competition will not be as drastic as implied by the Commission. Third party information shows that averaged ULLS prices will not have a substantial effect on access seekers' margins and investment plans relative to de-averaged ULLS prices.

167 In terms of access seekers' margins:

- Citigroup estimate that the gross margin enjoyed by access seekers is \$51 per SIO per month based on an average ULLS price of \$20.⁴¹ Assuming a ULLS price of \$30 will reduce this estimate of access seekers' margins to \$41 per SIO per month.
- Macquarie Research estimated that iiNet will earn an EBITDA margin of \$43 per SIO per month from customers supplied using ULLS at a ULLS price of \$20.⁴² Assuming a ULLS price of \$30 will reduce this estimate of iiNet's margin to \$33 per SIO per month.
- An Optus investor briefing suggests that it expects to earn an average gross margin of \$85 per SIO per month from ADSL and voice bundled customers and \$45 from voice only customers based on a Band 2 ULLS price of \$22.⁴³ Assuming a ULLS price of \$30 will reduce this estimate of Optus' margins to \$77 per SIO per month for bundled customers and \$37 for voice only customers.

⁴⁰ Draft Decision, page 63.

⁴¹ \$90/mth ARPU for a bundled customer less \$20/mth ULLS price less \$19/mth direct costs. See Citigroup, *Telstra Corporation Ltd: On the Ropes*, (5 September 2005), at figure 14.

⁴² Macquarie Research, *iiNet Limited: Come and They Will Build*, (18 November 2004), at tables 5 and 7.

⁴³ Optus, *Consumer & Multimedia Investor Briefing*, (5 April 2005).

168 The data from Citigroup and Macquarie Research can also be used to show that moving from de-averaged to averaged Band 2 ULLS prices will not substantially lessen access seekers' incentives to invest. In particular:

- Based on Citigroup estimates the payback period for access seekers switching to ULLS-based supply is 11 months assuming a ULLS price of \$20.⁴⁴ If the ULLS price is increased to \$30, then the payback period increases to just 14 months.⁴⁵
- The Macquarie Research analysis estimates that iiNet's EBITDA will improve from \$6 per month to \$43 per month when moving customers from wholesale ADSL to ULLS under a ULLS price of \$20.⁴⁶ Hence iiNet's incremental margin from building ULLS is \$35 per month. Macquarie Research also estimates that iiNet will incur a network roll-out cost of \$361 per customer. Therefore, the implied payback period is 10 months.⁴⁷ If ULLS prices are increased to \$30, the payback period increases to just 14 months.⁴⁸

169 These statistics show that shifting to an averaged ULLS price of \$30 will decrease access seekers' margins and increase their payback periods by only a small amount.

170 The Commission is also incorrect in saying that recent experience has shown a slow down in ULLS network roll-out. Telstra data shows that ULLS SIOs have grown by [c-i-c] SIOs over June 2006 and by an average of [c-i-c] SIOs per month over the half year ending June 2006.

171 The Commission also claims that:

In the longer term, competitors would not develop the scale necessary to enter into more sustainable forms of competition, not only for line rental, but for a range of bundled services including broadband internet, pay TV, and other value added services, such as video on demand, IPTV and voice-over-internet-protocol (VoIP) services. The ACCC considers that competition would be limited to resale competition, which provides limited scope for effective or sustainable competition, and would entrench Telstra's dominance in providing fixed line services. This would then lead to a reliance on more extensive regulation at both the wholesale and retail levels.⁴⁹

⁴⁴ Assuming a \$582 upfront cost to connect the customer divided by a margin of \$51 per month. See Citigroup, *Telstra Corporation Ltd: On the Ropes*, (5 September 2005), at figure 14.

⁴⁵ \$582 divided by a margin of \$41 (\$51 less \$10 increase in ULLS prices).

⁴⁶ Macquarie Research, *iiNet Limited: Come and They Will Build*, (18 November 2004), at tables 5 and 7.

⁴⁷ \$361 divided by \$35.

⁴⁸ \$361 divided by \$25 (which is \$35 less \$10 increase in the ULLS price).

⁴⁹ Draft Decision, page 63.

172 Telstra submits that:

- At averaged ULLS prices, access seekers are still likely to benefit from substantial increases in profits relative to resale. According to Optus data, at a ULLS price of \$30, Optus would increase its average gross margin by \$37 per month by moving resale ADSL and voice customers to ULLS.⁵⁰
- ULLS access seekers will continue to face strong financial incentives to roll-out ULLS networks under averaged ULLS prices. According to Citigroup and Macquarie Equities data, access seekers' ULLS investment payback periods under \$30 ULLS prices will be just 14 months (see above).

173 Therefore, the Commission is incorrect to conclude that competition would be limited to resale competition and Telstra's dominance in providing fixed line services would be entrenched.

174 The Commission further claims that:

In DSL capable rural areas, the result [of \$30 averaged ULLS prices] would be to discourage competition that could otherwise be achieved through bypass onto alternative wireless networks, which may be more efficient in these areas and may deliver a greater range and quality of services than ULLS.⁵¹

175 Telstra submits that an averaged ULLS price will not discourage any investment in alternative bypass networks in rural areas, since:

- There is only very limited rural investment in CAN facilities by firms other than Telstra, even at de-averaged rural ULLS prices of over \$100.⁵² Hence, averaging ULLS prices is unlikely to result in a reduction in facilities-based competition in those areas.
- If investment in bypass technology is in fact discouraged, it would not be as a result of average wholesale prices, but the result of the Government's requirement that Telstra maintain pricing parity in metro and rural areas.

⁵⁰ Optus, *Consumer & Multimedia Investor Briefing*, (5 April 2005).

⁵¹ Draft Decision, page 63.

⁵² For example, the ACCC stated, when discussing the geographic coverage of local access networks in rural areas: "Once again, it is seen that Telstra and SingTel Optus hold the majority of subscriber connections". It is noted that aside from a microwave network in the Northern Territory, Optus has only a Satellite network to service rural areas, which requires no or limited investment in network infrastructure in rural areas. See ACCC, *Telecommunications Infrastructure in Australia 2004*, (June 2005), at page 15 and table 6. Furthermore, what investment is undertaken in rural areas is subsidised by Government schemes such as HiBIS and Connect Australia.

That is, even if wholesale prices were de-averaged, the requirement for Telstra to offer averaged retail charges would still discourage investment and the averaging of wholesale charges would not impact this, other than to increase the likelihood of ULLS-based competition in rural areas.

Encouraging the economically efficient use of and investment in infrastructure

176 The Commission claims that:

If competitors did not have a credible bypass threat and instead wanted to compete via the ULLS, then a higher ULLS price would deter efficient investment in DSLAM infrastructure and efficient usage of the ULLS. Instead, competitors would be forced to rely on Telstra's resale service.⁵³

177 Telstra notes that resale voice prices are set by the Commission to levels that are below cost and on a geographically averaged basis. Hence, if competitors do not have credible bypass opportunities, then their decision to substitute resale for ULLS inefficiently would be a result of the below-cost pricing principle imposed by the Commission, not geographic averaged ULLS prices. Indeed, if the Commission allowed Telstra to set resale prices to cost, then there would be efficient substitution between resale and ULLS if ULLS prices are averaged.

Telstra's Legitimate Business Interests

178 The Commission claims that:

The deficit that Telstra claims it incurs in providing line rental and local call services at uniform prices across Australia is not solely the result of the Government's retail pricing parity obligations, but may also be attributable to Telstra's commercial decision to price these services below cost. Whatever its basis, this claimed deficit in rural areas existed before ULLS-based competition and is independent of any ULLS regulation or pricing approach. The ACCC considers that it is not in Telstra's legitimate business interests to alter ULLS pricing so as to raise additional revenue to cover a claimed deficit that, to the extent it is considered of a material nature, is better dealt with more directly through means such as direct subsidies.⁵⁴

179 Telstra makes the following responses:

180 First, Telstra considers that it is not relevant that the rural deficit existed before ULLS or that the deficit existed independently to ULLS regulation. What is important is

⁵³ Draft Decision, page 66.

⁵⁴ Draft Decision, page 67.

that Telstra will no longer be able to fund the deficit under de-averaged ULLS pricing, given the expected take-up of ULLS by access seekers and the competitive pressure on revenues in Bands 1 and 2. De-averaging ULLS prices will prevent Telstra from recovering the deficit and, therefore, de-averaging is not in Telstra's legitimate business interests. Conversely, it is in Telstra's legitimate business interests to have averaged ULLS prices that allow Telstra to recover the deficit.

181 Second, Telstra submits that it would make use of any direct means of funding the deficit if any were made available. However, since there are not any such direct means available, it is in Telstra's legitimate business interests to ensure that it can continue to recover the deficit by charging averaged ULLS prices.

182 The Commission also claims that:

Any changes to keep ULLS pricing well above efficient costs in metropolitan areas will severely constrain facilities-based or quasi-facilities-based competition. This would hinder the prospect of more sustainable benefits to end-users such as better quality, more innovative and more keenly priced telecommunication/information services in both urban and rural areas. It would also reinforce Telstra's dominant position and require more intrusive regulation for longer.⁵⁵

183 Telstra accepts that there may be allocative efficiency losses as a result of ULLS prices in Band 1 and 2 areas that are above the cost in those areas. However, as Telstra has submitted, these losses need to be weighed against the Government's stated objectives of maintaining equitable pricing of telecommunications services for all Australians, regardless of where they reside, and the efficiency gains and the other relevant legislative criteria.⁵⁶

184 However, Telstra also considers that the consequences of averaged ULLS prices in Band 2 areas in particular, will not be large, as is shown above with the use of third party financial information relating to access seekers' ULLS investments. Shifting to an averaged ULLS price of \$30 will decrease access seekers' margins and increase their payback periods by only a small amount. Thus, their incentives to compete and invest will not be significantly harmed.

