TELSTRA CORPORATION LIMITED

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

Response to the ACCC's Draft Decision

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Contents

A Executive Summary

The Australian Competition and Consumer Commission ("**the ACCC**"), in earlier price determinations, has set ULLS prices below cost. While there was investment in CAN infrastructure prior to those determinations, investors in competing infrastructure would now prefer to purchase ULLS at below-cost prices rather than continue investing in the expansion of their networks,

For whatever reason the ACCC priced ULLS below cost in the past, Telstra's ordinary access undertaking for ULLS dated 3 March 2008 ("**Telstra's Undertaking**") provides an opportunity to rectify the error. A decision to accept Telstra's Undertaking and to set ULLS prices closer to the levels determined by the TSLRIC+ of an efficient new entrant is a decision to promote new entry into the market, to facilitate enduring and effective facilities-based competition, and to eventually eliminate the need for declaration of ULLS. A decision to reject Telstra's Undertaking is a decision to perpetuate mistakes of the past, to undermine continuing investment in customer access networks, to outright reject the goal of facilities based competition and hence ensure the industry remains reliant on the regulation of resale competition for as long as telecommunications services are required by consumers.

The ACCC has, in its Draft Decision, chosen the latter. However, to do so, the ACCC has had to adopt some extraordinary assumptions and positions:

- **The ACCC chooses to assume a new network build for some inputs and an old network build for others, whichever reduces the TEA model's cost estimate.** Specifically, the ACCC assumes that the TEA model should model the costs of a network provider that benefits from the cost savings associated with building a network (and carrying out trenching work) over many past decades, while also benefiting from the cost savings associated with building a network today (using the latest technologies and most efficient practices). As hard as one might try, a network provider can have a network that is new or old, not both.

- **The ACCC uses the tilted annuity formula to push cost recovery far into the future, allowing it to set low prices today.** The extent of the ACCC's backloading is shown with the modelling used by the ACCC to set current prices ($12.30 to $16). The network cost component of prices, under those determinations was assumed by the ACCC to increase 50% in 9 years, over 100% in 15 years and 200% 23 years. The ACCC is required to adopt the same backloading to artificially reduce in the short term the cost calculated by the TEA model. The price increases required under this approach to ensure cost recovery ever occurs lack all credibility, and hence greatly increase the risk being placed on the access provider; yet the ACCC pretends that the provision of ULLS at regulated terms is a low risk activity, which merits a correspondingly low cost of capital.

- **The ACCC has now indicated it needs to review whether TSLRIC+ suits its agenda**. This is despite many years of strong support for TSLRIC-based pricing for ULLS (even in a pricing principles report the ACCC published 3 months after Telstra lodged its undertaking) and the persistent endorsement of the TSLRIC+ standard by the Tribunal.

- **The ACCC finds that access seekers have a "right" to below cost access despite the fact that they will earn substantial margins at a $30 price for ULLS in Band 2 areas**. Using data published by Optus and iiNet, financial analysis shows that at a $30 ULLS price: Optus will earn 55.67% ($187m pa) EBITDA and 46.75% ($157m pa) EBIT, and iiNet will earn 50.91% ($93m pa) EBITDA and 40.62% ($74m pa) EBIT.

- **The ACCC has to adopt unprecedented inputs for the TEA model's result to be below $30.** The ACCC assumes that 100% of trenching is undertaken in turf, which implies that all roads, footpaths, driveways in Band 2 areas of Australia are turf. The ACCC adopts a WACC that is 93 basis points below its WACC determined for the same period in June 2008 despite a global financial crisis that is making it more difficult by the day for firms to raise capital. And as explained above, the ACCC backloads depreciation to such an extent that virtually no capital recovery would occur during the term of the Undertaking but provides no recompense for the greatly increased risk this back-loading causes.

Telstra urges the ACCC to recognise the importance of encouraging competitive investment in customer access networks in Band 2 areas, and reverse its Draft Decision to reject Telstra's Undertaking.