The direct costs of providing access

185 The Commission claims that:

⁵⁵ Draft Decision, page 67.

⁵⁶ Telstra's Submission in Support of the ULLS Monthly Charges Undertakings dated 23 December 2005, Section G.

In addition, the ACCC considers that an averaged ULLS charge is not reasonable under the direct costs criterion because it causes access seekers to bear more than the efficient costs of provision in metropolitan areas, and less than the efficient costs of provision in rural areas.⁵⁷

186 Telstra submits that the Commission should consider the criterion that deals with the direct costs of providing access in the context that Telstra is obliged to set geographically averaged retail prices. In this context, the Commission should consider the geographically averaged direct costs of providing access, in which case, the Undertakings would promote the criterion dealing with the direct costs of providing access.

187 The Commission also claims that:

The appropriate prices should be consistent with the prices that would occur if the access provider faced the threat of being displaced as a supplier. If an alternative copper local loop provider existed, Telstra would not be able to charge prices that are substantially above cost in metropolitan areas, as it is proposing in its undertakings with averaged ULLS charges.⁵⁸

188 Telstra submits that if an alternative national copper local loop provider existed, it would need to charge geographically averaged, cost-based ULLS prices to compete with Telstra on a national basis. Otherwise, if it charged lower ULLS prices in metropolitan areas and higher prices in rural areas, then the alternative provider would be at a price disadvantage relative to Telstra in rural areas. Similarly, Telstra would be at a price disadvantage relative to the alternative provider in metropolitan areas, since Telstra would not be able to match the price decrease and recover costs overall. Hence, there would be pressure for the alternative provider to supply only metropolitan areas and Telstra to supply only rural areas, resulting in de-averaged retail prices, which goes against the Government's retail pricing parity objectives.

189 Consequently, to avoid an outcome which is adverse to the Government's objectives, the Commission should take a geographically averaged approach to assessing the direct cost of providing access.

⁵⁷ Draft Decision, at page 69.

⁵⁸ Draft Decision, at page 69.

Annexure D: The Social Consequences of Errors in Setting the WACC

190 Jason Ockerby incorrectly asserts that the social costs of setting the Weighted Average Cost of Capital (“WACC”) too high for ULLS services may well be greater than the social costs of setting the WACC too low. This view is premised upon a belief that Telstra’s investment in ULLS will not be adversely affected by a reduction in the WACC.

191 Before considering the issues raised by Mr Ockerby, the first issue to consider is why an asymmetry necessarily exists between setting the WACC too high and setting it too low.

The asymmetric relationship between setting the WACC too high and too low

192 If a long run perspective is applied there will not be a symmetric relationship between setting the WACC too high and setting it too low. The consequence of this asymmetry is that, given uncertainties in estimates of the true cost of capital, regulated returns should err on the high side of the distribution (that is, set the regulated rate of return somewhat above the best point estimate of the WACC) to minimise expected losses in social welfare through investment effects.

193 Setting the WACC too high or too low can result in a range of effects, including:

- Changes in investment by the incumbent and/or by any access seekers;
- Deadweight losses due to customers either purchasing a service at a price below their valuation of the service, or failing to purchase a service due to the increase in the price of the service from the competitive level; and
- Transfers of income from the incumbent to access seekers and vice versa.

194 The latter does not affect social welfare as it merely involves a transfer payment between the two parties. Therefore, of particular relevance is the impact that setting the WACC too high or too low will have on investment and consumption decisions (deadweight losses).

195 An asymmetry exists in investment by the access provider because setting the WACC too low **necessarily** results in a reduction in investment and with it the loss of **all** social surplus associated with that investment. However, if the WACC is set too high

there is only a possibility of too much investment. This possibility can be eroded under most forms of incentive regulation.

196 If prices are set below long run efficient costs, investment by the access provider must fall below the efficient level. This is because firms respond to a participation constraint – they supply when expected price equals or exceeds expected cost; they do not do so when that inequality is not met. If the participation constraint is not met then – at least in a system based on voluntary supply (i.e. where investors are not coerced into supplying, or output is not publicly subsidised) – supply must decline. As a result, if price is set below cost there **must** be a social loss in terms of output restriction by the access provider. This will be the case regardless of the form of regulation in place.

197 While it follows from elementary economics that setting prices below costs will certainly result in inefficiently low investment, the offsetting risk – of “too much” investment as a result of the WACC being set too high – is merely a *possibility*.

198 The Averch Johnson effect is the best-known mechanism by which regulation may result in “over-investment”.⁵⁹ The Averch-Johnson effect refers to the impact on the input choices of a monopolist of a regulatory constraint that continuously (that is, without any lag) limits the monopolist’s rate of return to an amount that is *less than* the unconstrained monopoly rate of return but *more than* the competitive rate of return. The monopolist is assumed to face a production function (that is, a function defining the level of output it secures from each combination of factor inputs) that allows it to substitute capital for other factors and to select the combination which allows it to maximise its total profits subject to the rate of return constraint. It is also generally assumed that once the firm has selected an input mix (that is, determined a capital stock), it operates that capital stock to a given and fixed level of utilisation. Given those assumptions, the rate of return constraint effectively lowers the cost to

⁵⁹ Harvey Averch and Leland L. Johnson “Behaviour of the Firm under Regulatory Constraint.” *American Economic Review*, vol. 52 (1962) pp. 1053-1069. There is a vast literature on Averch-Johnson effects, with important contributions including: Elisabeth, E. Bailey and Coleman, R.D., “The Effect of Lagged Regulation in the Averch-Johnson Model.” *Bell Journal of Economics and Management Science*, vol 2 (1971) pp. 278-92; David P. Baron, and Taggart, Robert A., “A Model of Regulation Under Uncertainty and a Test of Regulatory Bias.” *Bell Journal of Economics and Management Science*, vol 8 (1977), pp. 151-67; William S. Baumol, and Klevorick, Albert K., “Input Choices and Rate of Return Regulation: An Overview of the Discussion.” *Bell Journal of Economics and Management Science*, vol 1 (1970) pp. 162-190; Davis W. Dechert “Has the Averch-Johnson Effect been Theoretically Justified?” *Journal of Economic Dynamics and Control*, vol 8 (1984) pp. 1-17; Robert Spann “Rate of Return Regulation and Efficiency in Production: An Empirical Test of the Averch-Johnson Thesis.” *Bell Journal of Economics and Management Science*, vol 5 (1974) pp. 38-52; and Akira Takayama “Behavior of the Firm under Regulatory Constraint.” *American Economic Review*, vol 59 (1969) pp. 255-260.

the firm of increasing its capital intensity (since the decreased marginal product of capital is partly offset by the higher-than-competitive return on the added capital stock), with the result that the firm chooses an input mix that is too capital intensive.

199 As with any other model, whether Averch-Johnson effects occur depends on the degree to which the model's assumptions hold.

200 Some of these assumptions are technical in nature: for example, the assumption of a long run production function that is smooth and continuous, while the capital stock is operated at a fixed level in the short run. Other important assumptions of the Averch-Johnson model involve the regulatory context. More specifically, the model assumes a very particular form of regulation, in which the regulated firm faces an especially "low powered" set of incentives – in other words, has few disciplines on it to be efficient. Thus, the regulated firm in the Averch-Johnson model is exposed neither to the conventional regulatory "sticks" nor to the conventional regulatory "carrots":

- The regulator is assumed to simply accept the regulated entity's asset base, rather than testing it (ex ante or ex post) for any form of efficiency; and
- The assumption of zero regulatory lag (so that any cost savings the firm makes are immediately passed on to consumers) eliminates the incentive the firm might otherwise have to cut its costs.

201 In contrast, if the regulatory regime is of an 'incentive regulation' type, then Averch-Johnson effects are muted or indeed (for suitable specifications of the dynamics) reversed. For example, even if the WACC was set too high for Telstra's ULLS, there would be incentives for Telstra not to "gold plate" assets because they would be subsequently optimised out for pricing purposes under the TSLRIC methodology.

202 A symmetric relationship could still hold for investment within the industry overall if the loss of investment by the access provider when the WACC is too low were to be compensated by increased investment by access seekers responding to the lower access prices.

203 Reductions in the access prices will reduce incentives for new entrants to compete by building their own facilities. Furthermore, setting access prices based on an underestimate of the true WACC is unlikely to promote efficient downstream

investment by access seekers, even if a short run perspective is adopted.⁶⁰ Lower access prices will lower the cost of downstream products that require access as an input. However, by reducing access prices below the level that would apply with an appropriate WACC there will be deadweight losses arising due to consumption of the access service by customers that value the service at less than the cost of producing it. Any downstream investment premised on promoting the sale of access services to customers that do not value access at or above its true cost will not be efficient.

204 Note that for this investment by access seekers to take place it is necessary for the access provider to continue to supply an appropriate input (access). In the long run if the access provider cannot recover its investment cost (that is, the participation constraint is breached), investment in the access service will fall, adversely impacting the output and quality of access services and the potential for complementary investment in downstream services.

205 In short, if allowed rates of return are set too low, the change in social surplus from a reduction in investment will be negative. In the case of setting the allowed rate of return too high there is good reason to assume investment levels will not increase above efficient levels. This contrast is the basis of the noted asymmetry in investment effects.

206 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.

207 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,

⁶⁰ The short-run perspective referred to here involves the assumption that the access provider remains in the market over the relevant short-run timeframe and its service potential is not immediately affected by setting the WACC too low.

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.

208 The Productivity Commission reached a similar finding in its Inquiry into the National Access Regime:⁶¹

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.

Why Mr Ockerby believes accepted regulatory wisdom is invalid

209 Mr Ockerby believes accepted regulatory wisdom is not valid because Telstra will continue to invest in ULLS regardless of the size of the regulated WACC. His view is based on the following unsupported opinions and assumptions:

- The fact that Telstra is subject to a Universal Service Obligation means that it is not free to choose its investment timing in response to changes in the WACC (para 34);

⁶¹ Productivity Commission 2001, *Review of the National Access Regime*, Report no. 17, AusInfo, Canberra, p 83.

- The only relevant risk to investment is that relating to maintaining and incrementally expanding the network – and hence the costs of getting the WACC wrong are lower than often claimed (para 35-36);
- Telstra would not fail to maintain its ULLS network in response to a small error in the WACC (para 36);
- The cost to Telstra of not investing in ULLS assets almost certainly exceeds the cost of investing (para 37); and
- The WACC for PSTN and ULLS services is applied to an asset base that is independent of what Telstra actually spends, thereby confirming that the WACC will not affect Telstra's investment (para 39).

210 Furthermore, notwithstanding the above points, Mr Ockerby also argues (para 41) that there is no evidence of asymmetry of the type claimed by Telstra: that the lost surplus from too little investment is greater than the lost surplus from too much investment.

211 Each of these points is considered in turn.

Telstra not free to choose its investment timing

212 Mr Ockerby claims that, as a result of its service obligations, Telstra is not free to alter its investment timing when the WACC is reduced (para 34):

If a firm is not free to choose its investment timing, due to, say a universal service obligation, such effects on investment are unaffected by regulatory decisions. The same is obviously true if the investment has already been made and is irreversible.

213 The key assumption applied by Mr Ockerby is that the USO limits or eliminates any investment discretion on Telstra's part. That assumption misconstrues the nature of the USO, which is an obligation to provide service, rather than an explicit obligation to invest in particular assets at particular times. Despite the presence of the USO, Telstra retains discretion over the type and quantum of investment. More generally, Telstra and other regulated businesses have the flexibility to respond to a reduction in WACC by a number of strategies including:

- A general reduction in (short-term) investment. In many infrastructure sectors there is a time lag between investment and service performance. This lag can allow scope for the business to reduce its investment

program as a short term measure, without unduly impacting on service performance. We note that this approach is not without cost: in the short term the firm may meet performance targets but at the cost of increasingly vulnerability to a high (cost) impact event;

- Investment in non-regulated products providing complementary services to the regulated service. There are many examples of Telstra's product offerings, including call services frequently sold with fixed line telecommunications products such as caller message ID and message bank. Furthermore, under its Universal Service Obligation Telstra is required to provide only a standard telephone service.⁶² In reality Telstra provides service of a significantly higher standard to most customers demonstrating the presence of significant discretionary investment; and
- An overall reduction in investment in the longer term if there is no mechanism for the firm to recover the cost of its investment, including an appropriate return on capital invested.

214 The last point is important because if returns over longer periods are not at least as high as the firm's actual cost of capital (as opposed to the WACC permitted by the regulator), Telstra will be unable to finance investments.

215 In any case if Telstra continues to invest when the WACC is too low an allocative inefficiency will arise because Telstra will be over-supplying services relative to customer willingness to pay. Therefore, even if Telstra's investment is unaffected (which will not be the case) there will be costs over and above those considered by Mr Ockerby.

The only relevant risk is maintaining and incrementally expanding the ULLS network

216 Mr Ockerby claims that because most ULLS assets are sunk the only relevant risk associated with the WACC relates to maintaining and incrementally expanding the network (para 35):

A large proportion of the capital invested in the ULLS network is sunk. This means that the investment decision in relation to these assets is irreversible (by definition) and therefore the effect of an additional return on capital in the regulated WACC will not effect the decision of whether or not to invest. Thus, the only relevant risk to investment is that which relates to maintaining and incrementally expanding the existing network.

⁶² See [c-i-c] Statement, from paragraph 14.

217 Mr Ockerby takes a very narrow definition of investment. Telstra, and all other regulated firms, are required to maintain and/or replace network assets at some point in time. If there is an expectation that returns will be reduced on sunk assets, it raises issues of regulatory opportunism, which could undermine investor confidence for Telstra and for regulated businesses more broadly:

- Even within the telecommunications sector, it is not just Telstra's investment that is relevant. Reducing the return on ULLS investment, means that any other party that replicates that part of the network (including Optus' HFC network and the proposed FTTN investment in which Optus is an interested party with eight other partners) will also face lower returns, reducing their investment and consequent ability to compete against Telstra; and
- Reducing the return for one firm sets a precedent for other investors in other regulated industries. This means that one adverse impact could be lower investment in other sectors regulated by the Commission or other regulators. The fact that the Commission regularly has regard to determinations in other industries when setting WACC parameters in the telecommunications sector reinforces this point.

Telstra will continue to maintain its PSTN assets despite a WACC error

218 Mr Ockerby argues that Telstra would not fail to invest in its PSTN asset base due to a small error in the WACC (para 36):

One must then ask the question "Would Telstra fail to maintain its PSTN asset base due to a small error in the WACC? In my opinion the answer to this question is clearly "no". Failing to maintain the PSTN puts at risk \$7.7 billion of Telstra revenue per annum that can only be earned by ensuring a functioning PSTN. By contrast, even a 10% error in the WACC only costs Telstra \$88.7 million per annum (being 10% of annual new investment in the PSTN).

219 Mr Ockerby states that Telstra would not stop maintaining the PSTN if its regulatory WACC was set slightly too low because it would put at risk \$7.7bn of annual revenue by so doing. It is indeed unlikely that Telstra would stop maintaining the PSTN. That does not mean, however, that Telstra would not adjust its PSTN maintenance program in response to an inadequate regulated revenue stream.

220 A more appropriate question is whether Telstra would under-maintain or fail to seize opportunities for new, beneficial investment in ULLS, PSTN or other telecommunications assets if the WACC was reduced. As noted above, there is no reason why an investor would undertake socially beneficial investment if the WACC is systematically reduced below an appropriate value. Furthermore, if the WACC is too low it will affect the efficient timing of investment in increments to capacity. This means that when Telstra does invest it may increase capacity by smaller increments than is efficient, thereby raising costs in the longer term.

221 Other aspects of Mr Ockerby's arithmetic appear erroneous. A change to the WACC does not affect only the annual new investment in the PSTN—it applies to the entire asset base. The derivation of the \$88.7m per annum figure is not clear, and in any case, that quantum of return is not as insignificant as Mr Ockerby suggests.

The cost of not investing almost certainly exceeds the cost of investing

222 Mr Ockerby argues that the cost to Telstra of not investing will exceed the cost of investing (para 37):

In reality, the costs of not investing almost certainly exceed the costs of investing – even if the WACC received on that investment has an error.

223 This is an ambitious claim that is not supported by any evidence cited in Mr Ockerby's statement. In particular he does not explain why it is in Telstra's interest to invest in circumstances when it would earn less than its WACC on this investment.

WACC is applied to an asset base that is independent of what Telstra actually spends

224 Mr Ockerby also argues that because Telstra's WACC is applied to an asset base derived from the TSLRIC model and not actual investment, Telstra's investment decision is independent of the WACC (para 39):

The WACC allowed for in the model is on a hypothetical network investment allowed by the continual re-estimation of forward-looking TSLRIC models such as the PIE II model. Thus, what the WACC is applied to is, in effect, independent of what Telstra actually spends.

225 In effect, this argument says that there is a complete disconnect between Telstra investment (actual assets) and the asset base on which its permitted revenue is

calculated (hypothetical assets). If that were true, then Telstra would only invest in regulated assets to the absolute minimum necessary to meet contractual service quality levels, and it would do so regardless of the permitted rate of return. This is implausible. In reality, while the TSLRIC asset valuation abstracts somewhat from existing assets, it is not entirely independent of them, as Mr Ockerby appears to suggest. Some investment (such as ULLS, for example) expand the service increment by making new (regulated) services possible, thereby expanding the regulated revenue that Telstra can obtain. In deciding whether, where, when, and how much to invest in those new services, Telstra will factor in the permitted return on incremental capital expenditure as compared to its internal hurdle rates.

No evidence of asymmetry with social costs of over- and under- investment

226 Mr Ockerby argues that there is no evidence of asymmetry between the social costs of over- and under-investing because one of the following two conditions is necessary to create such an asymmetry:

- The amount of capital withheld by investors is greater when the WACC is too low than the amount of capital provided when the WACC is too high; or
- Consumers valuation of the capital withheld when the WACC is below the best estimate is greater than consumers valuation of the capital over-employed when the WACC is above the best estimate.

227 Mr Ockerby has chosen the wrong criteria to judge the presence of an asymmetry. What is relevant is the comparison between the gains from trade foregone because the low WACC inhibited investment and the deadweight loss associated with higher prices in the high WACC case. A direct comparison between capital amounts sheds no light on these welfare effects.