B Principles for consideration of the reasonableness criteria

1. Before responding to the detail of the ACCC's claims, Telstra believes it is crucial to establish some principles that should frame consideration of whether access charges are reasonable pursuant to s152AH of the Trade Practices Act 1974 ("**the Act**"). This section discusses those principles. It starts by considering the difficulties inherent in the setting of access charges, and the approach regulators, governments and authorities on regulation have adopted in the face of those difficulties. On that basis, the discussion then turns to the specific concerns Telstra has with the principles the ACCC employs in its approach to regulatory costing in the Draft Decision.

2. The main points to emerge from the following discussion are that:

- Regulators, governments and authorities on regulation have recognised the paramount importance of promoting efficient investment by providing for full recovery of efficient costs.

- Failure to allow such recovery undermines investment not only in the regulated service (and in substitutes for that service, such as facilities that might otherwise be built by access seekers) but in all services actually and potentially subject to regulation.

- Regulated entities cannot have confidence that costs will be recovered if regulators do not adopt cost standards that are consistent, predictable and transparent.

- The ACCC, in its attempt to derive a low estimate of costs, appears intent not only on abandoning its long-standing commitment to TSLRIC+ but on replacing that cost standard with a jumble of approaches in which it adds estimates derived using the lower of differing costing bases. The resulting estimate of total costs would have no economic meaning and seems unconnected to any consistent concept of (physical or financial) capital maintenance.

- The risks of regulatory capriciousness arising from the ACCC's approach are accentuated by the ACCC's attempt to shift costs from the current regulatory period to periods far in the future, without any sign that it can credibly commit to the prices that would be charged in those periods.[1]

- Such moves can only undermine confidence in the regime and indeed in the ACCC as a regulatory institution to the detriment of future infrastructure investment in Australia.

B.1 Setting access charges

3. The setting of regulated charges encounters three complex sources of tension.

[1] See section D, from paragraph 92, which shows that the ACCC's pricing for ULLS in the past has delivered low ULLS prices on the regulatory promise that the network cost component of ULLS prices will increase 50% in 9 years, over 100% in 15 years and 200% 23 years.

4. The first arises from the conflict between *ex ante* and *ex post* efficiency in the presence of lumpy investments and sunk costs. *Ex ante*, an investment should proceed if the expected willingness to pay for each unit of capacity it provides is no less than that capacity's expected average cost. This implies that if efficient investment is to proceed, the prices that can be expected by the investor per unit of capacity should at least cover the expectation of average costs. However, once the investment has occurred, each unit of demand should be served if that demand's willingness to pay is no less than the marginal cost of meeting it. As a result, once the investment has been made, to achieve allocative efficiency over the short run (and assuming away impacts on dynamic efficiency) prices should not be higher than marginal costs (at least at the margin of consumption), which usually implies prices lower than those that would allow recovery of average costs. Over the long run, however, if the combination of all prices remains below average costs the next tranche (i.e. lump) of investment efficiently required to expand or replace the network will not occur.

5. While recognising this tension, regulators in Australia and elsewhere have accepted the primacy of providing incentives for efficient investment. They have consequently sought to commit to permit recovery of sunk costs. For example, in a recent decision relating to the Electricity industry, the Australian Competition Tribunal ("**the Tribunal**") stated:[2]

> *Not to provide a return on sunk investments just because they are sunk would involve the regulator engaging in ex post opportunism and would not be consistent with the promotion of future efficient investment and the national electricity objective.*[3]

6. The ACCC has recognised the importance of making a credible commitment to allow the recovery of sunk costs, as the failure to do so – a failure that generally connotes "regulatory opportunism" in which the regulator expropriates investments in the regulated entity so as to secure usually transient benefits for purchasers of its services – both deters investment by the regulated entity itself and by all those who are, or may be, brought within the scope of regulation. It also deters otherwise efficient investment by access seekers in developing substitutes for the regulated service, perpetuating regulation with all of its costs and risks.

7. A second source of tension arises from the fact that if efficient investments are to proceed, investors must have reasonable grounds to expect that their costs, once incurred, will be recovered. But changes in technology and in supply and demand generally cause costs to differ from those initially incurred or even expected. Regulators therefore need to allocate the risk to which this gives rise, noting that, ultimately, all risk must be paid for by consumers.

8. In conventional rate of return regulation, regulators effectively insured investors against cost and demand risk by allowing prices to continuously adjust so as to permit recovery *ex post* of all costs that had been prudently

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[2] ElectraNet Pty Limited [2008] ACompT 3 [198]

[3] The ElectraNet decision finds that easements ought to be valued at historical costs, though it also finds that a DORC valuation is consistent with outcomes in a competitive market, promotes efficiency and allows capital maintenance. Telstra believes that the decision errs in its conclusion with respect to easements, and that even if it did not, that conclusion would not apply in respect of any aspect of ULLS, for reasons that include: (1) as the statutory criteria applicable in respect of ULLS require a finding that charges that are consistent with outcomes in a competitive market, promote efficiency and allow capital maintenance are reasonable, TSLRIC+ estimates, which apply a comparable methodology to DORC in being forward looking (rather than based on costs previously incurred), and hence will have each of those positive attributes the Tribunal finds in DORC, are reasonable; and (2) the assets at issue are not perpetual, and are each capable of being replaced in the long run.

incurred *ex ante*. This had the merit of reducing the risk premium investors required, albeit possibly at some cost in terms of incentives for efficiency. More recently, regulators have tended to place cost and demand risk more squarely on the regulated firm. In the case of telecommunications, one form this has taken is the periodic redetermination of costs on an efficient basis, including through modelling the costs that would necessarily be incurred in providing the regulated service by a hypothetical new operator.

9. Rate of return regulation on the one hand and regulation based on determining and re-determining the level of efficient costs on the other clearly differ in how they allocate the risk of cost and demand changes. However, consistently and properly applied, both of these approaches are capable of supporting efficient investment and, in that sense, are each capable of providing the basis for a "regulatory compact" or "bargain" that promotes the long-term interests of end-users. What matters is that investors can count on consistent application of the approach, both in each regulatory proceeding and over time.

10. For example, regulation on the basis of forward looking costs (as in the use of TSLRIC+) frames the regulatory compact in terms of the regulated entity being able to recoup the costs a hypothetical new operator, operating on an efficient basis, would expect to incur for the service, as evaluated at the time of the regulatory proceeding. Obviously, as a practical matter, no regulated entity could continuously update its capital stock so that it always reflected that which would be selected by a "new build" operator. However, an entity could value its assets on the basis of the costs of such an operator, writing those assets up or down in each period on the basis of expected changes in the costs such a "new build" operator would incur. Assuming these estimates of expected changes were unbiased (in the statistical sense, i.e. they were no more likely to be too small than too large), and that forward looking costs were properly estimated, three broad results would hold:

- The present value of the expected revenue stream in each regulatory period would equal the sum of expected costs in that period (what the Australian Energy Regulator has recently referred to as the 'present value principle')[4];

- Netting off current (operating and maintenance) costs, the present value of the expected revenue stream arising from a succession of redeterminations of efficient costs would equal the value of the opening regulated asset base and of expected efficient additions to that asset base; and

- Efficient additions to the asset base could be reasonably expected to recover their costs.

11. In other words, consistent application of the efficient cost standard should allow expected cost recovery, which is both an integral element in the regulated entity's legitimate expectations and essential if efficient investment is to be promoted, not only in the regulated service at issue but in substitutes for that service and more generally, in all services actually or potentially affected by regulation. However, if some elements of cost are determined in a

[4] Australian Energy Regulator *Electricity transmission and distribution network service providers - Review of the weighted average cost of capital (WACC) parameters: Explanatory statement*, December 2008, p.110

way that allows less than the amount a hypothetical new operator would incur, then the present value principle is breached, and the regulated entity's expectations and investment incentives would be adjusted correspondingly.

12. This brings us to the third source of difficulty, which arises from the tension between the inherent complexity of regulatory price setting, including those resulting from its multiple objectives, and the need for predictability and credibility in the regulatory compact. Nothing sends a signal more chilling of investment than the inappropriate exercise of regulatory discretion or even the threat of such inappropriate exercise.