228 Further, it is somewhat misleading to speak of “consumers valuation of the capital”. Consumers value the services that are facilitated by capital investments, rather than the investments themselves.

Conclusions

229 The Productivity Commission has expressed the view that when setting the WACC for regulated firms in Australia, the social cost of setting the WACC too low is greater than the social cost of setting the WACC too high. This view relates specifically to

infrastructure businesses similar to Telstra in that they all have an obligation to supply under licence conditions, and are subject to asset valuations that are based on optimum, rather than actual asset configurations.

230 Mr Ockerby does not attempt to reconcile his contentious views with the more generally accepted views of the Productivity Commission. Nor does he provide any substantial evidence to support the proposition that the situation facing Telstra is necessarily different from that facing other regulated businesses subject to an obligation to supply an optimised asset value. Furthermore, his assessment has a relatively short term focus, which overlooks the necessity for the regulated firm to earn an appropriate return over the life of its assets, and the wider impacts on regulatory credibility associated with setting the WACC in one sector too low.

231 For these reasons, Telstra considers that no weight should be given to Mr Ockerby's views.

Annexure E: Detailed Response to the Commission's Comments on ULLS Specific Cost Items

IT O&M costs

232 The Commission refers to Optus' claim that the efficient provision of ULLS should only require personal computers and an NT server. As set out in the statement of [c-i-c], dated 28 July 2006 ("**[c-i-c] Statement**"), Optus' claim is incorrect. An NT based system is not appropriate for ULLCIS because it would not be sufficient to handle the volumes of requests. [c-i-c] goes on to note that an NT server is not as stable or reliable as a mid-range system.

233 The Commission also comments that "it is not clear... that the provision of ULLS requires the use of mainframe and mid-range systems as claimed by Telstra".⁶³ As set out in the [c-i-c] Statement, Telstra uses main-frames only for systems requiring high volume transactions and as such, ULLCIS is not on a mainframe. However, [c-i-c] goes on to note that some of Telstra's core systems which handle up to a billion transactions a day are on a mainframe system and those systems are used in the ordering and provisioning of ULLS.

234 In relation to the quantum of IT O&M costs, the Commission notes its concern that Telstra may over-recover its IT O&M costs because "*Telstra should already be recovering the IT O&M costs associated with the relevant systems through its broader cost model...*".⁶⁴

235 Telstra notes that the O&M costs included in the PIE II model are network O&M costs, whereas the IT O&M costs for ULLS are costs associated with ordering and provisioning systems.

Capital Expenditure projects

236 The Commission notes that "*it does appear reasonable for Telstra to claim capital costs for the development of SSS to ULLS connection processes ..., provided that access seekers have requested this functionality*".⁶⁵ As set out in the statement of [c-i-c], dated 28 July 2006, ("**[c-i-c] Statement**") in 2005 this functionality was requested by an access seeker and has been raised by the Commission in the ACIF forum. Further, as

⁶³ Draft Decision, page 113.

⁶⁴ Draft Decision, page 113.

⁶⁵ Draft Decision, page 112.

set out in the statement of [c-i-c], dated 26 July 2006 ("**[c-i-c] Statement**"), only [c-i-c] of the costs of this project were allocated to ULLS.

237 As set out in the statement of [c-i-c], dated 25 July 2006, the SSS on upper ULLS spectrum project is likely to increase competitive pressure on suppliers of services via ULLS. As such, the project is consistent with the long term interests of end users. Further, as set out in the [c-i-c] Statement, only [c-i-c] of the costs of the project have been allocated to ULLS.

238 A description of the Deployment Class project is set out in the statement of [c-i-c], dated 23 June 2006 ("**[c-i-c] Statement**"). As observed in the [c-i-c] Statement, the principal amendments to the ULLS Network Deployment Rules ACIF Code were a consequence of access seekers wishing to provide new services to end users. The [c-i-c] Statement goes on to state that the modifications that Telstra made to its systems in order to accommodate the new deployment classes were all necessary. [c-i-c] notes that Optus' claim, to the effect that Telstra only needed to "add an entry into a table", is misconceived as it fails to take into account the changes required to be made to other Telstra systems in addition to ULLCIS.

239 A description of the ULLS enhancements project is set out in the [c-i-c] Statement. This project was designed to provide a number of benefits, including delivering efficiencies and lowering costs. For example, a significant portion of the project was providing new functionality to automate the assignment of cable path for ULLS. As noted in the [c-i-c] Statement, the cost of implementing this project enhancement in 2006 is lower than if it had been implemented when ULLCIS was first introduced because Telstra has been able to partially leverage off the technology implemented to allow automatic cable assignment for SSS.

Front of House Connection Group

240 In support of Telstra's front of house connection costs, Telstra relies on the statement of James Patrick Coburn, dated 25 May 2006, the statement of [c-i-c], dated 26 July 2006 ("**[c-i-c] Statement**") and the supplementary statement of [c-i-c], dated 4 August 2006 ("**[c-i-c] Statement**").

241 As set out in the [c-i-c] Statement, the procedures undertaken by Telstra's front of house staff for the provisioning of ULLS are streamlined and efficient so that Telstra may meet its contractual obligations and activation targets.

242 The Commission relies on the 2001 report by CMPI-AAS to reach its conclusion that Telstra's front of house connection group costs are not reasonable. [c-i-c].⁶⁶ The [c-i-c] Statement clearly shows why this is not a feasible figure. The [c-i-c] Statement also comments that a significant amount of time is spent by staff dealing with inquiries from access seekers. [c-i-c] estimates that, on average, the connection group receives [c-i-c] inquiries from access seekers per week. This is one of a number of factors overlooked by CMPI-AAS in its now outdated assessment of specific costs.

Product Management

243 Telstra estimates that for each year, the equivalent of [c-i-c] are required to undertake ULLS product management activities. This figure was supported by CMPI-AAS for the first year ULLS was in operation. As identified by the statement of [c-i-c], dated 1 August 2006, [c-i-c] was an understatement of the actual requirements in the early period of ULLS. As set out in the [c-i-c] Statement, the equivalent of [c-i-c] are required for product management for the period of the Undertakings. This is a very conservative estimate for product management as it does not take into account the two key product management areas of Sales and Business Operations, as set out in the statements of [c-i-c], dated 2 August 2006, and [c-i-c], dated 21 July 2006.

⁶⁶ CMPI-AAS, *Review of Telstra's ULLS-Specific Costs - Draft Report* (2001), page 29.

Annexure F: Detailed Response to the Commission’s Comments on Network Modernisation

244 In Appendix G of the Draft Decision, the Commission concludes that the network modernisation provisions contained in the Undertakings:

- (a) unduly negatively affect the interest of access seekers in that:
 - (i) Telstra provides only 15 weeks notice to access seekers, which leaves access seekers with limited ability to plan infrastructure purchases, technical staff allocations and end-user marketing of new services, and negatively affects access seekers’ interest in not having existing assets stranded; and
 - (ii) the absence of a good faith obligation and the presence of a wide emergency upgrade exception would appear to allow Telstra to target areas where access seekers are most competitive;
- (b) go beyond what is necessary to protect Telstra’s legitimate business interests in being able to modernise its network; and
- (c) do not promote the LTIE in that:
 - (i) competition will be damaged if access seekers do not receive adequate notice of modernisation activities and if Telstra is able to modernise in a way that targets access seekers; and
 - (ii) access seeker investment in infrastructure will be impeded,

and, therefore, the Commission could not be satisfied that the network modernisation provisions were reasonable in accordance with the statutory criteria because Telstra has not satisfied the “onus of affirmatively proving the reasonableness of the terms and conditions of the undertaking.”

245 Telstra’s response to Appendix G of the Draft Decision and, in particular, the Commission’s conclusions on the reasonableness of the network modernisation provisions, are set out in the paragraphs below.

Content of the Network Modernisation Clauses

246 In paragraph G.1.1 of Appendix G, the Commission notes that the network modernisation provisions:

- (a) largely require the ULLS access seeker to agree that Telstra has a right to maintain and upgrade its network and acknowledge that such a maintenance and upgrade may result in the ULLS being truncated or no longer being able to be supplied;
- (b) require access seekers to acknowledge that in some cases access seeker points of interconnection may have to be moved; and
- (c) include an undertaking from Telstra to provide at least 15 weeks notice of any network upgrade that will affect the supply of ULLS.

247 Telstra agrees in the most part with the Commission's description set out above. However, for the sake of clarification, Telstra notes that, in paragraph 3(c), the requirement for Telstra to provide at least 15 weeks notice is subject to the concept of emergency network upgrades.

248 As ULLS is a technology-specific service (in that it applies where there is copper between an end-user premises and a customer access module (as that term is defined in the service description)), there is an obvious tension between the declared service and any network modernisation or network upgrade activity by Telstra that affects Telstra's customer access network or CAN. Telstra highlighted this tension in its submission to the Commission at the time the ULLS was declared. Telstra notes that the Commission accepted in its final report on the declaration of the ULLS that Telstra should not be prevented from making changes to its network even though it may have reduced flexibility or be limited in the manner in which it changes its network because of the terms and conditions under which Telstra is supplying services to access seekers.

249 Further, Telstra notes that the constraints of any existing terms and conditions of supply specified by the Commission were:

- (a) time-based supply arrangements that take account of Telstra's network modernisation plans or network upgrade policy;
- (b) a process for the notification of network changes; and

- (c) a process for negotiating the establishment of a point of interconnection at the RIM/IRIM.