13. The High Court only recently emphasised this in proceedings in which it upheld a finding by the Tribunal that the ACCC, in reaching an access pricing decision, had "*put aside any well recognised asset valuation methodologies and had been idiosyncratic*".[5] Importantly, the High Court noted a principle that is no less true in telecommunications than in other industries, namely that:[6]

> *The greater the degree of uncertainty and unpredictability in the regulatory process, the greater will be the perceived risk of investment.*

14. It is for this reason that such great emphasis has been placed on consistent, predictable and transparent application of regulatory standards, including as they relate to cost measurement, by governments, regulators and authorities on regulation, both in Australia and overseas.

15. Examples of this emphasis are provided by decisions of the Australian Energy Market Commission and the Ministerial Council on Energy to effectively proscribe revaluations of the costs of existing electricity network, and Council of Australian Government guidance on appropriate asset valuation methodologies to apply to electricity and water infrastructure.[7]

16. Overall, without such consistent, predictable and transparent application of decision-making standards, principles and models, any regulatory system will lack credibility as to current and future cost recovery, increasing (to again echo the High Court) "*the perceived risk of investment*" and correspondingly raising the required rate of return, to the detriment of consumers.

17. In short:

- There is wide regulatory acceptance of the importance of promoting efficient investment;[8]
- Efficient investment requires a reasonable expectation of full cost recovery; and
- No such reasonable expectation can be held by investors absent the consistent, predictable and transparent application of decision-making standards, principles and models.

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[5] *East Australian Pipeline Pty Limited v Australian Competition and Consumer Commission* [2007] HCA 44, [92]
[6] *East Australian Pipeline Pty Limited v Australian Competition and Consumer Commission* [2007] HCA 44, [49-50], emphasis added.
[7] See National Electricity Rules, Schedule 6A.2.1 (f) and Schedule 6.2.1. National Competition Council *Guidelines for the application of Section 3 of the CoAG Water Reform Agreement*, p.A.1 and CoAG Communique *Attachment A Report on Electricity Reform*, Para 3(b) 19 August 1994.
[8] For example, this is key component of the objectives of the national access regime (Trade Practices Act,, s.44AA), energy access regimes (National Electricity Law, s.7), and Part XIC (where, however, this guidance is complicated by multiple layered objectives.

18. As well as being important in themselves, these principles illuminate three issues central to Telstra's concerns about the ACCC's Draft Decision. These issues, which are elaborated on below, involve:

- The appropriate standard for assessing whether a cost model is reasonable;

- The need for the chosen approach to costs to be applied consistently, both in each determination and as between determinations; and

- The extent and consequences of regulatory risk.

B.2 Appropriate standards for regulatory costing

19. Regulatory costing is inherently complex, and forward looking costing especially so. Telstra's TEA model provides a far more detailed and granular depiction of the CAN than its predecessors did or than comparable TSLRIC models overseas do. That said, the TEA model does not seek to re-optimise every aspect of the network, including the location of pillars and exchange buildings, nor does it calculate O&M expenses from the bottom up. In Telstra's view, far from making the model or its estimates unreasonable, anchoring these elements in the reality of the network ensures that the TSLRIC+ estimates produced by the TEA model are reasonable, enhances the model's reliability, and is consistent with best practice regulation.[9]

20. This is because seeking to determine these inputs from a blank slate would not only greatly complicate the modelling, but would also introduce significant error and arbitrariness. It is extremely unusual for a large scale TSLRIC model to determine O&M and indirect expenses and investments using a bottom-up approach.[10] This is quite simply because there is no accepted methodology that could be used to derive and verify the estimated quantum of expenditures required to run a network as large and diversified as Telstra's from the bottom up. Equally, altering the location of pillars and exchange buildings is not only unlikely to materially reduce costs but, more importantly, would require ensuring that the estimated locations were physically possible – for example, that they respected basic constraints associated with terrain, land use and planning restrictions. Again, there is no analytical methodology that can undertake this type of exercise on a reliable basis at acceptable cost. It is consequently unsurprising that such approaches have not been adopted in large scale TSLRIC models internationally.[11]

21. A model can be reasonable, in other words, without fulfilling every counsel of perfection. Moreover, given that acquiring and processing information is costly, no modelling exercise that is efficient, in the sense of balancing the costs of refinements with the benefits, will ever seek complete optimisation. Additionally, attempting such complete optimisation in areas where there are

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[9] A more detailed discussion can be found in sections D and E below.