250 None of these examples provide the access seeker with the ability to prevent a network upgrade from proceeding. Telstra submits that the requirements described in paragraphs 246(a) to (c) above are consistent with the findings of the Commission in its final report on the declaration of the ULLS and with the examples of contractual constraints.

251 In the Draft Decision, the Commission submits that the network modernisation provisions are notably different to the network modernisation provisions in Telstra's previous ULLS undertakings. Telstra disagrees with this statement. Telstra refers the Commission to Telstra's previous submissions on the Undertakings where Telstra explains the reasons for the latest changes to the network modernisation provisions.

Relevance of the Network Modernisation Provisions and impact of FTTN

252 Telstra has serious concerns about the conclusions drawn by the Commission and the general approach that it has taken in the Draft Decision. It has placed significant emphasis on the possibility of Telstra upgrading its current copper network to a fibre-to-the-node ("FTTN") network. Telstra points to the following comments made by the Commission in Appendix G:

the ACCC considers that network modernisation in the context of the current undertaking assessment is a more significant consideration. In particular, this is because Telstra has raised the prospect of upgrading its current network to a [FTTN] network. There is currently discussion between government, Telstra and the ACCC about the appropriate regulatory environment and treatment for such an upgrade. Accordingly, the ACCC considers that the proposed clauses in Telstra's undertaking have particularly been revised in order to fit in with plans for a FTTN upgrade.

253 Telstra submits that the Commission has no basis on which to draw these conclusions. Telstra also notes that Optus argues that the issue of network modernisation has been overlooked in the assessment of past undertakings and that recent developments such as Telstra's announced FTTN strategy and developments overseas means that this issue needs to be given due attention in the current consultation process.

254 Telstra is perplexed by the suggestion that, due to developments such as Telstra's FTTN announcements and overseas developments, this issue must now be given new attention. All industry participants have been aware for many years of the

technological limitations of the legacy copper network (including interference issues) and the likelihood that the ULLS would be constrained or no longer available due to network modernisation. For Optus to suggest otherwise suggests that Optus never read the Commission's final report on the declaration of the ULLS.

255 Network modernisation (including upgrades and maintenance) has been occurring for the life of the Telstra network in order to meet changes in technology and the demands for telecommunication services by its customers (including wholesale customers). More recent examples of network modernisation have been the replacement of copper with fibre optic cable (which began over ten years ago) and the enablement of exchanges and distribution areas to provide or augment broadband capability.

256 As the Commission is well aware, Telstra has included network modernisation provisions in its ULLS undertakings since it first submitted a ULLS undertaking in January 2003. As Telstra has previously stated, the changes to the network modernisation provisions were made to:

reflect recent changes to technology and to afford access seekers greater certainty and clarity about the nature of those processes. In addition, Telstra has made it clear that extensive notice of network modernisation will be provided (except in the case of emergency upgrades) and set out a minimum notice period.

257 Since July 2005, Telstra has been revising the network modernisation provisions in its standard access arrangements for the supply of ULLS as well as other Telstra services faced with similar network modernisation issues. The revisions are undertaken in order to update outdated terminology previously used in the standard provisions, to reflect anticipated changes in technology and to expand on and better explain the process for notifying access seekers of network modernisation and upgrade activity (particularly those activities that impact on services already being supplied by Telstra). Telstra refers to paragraphs 8 and 9 of the statement of [c-i-c] dated 28 July 2006 in this respect.

258 Telstra has made it very clear that without certain necessary changes being made to the regulatory framework, Telstra will not be proceeding with any roll-out of a FTTN network. Telstra informed the Australian Stock Exchange on 4 August 2006 that no FTTN investment would proceed under the current regulatory framework. Telstra acknowledges that should it at some time in the future undertake any large-scale FTTN network rollout, this would require a separate regime to provide access seekers

with sufficient notice of the impact of such a rollout. Telstra would expect that this would be dealt with in any special access undertaking for FTTN services. In the event of such a large-scale FTTN rollout, Telstra would not seek to rely solely on the network modernisation provisions set out in the Undertakings.

259 Telstra acknowledges that consultation on a number of the issues identified in the Draft Decision in respect of any possible FTTN network rollout will clearly be relevant in any public consultation on any proposed undertakings and exemptions submitted in support of such FTTN network rollout. However, Telstra strongly submits that detailed consideration of the impacts of FTTN (including the stranding of any assets as a result of FTTN) similar to that set out in paragraph G.1.2 and throughout the remainder of Appendix G of the Draft Decision is irrelevant as to any assessment of the reasonableness of network modernisation provisions contained in the Undertakings given the unlikelihood of a FTTN network rollout during the term of the Undertakings.

260 Given the emphasis placed on FTTN by the Commission throughout the Draft Decision, Telstra strongly believes that the Commission's assumptions about and conclusions on this matter have significantly tainted the conclusions that it has reached on the reasonableness of the network modernisation provisions.

261 Telstra notes the Commission's comment that the only other interested party to pass comment on the network modernisation provisions of the Undertakings was Optus. Telstra believes this is significant in the context of the current Undertakings given the emphasis the Commission is trying to place on FTTN, and that it reflects the fact that access seekers generally have not had an issue with Telstra's network modernisation terms until recently.

Consideration of Reasonableness Criteria

Interests of persons who have rights to use the declared service

262 The Commission states in its Draft Decision that access seekers have an interest in being able to compete on their relative merits for end user customers. The Commission also notes that access seekers also have an interest in assets (such as DSLAMs) not being stranded and in not being denied necessary access to Telstra's copper network to allow those assets to be used. Optus also claims in its submission that the network modernisation provisions allow Telstra to push through changes to its network without due regard to the rights of access seekers to use the ULLS.

- 263 Telstra accepts that access seekers have an interest in being able to compete on their relative merits for end user customers. Telstra also accepts that under Part XIC, access seekers have the right to access Telstra's copper network and to use equipment such as DSLAMs on that network. However, Telstra rejects any suggestion that this is an unlimited right.
- 264 Telstra also rejects any assertion that by making investments in DSLAMs, access seekers have a right to continual access to ULLS enforced via the application of the reasonableness criteria in section 152AH of the TPA that does not otherwise exist through the standard access obligations in section 152AR of the TPA. For example, network modernisation may result in parts of the Telstra network no longer falling within the ULLS declaration and therefore not being subject to the standard access obligations. As the Commission is well aware, this is because ULLS is specific to the copper wire between an end-user premises and a customer access module.
- 265 As set out above, Telstra notes that the Commission accepted in its final report on the declaration of ULLS that Telstra should not be prevented from making changes to its network, and that none of the examples of contractual constraints specified by the Commission in that report provide the access seeker with the ability to prevent a network upgrade from proceeding.
- 266 Telstra submits that access seekers are not entitled to prevent or delay a network upgrade purely to recover or maximise investments that they have made in infrastructure. Further, the rollout of DSLAMs and other infrastructure by access seekers has been made in the full knowledge that Telstra has a right to upgrade its network from time to time and that ULLS would be affected by network upgrade activities. This is clear from the Commission's final report on the declaration of ULLS , from the various ULLS codes that have been developed by the Australian Communications and Industry Forum with full involvement of the industry and from Telstra's terms and conditions for the supply of ULLS that have applied (with slight variations in wording over time) since Telstra commenced supplying the service.
- 267 In any event, Telstra draws the Commission 's attention to the fact that network upgrades are generally planned on a distribution area by distribution area basis, while access seekers plan roll-outs of DSLAMs on an exchange basis. Telstra refers to paragraph 75 of the [c-i-c] Statement. This means that network modernisation occurring in one distribution area is unlikely to significantly impact on the viability of a DSLAM at an exchange. Telstra reiterates the points made above as to:

- (a) the fact that the network modernisation provisions were not created, nor have they been reviewed, revised or amended, in order to fit with any plans for a FTTN network rollout; and, as a result,
- (b) the irrelevance of the consideration of any widespread “stranding” of assets and other FTTN-related impacts on ULLS in the context of the current Undertakings.

Notice periods

268 Telstra accepts that notice periods are a significant consideration and agrees that it is necessary to assess what a reasonable length of time for access seekers to be able to make alternative arrangements for any affected ULLSs.

269 Telstra notes that the Commission mostly refers throughout the Draft Decision to the notice period being 15 weeks. Telstra also notes that Optus in its submission refers to the notice period as being ill-defined. However, Telstra submits that it is very clear from the Undertakings, this is a minimum notice period that Telstra will give (other than in the case of emergencies). While the Commission acknowledges at one point in its Draft Decision that this is a minimum notice period, it then concludes that Telstra would be unlikely to provide more than the stated minimum.

270 Telstra strongly rejects the Commission’s conclusion and its assertion that the wording of the network modernisation provisions give Telstra a strong incentive to not provide any more notice than the stated 15 weeks. Telstra submits that the Commission has reached this conclusion on the basis of no evidence. Telstra intends to provide notice (possibly through a secure website) of any network modernisation or network upgrade activity that has an impact on Telstra’s existing wholesale customers as soon as Telstra has firm plans to proceed with that network upgrade proposal and refers to paragraphs 16 and 17 of the statement of [c-i-c] dated 28 July 2006 in support of this. Telstra expects that in the majority of cases, it will have firm plans to proceed more than 15 weeks out from the proposed network upgrade, and existing wholesale customers will obtain a longer period of notice accordingly.

271 Telstra reminds the Commission that it has equivalence obligations (including in relation to the provision of information on network upgrades) under its operational separation plan and related regulation. Telstra also notes its obligations under Part V of the TPA regarding misleading or deceptive and unconscionable conduct. Telstra takes these obligations seriously and submits that any decisions on when Telstra

will give notice of network upgrade activity will be guided by its contractual and regulatory obligations.

272 Telstra agrees with the Commission's comments that in the event of a large scale FTTN network rollout it would be expected that Telstra would itself plan the necessary upgrades and associated product marketing significantly in excess of 15 weeks ahead of any launch of FTTN services. However, Telstra refers the Commission to paragraphs 252 to 260 above as to:

- (a) the irrelevance of any possible future FTTN network rollout to the consideration of the reasonableness of the current Undertakings; and
- (b) the fact that a different notification regime would likely apply in the event that the necessary regulatory hurdles were removed in order for Telstra to proceed with a FTTN network rollout.

273 Telstra refutes the suggestion by the Commission that the network modernisation provisions require access seekers to agree to "hand back the customer to Telstra". At the point that Telstra notifies an access seeker of a network upgrade that will or is likely to impact on existing ULLSs, the access seeker is still free to require Telstra to move the ULLS point of interconnect to the remote node where technically feasible, or to order alternative wholesale services (e.g. wholesale DSL or business DSL) from Telstra. The defined term "Handback" is derived from the ULLS Ordering and Provisioning ACIF Code (with which Telstra's proposed terms and in accord) to enable Telstra in limited circumstances to terminate the copper pair in Telstra's systems to ensure scarce resources are not left idle, and to ensure the access seeker does not continue to be charged for an unused service. Telstra submits that recognising and giving contractual effect to the Code concept of "Handback" is responsible and uncontroversial.

274 The Commission has said it considers that Telstra would have strong incentives to frustrate access seeker infrastructure from being built at any new node resulting from a network upgrade. Telstra strongly rejects the suggestion that it would act in breach of its legal obligations and frustrate infrastructure from being built at a node in order to invoke the right to terminate the supply of ULLS under the Undertakings. There is no evidence to suggest that Telstra would or is likely to conduct this activity. Further, if Telstra did not have the right to terminate the service and receive a "Handback" of the ULLS within a specified time once an access seeker had indicated that they planned to relocate, access seekers could indefinitely delay

network modernisation by delaying the build of their infrastructure. As per our comments above, the ability for an access seeker to prevent an upgrade proceeding has never been the intention of the Commission .

275 In terms of what a reasonable notice period would be (and bearing in mind that the 15 week period is only a minimum), Telstra submits that in the event of a network upgrade that affects ULLS, an access seeker would be able to obtain an alternative service such as wholesale ADSL or basic telephony services within 15 weeks. Given this and the fact it is well known and accepted (at least by the Commission), Telstra has the right to modernise its network, the network modernisation provisions proposed in the Undertakings would result in no unreasonable imposition on an access seeker's relevant interests. Telstra notes that there is no evidence to suggest otherwise.

276 Telstra is concerned with the emphasis that has been placed by the Commission on the model non-price terms and conditions in determining a reasonable time period for notification of a network upgrade and notes that the Commission has provided no evidence that the 120 business days in the model terms and conditions (or any longer period) would protect an access seeker's interests more than a 15 week minimum notice period. Telstra admits that the level of planning for network modernisation will range from several weeks to many months. Therefore, while some activities will be delayed to meet the minimum 15 weeks notice, Telstra expects that the majority of other network modernisation activities would be notified well in excess of 15 weeks.

277 Telstra notes the comparison the Commission has made between the initial 84 day forecast that access seekers must submit when using the ULLS managed network migration service provided by Telstra and the minimum 15 week network modernisation notice period. The Commission suggests that the connection work required for a managed network migration could be expected to require significantly less notice than where infrastructure is moved in the context of an FTTN upgrade - but notes that the difference between the 84 day period and the 15 weeks proposed in the Undertakings is only three weeks.

278 Again, Telstra notes the Commission's incorrect presumption of an FTTN upgrade in its comments on this analysis. The Commission should also be aware that for managed network migration, at 84 days Telstra is only provided a forecast of numbers on an exchange basis and it is not until 20 business days before cutover

that it is notified of the actual lines that will be cutover. If the Commission wishes to compare properly the two notice periods, it should be comparing the forecasts required at the 84 day mark against forecasts of network upgrades. However, Telstra considers that, except in the case of a formal FTTN network rollout, it would not be able to provide accurate or useful forecasts of network upgrade activity given that plans are made at a distribution area level and are often in response to customer demands. The Commission would also appreciate the risk to Telstra of allegations that any such forecasts are designed purely to discourage infrastructure investment by access seekers in the event that Telstra does not proceed with any forecasted network upgrade activity.

Good faith consultation with access seekers and the necessity of modernisation

279 The Commission claims that without clauses requiring Telstra to consult and negotiate in good faith in relation to reasonable concerns and to only re-locate a facility where it is reasonably necessary to do so, Telstra may use network modernisation in a way that would actively work against access seeker interests.

280 Telstra rejects the Commission's claims. Telstra has a number of concerns with the Commission's proposed requirements in terms of:

- (a) the uncertainty that will result from those requirements;
- (b) the fact they will only serve to delay network upgrades that are in the LTIE; and
- (c) the impact on the cost of ULLS,

each as explained further below.

281 As the Commission has acknowledged in the Draft Decision, Telstra's behaviour in conducting network upgrades is subject to the conduct provisions in Parts IV and XIB of the TPA. Telstra has put in place internal procedures to ensure that in proceeding with a network upgrade, it is not in breach of these provisions. Telstra does not believe that any additional requirement to only proceed with a network upgrade where "reasonably necessary" to do so would ensure that Telstra's behaviour is more likely to be compliant with the conduct provisions of Parts IV and XIB of the TPA. Rather, Telstra considers that applying this standard could potentially harm Telstra's legitimate pro-competitive business interests.

282 Telstra notes that there has been no evidence that Telstra would be or is acting in breach of Part XIB or Part IV in its conduct of undertaking network upgrades. Further, Telstra notes that an alternative to the proposed requirement to only proceed where “reasonably necessary” would be to include a provision in the Undertakings that Telstra will not breach Part XIB or Part IV of the TPA. Obviously, such a provision would be duplicative and would provide access seekers no greater protection than already provided by those parts of the TPA. Telstra submits that the Commission’s proposed terms and conditions (which are designed to prevent Telstra from acting improperly and anti-competitively) are similarly duplicative and unnecessary.

283 Telstra agrees with the Commission’s conclusion that in a practical sense it would be difficult for access seekers to enforce an obligation to negotiate in good faith or an obligation to ensure that network modernisation activities only occur when reasonably necessary. Telstra submits that in a similar manner, it would not know when it had complied or had breached such obligations. In this context, Telstra submits that the uncertainty created by the clauses and the fact that they would not provide any greater protection against improper conduct on the part of Telstra means that such provisions are unreasonable and unnecessary.

284 Further, Telstra submits that such obligations would be more burdensome than the obligations under Part XIB or Part IV of the TPA. Network modernisation could be commercial, pro-competitive and in the LTIE, but still not meet the requirement that it is “reasonably necessary”. Telstra submits that because of the words “reasonably necessary”, Telstra could be prevented from undertaking network modernisation activity which would actually be pro-competitive.

285 In addition to being difficult to enforce, Telstra submits that an obligation to negotiate in good faith with access seekers over network modernisation (and therefore the structure and design of Telstra network) suggests that access seekers have a proprietary interest in Telstra’s network. Telstra strongly maintains that it alone (subject to its obligations in Part XIB and Part IV of the TPA) is entitled to determine the structure and design of its network and that access seekers under Part XIC of the TPA are only entitled to the access to declared services that Telstra chooses to provide to itself or to others. In addition, Telstra does not see how a requirement to consult and negotiate in good faith is of benefit to access seekers in circumstances where the access seekers are not able to prevent a network upgrade going ahead regardless. On the contrary, Telstra strongly believes such

consultation period would only be to the detriment of the LTIE in delaying the benefit for end users of access to services and would be used by access seekers as a delaying tactic.

286 Further, any requirement to consult and negotiate in good faith would inevitably lead to an increase in the cost of ULLS as Telstra would be required to appoint numerous additional account managers to conduct the additional negotiations that would be required.

287 Telstra is also concerned that a consultation and negotiation requirement would lead to allegations of misuse of customer information. In any consultation or negotiation, wholesale customers would be concerned that any information they provided about the impact to them of a network modernisation was not used by Telstra to target the customer. However, to be meaningful, the consultation/negotiation would need to involve Telstra's network planners. While Telstra could build on existing information security systems and processes to protect the information (noting the additional compliance burden and flow on cost), there is a real risk that a customer that had disclosed information to Telstra, but was not successful in persuading Telstra to defer or cancel a network modernisation, would allege breach of confidentiality or misuse of market power. Telstra submits that there are clear advantages to the industry in removing the scope for such issues to arise by clearly separating the network planning function from any consideration of individual wholesale customer impact.

288 Telstra submits that it is not under any affirmative obligation to prove that it was reasonable not to include such clauses. Telstra considers that it is irrelevant that the Commission may consider that the insertion of a provision creates a "superior outcome" if the Undertakings would otherwise be reasonable.

Exemptions from notice periods

289 The Commission claims that the definition of emergency network upgrade is so loosely worded that it would be open for Telstra to exploit this exception in a way that damages competition. The Commission points to the fact that Telstra has not previously provided evidence that that definition is appropriate.

290 Telstra submits that the definition of emergency network upgrade reflects long standing industry practice regarding emergencies and the fact that if Telstra could not implement network upgrades required to protect the security or integrity of

Telstra's network that Telstra's entire network could be compromised resulting in immediate loss of services provided to both access seekers and end-users. Telstra further submits that the exclusion of emergency situations is reasonable and consistent with the criteria set out in section 152AH(1)(e) of the TPA.

291 The Commission further claims that because the concept of integrity is not defined in the Undertakings that it is open for Telstra to interpret it in a way that includes all network modernisation. The Commission also claims that it would arbitrate a clause along its model terms and condition with an assessment of reasonableness.

292 Telstra rejects the finding that integrity needs to be defined further. Telstra submits that the concept has a well known and understood meaning with the industry. Further, Telstra submits that in this context it is easily understood and would not encompass all network modernisation or all network upgrade activity. The exceptions to the notice provision in the Undertakings are more clearly defined (contrast "normal operation") and narrower than the exceptions provided for in the model non-price terms and conditions that the Commission has referred to in the Draft Decision as being favourable. Further, neither the Commission nor any access seekers have provided any evidence that Telstra would use this clause in an anti-competitive way.

293 Telstra submits that in its present form the exception to the minimum 15 week notice period is already an objective one as the network modernisation must fit within the exception as set out in the Undertakings (subject to ultimate interpretation by the courts). If Telstra's opinion was different to the proper construction of the Undertakings then Telstra would breach the Undertakings by not giving a notice period. If Telstra were to have mirrored the model terms in conditions it would be more disadvantageous to access seekers as while there is a reasonableness element the exception requirement remains in Telstra's reasonable opinion.

Telstra's legitimate business interests

294 Telstra agrees with the Commission that its legitimate business interests include the ability to recover the costs of efficiently incurred capital. Telstra also agrees with the Commission that Telstra must have the ability to alter the underlying structure of its network and not be unduly restricted to legacy network arrangements. Telstra has the right to modernise its network not only because it is Telstra's network, but

also because without this right, Telstra's customers (both wholesale and retail) will not be able to obtain the services they want.

Notice period

295 Telstra submits that in consideration of the effect of any notice period on its ability to make a commercial return on its investments, the Commission has failed to consider the effect of any minimum notice period such as the 120 business days proposed in the Commission's model non-price terms and conditions.

296 Any minimum notice period imposes limitations on Telstra's legitimate business interest in being able to freely perform network upgrades to its own network. It also imposes limitations on Telstra being able to obtain a commercial return from existing investments as Telstra will in a number of cases be delayed in using those investments in the most efficient manner. While Telstra expects that in the majority of cases Telstra would have firm plans to proceed with a network upgrade more than 15 weeks out, there are a number of non-emergency network upgrades that could be planned and implemented within a few weeks let alone 15 weeks or 120 business days if there were no minimum notice period. Telstra refers to paragraph 71 of the [c-i-c] Statement in this respect.

297 Telstra submits that the Commission must consider this loss of return on investment in the evaluation of the reasonableness of any minimum notice periods such as the 120 business day period proposed by the Commission. As discussed above, Telstra has chosen to provide a minimum of 15 weeks notice in order to reasonably protect the interests of persons who have rights to use the declared service. Telstra recognises that by guaranteeing this minimum period of notice, it will suffer a detriment to its legitimate business interest of recovering the costs of efficiently incurred capital.

298 Telstra further submits that a minimum notice period of 15 weeks is reasonable on a number of grounds, including:

- (a) the ability of access seeker's to obtain alternative services as discussed earlier;
- (b) the expected percentage of network upgrades that could be implemented within 15 weeks; and

- (c) the length of any delays to Telstra upgrades given the minimum 15 weeks notice period.

299 That is, Telstra has undertaken to give not less than 15 weeks notice as a result of balancing all the criteria in section 152AH of the TPA.

300 Telstra considers that any minimum notice period in excess of 15 weeks will have an increasingly cumulative detrimental effect on Telstra's ability to efficiently use and gain a commercial return from its investments because the number of network upgrades that could have been implemented at an earlier time will increase and the length of delays on such network upgrades will also increase.

301 For these reasons, Telstra submits that a minimum notice period in excess of 15 weeks (and in particular, a minimum notice period of 120 business days or longer as is suggested in paragraph G4.1 of Appendix G) would have an unreasonable (in light of all the criteria in section 152AH of the TPA) detrimental impact on Telstra's ability to recover the costs of efficiently incurred capital.

302 Similarly, Telstra does not accept the Commission's assertion that all network upgrades will be planned well in excess of 15 weeks. Telstra considers that the Commission's assertion is based on a large scale FTTN network rollout and refers the Commission to Telstra's comments in paragraphs 252 to 260 above as to the limited relevance of any possible future FTTN network rollout to the consideration of the current Undertakings. Telstra, therefore, does not accept the Commission's conclusion that its legitimate business interest would not be harmed by the minimum 15 week notice period (and it certainly does not accept that its legitimate business interest would not be harmed by a longer minimum notice period).

303 For the reason given in paragraphs 279 to 288 above, Telstra does not agree with the Commission's claim that the network modernisation provisions go beyond the legitimate business interests of Telstra. For reasons given in paragraphs 283 to 284, Telstra considers that any requirement to only undertake network upgrades when "reasonable necessary" or "necessary" (as the case may be) will in some circumstances prevent it from implementing pro-competitive upgrades that may not be deemed "necessary". Telstra repeats its submissions at paragraph 285 that Telstra alone is entitled to exercise proprietary rights in respect of its network and that any requirement to consult and negotiate in good faith is of no ultimate benefit to access seekers. Telstra also notes the Commission's comments that:

The ACCC considers that the requirement that upgrades only be allowed to occur when “absolutely” necessary would derogate from Telstra’s legitimate business.

304 Telstra submits in these circumstances that clauses requiring Telstra to consult and negotiate in good faith in relation to reasonable concerns of access seekers and to only undertake network upgrades when reasonably necessary would place an unreasonable burden on Telstra’s legitimate business interests in light of all the criterion in section 152AH of the TPA.

Other restrictions proposed by Optus

305 In relation to the further restrictions proposed by Optus, Telstra agrees with the Commission that consideration of alternative access services is beyond the scope of an assessment under section 152AH of the TPA.

306 In its submission, Optus claims:

- (a) that any network modernisation provisions should seek to ensure continued supply of the ULLS;
- (b) that in making any change to its network, Telstra should be required to take all steps necessary to ensure continuity of service and if this is not possible to make alternative access services available; and
- (c) network modernisation should only be undertaken where this is “absolutely” necessary to meet Telstra’s legitimate interests to rule out any changes implemented for the purpose of sabotaging access plans to use the service.

307 Telstra submits that an access seeker does not have an absolute right to a declared service under section 152AR of the TPA. The standard access obligations on an access provider to supply a declared service only apply where the access provider supplies the declared service to itself or to other persons. An extreme of this would be in the case of an access provider choosing to shut down its copper network and replace it with a network made entirely out of fibre, access seekers would have no rights under Part XIC to the ULLS because there would be no copper between an end-user’s premises and a customer access module as per the ULLS service description.

308 On this basis, Telstra submits that the maintenance of the ULLS as an active declared service is therefore an irrelevant consideration for the purposes of section 152AH and

rejects Optus' submission that any network modernisation provision should seek to ensure the continued supply of the ULLS or make alternative access services available.

309 Telstra rejects Optus' arguments that network modernisation be limited to when it is "absolutely necessary". Telstra submits that a restriction to modernise its network only when "absolutely" necessary would:

- (a) be inconsistent with its rights to modernise its network that have been clearly recognised by the Commission on at least two occasions; and
- (b) offer access seekers no protection over and above what is already provided under the TPA against improper conduct.

310 Telstra agrees with the Commission's conclusion that a requirement that upgrades only be allowed to occur when "absolutely" necessary would derogate from Telstra's legitimate business interests and could prevent Telstra from modernisation to provide new services. However, for the reasons given above, Telstra does not agree that "reasonably" necessary would be a reasonable benchmark.

Whether modernisation activities might be stalled

311 Telstra agrees with the conclusion of the Commission that clause 6.1 of the Undertakings is appropriate to protect Telstra's legitimate business interests and achieves an appropriate balance between Telstra's and access seekers. Telstra further notes the Commission's comments that in the absence of an equivalent clause, Telstra's rights would be restricted unduly and its ability to modernise would be unduly restricted.

312 Telstra notes Optus' dissatisfaction with the fact that under the proposed network modernisation provisions, any network upgrade changes would go ahead regardless of the impact to the access seeker at the expiry of that notice period. Optus also claims that the network modernisation provisions give Telstra an unfettered right to contract out of its standard access obligations.

313 As noted previously in this submission, it is clear that the Commission has never intended that an access seeker would have the right to prevent a network upgrade going ahead. For example, when releasing its model terms and conditions the Commission recognised that the model clauses were only to determine how much notice should be given and did not provide the access seeker a right of veto. The

Commission explicitly acknowledged that notwithstanding any negotiations between the parties, a relocation will nevertheless proceed at the time specified by the access provider.

LTIE

Promotion of competition

314 Telstra submits that all network upgrades will be pro-competitive because they occur as a result of a need to:

- (a) enable or augment broadband capacity as a result of held orders for both retail and wholesale customers and projected demand;
- (b) augment or reallocate narrowband capacity as a result of held orders for both retail and wholesale customers and projected demand and in order to meet obligations under the *Telecommunications (Consumer Protections and Services Standards) Act 1999* (Cth), including the Customer Service Guarantee and Universal Service Obligation; or
- (c) repair Telstra's network in order to sustain current levels of broadband and narrowband capacity and quality of service for both retail and wholesale customers.

315 That is, network upgrades will increase the range and quality of services available to end-users and/or allocate Telstra's network infrastructure more efficiently in accordance with demand resulting in the potential for price decreases across the network as a whole.

316 Telstra submits that therefore any unreasonable restrictions on its ability to upgrade its network is necessarily not in the LTIE. For example, as noted above, any unreasonable minimum notice period will delay the introduction of new and improved services which Telstra submits will not be in the LTIE.

317 Telstra notes the following comments of the Commission:

the proposed network modernisation provisions could have implications for competition in that they appear to give Telstra significantly more notice compared to its competitors of when network modernisation upgrades are likely to occur

and considers that the Commission's consideration of the promotion of competition is based on a large scale FTTN network rollout. Telstra refers the Commission to paragraphs 252 to 260 above as to the irrelevance of any possible future FTTN network rollout to the consideration of the reasonableness of the current Undertakings.

318 Telstra rejects the Commission's conclusion that the network modernisation provisions in the Undertakings give Telstra significantly more notice compared to its competitors and refers the Commission to paragraph 271 in relation to its equivalence obligations and proposals for notification of network upgrades when Telstra has a firm plan to proceed. Telstra also refers to paragraphs 16 and 17 of the statement of [c-i-c] dated 28 July 2006. For the reasons given in paragraph 275 above, Telstra submits that access seekers will be able to obtain appropriate alternative arrangements within 15 weeks. Telstra submits that, therefore, access seeker's reputation and viability in the market place for end-user customers will not be affected.

319 For the reasons given in paragraphs 279 to 288 above, Telstra rejects the Commission's claim that the network modernisation provisions in the Undertakings create incentives for Telstra to target areas where competitors have significant customer numbers. Telstra would be in breach of both Parts IV and XIB of the TPA if it used network upgrades for the purpose of preventing competitors from competing with Telstra. Telstra submits that the Commission has no evidence that it would or is likely to act in breach of Parts IV or XIB of the TPA.

320 Telstra does not accept that competition will be negatively affected merely because some competitors may not be able to provide particular services to some end-users. Telstra considers that by concentrating only on the effects on access seekers (and their existing investments) the Commission is adopting an approach that is uneconomic to the measurement of competition and is inconsistent with the criteria set out in section 152AH.

321 Telstra refers the Commission to paragraph 267 above and submits that, in any event, network upgrades are likely to have a minimal effect on the ability of access seekers to continue to provide services in competition to Telstra as network upgrades occur at a distribution area level, while access seekers currently rollout DSLAMs on an exchange basis. Telstra submits, therefore, that the areas subject to

network upgrades are not necessarily the areas to which the Commission refers to as the “areas which had seen the greatest competition to date”.

Any-to-any connectivity

322 Telstra agrees with the Commission’s conclusion that a hand back mechanism is necessary to ensure that any-to-any connectivity is maintained. Telstra also agrees with the Commission that there are significant efficiency benefits from not maintaining separate copper links in the event of moving the customer access module from the exchange to the node. In any event, Telstra draws the Commission’s attention to the fact that due to interference on the copper lines and current technology, maintenance of DSLAMs at an exchange by an access seeker while broadband services are provided from the node presents technical difficulties.

Economically efficient use of and investment in the infrastructure by which listed services are supplied

323 Telstra submits that the Commission has failed to properly consider this relevant criterion.

324 In evaluating this factor, the Commission must consider all infrastructure currently used on Telstra’s network not just access seekers’ infrastructure. In particular, Telstra notes that the Commission has given no weight to Telstra’s continuing investment in infrastructure, especially Telstra’s continuing investment in DSLAMs on Telstra’s network at both exchanges and nodes.

325 Telstra submits that the Commission must consider all investment in infrastructure (of which the vast majority is by Telstra) including but not limited to exchange and node housing, trenching, copper, optic fibre, remote integrated multiplexers and DSLAMs. Telstra submits that network upgrades by their nature make more efficient use of the network by reallocating and investing in infrastructure to meet changes in demand. Any delays due to a minimum notice period for network upgrades, the obligation to negotiate and the like, will result in cumulative inefficiency throughout the network.

326 Telstra submits that where it will be unable to upgrade its network in an efficient way either by being limited in the manner in which it implements a network upgrade (by doing what is only “reasonably necessary”) or being subject to unreasonable or unnecessary delays which reduce the return from its investment, it will be discouraged from investing in infrastructure. The increased inefficiencies created by

having to take account of access seeker infrastructure may result in commercially viable investment becoming no longer viable. Restrictions on Telstra's ability to perform network upgrades will also limit its ability to provide broadband to end-users that do not have access to ADSL.

327 Telstra submits that in light of its significant investment in infrastructure in its network, any restriction on its ability to implement network upgrades will impact on the overall level of investment in telecommunications infrastructure in Australia. Telstra considers that any restriction or burden on its right to upgrade its network in addition to those restrictions in the Undertakings will decrease the level of investment in infrastructure by Telstra to a level that will not be offset by increased access seeker investment.

328 Telstra also submits that existing investments by access seekers in exchanges do not in all cases represent efficient investment as their investment decisions rely on the existence of the legacy copper network architecture. To the extent that this architecture is becoming increasingly misaligned with end-user demand, it is inefficient. The Commission should carefully consider in these circumstances whether DSLAM investment by access seekers is actually efficient investment or whether it is "cherry picking" investment that only generates a profit for access seekers due to the presence of the legacy network. Telstra submits that under the LTIE criteria, the Commission should only consider investment in infrastructure that will provide long term benefits for end-users. It would be incorrect to use the LTIE test as a means of entrenching the existing investments of ULLS customers, regardless of their efficiency.

Economically efficient use of and investment in any other infrastructure by which listed services are, or are likely to become, capable of being supplied

329 Telstra submits in evaluating this criterion the Commission should consider infrastructure (including wireless solutions and the soft-switches that would be implemented in a complete FTTN or fibre-to-the-premises solution) that are capable of providing, but are yet to provide, listed services as opposed to the deployment of optic fibre and node cabinets which already provide carriage services in some areas of Telstra's network. Telstra agrees with the Commission that network modernisation provisions that fully recognise Telstra's right to upgrade its network will encourage investment by it in such infrastructure.

330 Telstra also submits that network modernisation provisions that permit technological change to occur to Telstra's network are likely to encourage its competitors to make more efficient investments in infrastructure by investing in infrastructure that is more future proof including wireless solutions or their own full optic fibre networks rather than piggybacking outdated copper infrastructure. Telstra submits that any restrictions on its right to upgrade its network will lead to a misallocation of resources and impede the technological development of the Australian telecommunications industry.

Direct costs

331 Telstra agrees with the Commission that this criterion is not directly relevant to the consideration of non-price terms and conditions. However, Telstra does note that any restriction or minimum notice period imposed on network upgrades will significantly add to its costs.

Operational and technical requirements

332 In relation to the Commission's comments that the reliable operation of access seeker services could be affected if access seekers have insufficient notice periods to allow them to build appropriate infrastructure or negotiate appropriate access arrangements, Telstra refers the Commission to its comments in paragraph 275. Without the right to perform emergency network upgrades in the circumstances set out in the Undertakings, Telstra's ability to meet the operational and technical requirements of its network would be significantly impaired.

Economically efficient operation

333 Telstra submits that all network upgrades are targeted towards the economic efficient operation of its network. Any restrictions on Telstra's ability to implement network upgrades will affect the economic efficient operation of its network for the reasons set out above.

Conclusion

334 In response to the Commission's conclusions (as set out in paragraph 244), for the reasons set out above, in Telstra's submissions in support of the Undertakings and in Telstra's response to the Commission's discussion paper on the Undertakings, Telstra submits the network modernisation provisions contained in the Undertakings are reasonable.

335 Telstra wishes to emphasise the following:

- (a) Telstra clearly has the right to modernise its network. This right has been recognised by the Commission;
- (b) the proposed provisions were designed to address Telstra's need to modernise its network to meet both retail and wholesale customer demand and to maintain the integrity of its network. They were not revised in response to any discussion that may be being had between Telstra and the Commission on any possible FTTN network rollout. This is clear from the fact that the provisions have been in every ULLS undertaking Telstra has submitted and in every agreement for the supply of ULLS that Telstra has entered into since it commenced supplying the service. It is this that the Commission should be focusing on in reviewing the reasonableness of the Undertakings - not the possibility of FTTN;
- (c) in undertaking network upgrade and network modernisation activity (including in determining when and how to provide notice to access seekers of such activity), Telstra is constrained by the provisions of the TPA - provisions Telstra takes very seriously;
- (d) the Commission has previously acknowledged that Telstra has the right to modernise its network and that Telstra should be entitled to proceed with any network modernisation activity subject to certain restraints. Any unreasonable restraint or limitation on Telstra's ability to modernise its network (for example, such as a requirement that upgrades only proceed if they are absolutely necessary or an unreasonably long minimum notice period) is likely to be detrimental to the LTIE and to efficient investment in infrastructure in Australia; and
- (e) Telstra believes that the fact that Optus was the only access seeker to express any concern over the network modernisation provisions is significant in the context of the current Undertakings given the emphasis the Commission is trying to place on FTTN, and that it reflects the fact that access seekers generally have not had an issue with Telstra's network modernisation terms.