[10] Instead, the pragmatic approach of applying O&M factors to investment costs is adopted. See, for example, Ovum which has stated that "*It is not unusual to calculate [O&M] factors using a top-down approach*" [Ovum (2008), *Review of the Economic Principles, Capital Cost and Expense Calculations of the TEA Model*, 6 August 2008, at page 44; equally MJA states that "*…MJA also agrees that the estimation of operating costs and support costs using cost ratios is a widely accepted approach*" [MJA (2008), *Review of the TEA Model*, 12 August 2008, at page 12].

[11] Models that alter the locations of pillars have been developed (for example, the PIE II model), but they do not take into account the feasibility of the pillars' 'hypothetical' locations. In Telstra's experience, no model of a large scale public network alters the locations of exchange buildings.

no well-accepted methodologies for doing so inevitably increases the risk of arbitrariness, both in the modelling and in its evaluation by the regulator, increasing uncertainty and regulatory risk overall.

22. As a result, a heavy burden of proof should be borne by those who claim that further optimisation, above and beyond that widely used in existing TSLRIC+ models, is required. That burden should require those parties to demonstrate that such optimisation is material, feasible at reasonable cost, and worth doing.

23. The Tribunal has, in the past, itself recognised this point. In its decision on the Vodafone undertaking, the Tribunal accepted that there are practical considerations that limit the extent to which one can prove costs are efficient outright and that those practical considerations should not be ignored.[12] The best that can be done, in Telstra's view, is to do as the TEA model does – begin with Telstra's database of known rights of way in almost every populated street in Band 2 areas, optimise the conduit routes for the CAN, adopt best practice engineering rules and apply current asset prices to calculate the replacement cost of the CAN. Such an approach, as it starts from the actual network, ensures the resulting model will not violate any engineering, planning or land use constraint, while at the same time optimising within those constraints.

24. Telstra does not accept the ACCC's view that further optimisation is material, feasible or desirable with respect to the TEA model. For reasons detailed below in response to the ACCC's findings on individual input values, the ACCC has failed to credibly show that further optimisation can be achieved and is likely to be material. Indeed, the optimisation the ACCC seeks is ill-defined, with the ACCC providing no examples of what further optimisation might be possible, let alone practical, and seemingly unable to demonstrate that that theoretical further optimisation is a common feature of the TSLRIC+ models in use internationally.

25. Despite this, the ACCC attempts to place on Telstra the burden of demonstrating that undertaking further, unspecified optimisation would not materially alter the TEA model's results. In Telstra's view, such an approach is not only substantively incorrect but unreasonable and contrary to the purpose of the statutory scheme.

26. In effect, the undertaking mechanism contained in Part XIC of the Act is intended to provide all industry participants with greater certainty and predictability than can ever be achieved through individual access arbitrations. Additionally, the undertaking mechanism should allow greater efficiency in commercial negotiation, as it establishes a clear 'default position' should those negotiations fail, thereby reducing the burden on ACCC resources. Setting an unreasonably high evidentiary standard and engaging in speculation based on possibilities rather than probabilities renders the undertaking mechanism effectively impracticable and otiose.

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[12] The Tribunal, although ultimately finding that there was insufficient evidence to be satisfied that Vodafone's costs were efficient, stated (Vodafone Network Pty Ltd & Vodafone Australia Limited [2007] ACompT 1 [60]):

> *We consider that Vodafone is obligated to adduce some evidence that its costs were efficiently incurred. In saying this, we have no wish to impose a requirement that the submitter of an undertaking to the Commission foresee every possible speculative criticism of its investment and other business decisions. There are limits to the second-guessing of an operator's basic strategic decisions regarding the size of its network, the geographical area it seeks to cover, the level of market demand it seeks to satisfy and the manner of its product development.*

27. Such an outcome is prima facie inconsistent with the statutory test of reasonableness, which plainly intends that undertakings be assessed according to a standard that it is reasonably possible to meet. Setting an impossible hurdle also acts to create unnecessary regulatory risk, which, as the High Court has found, must increase the cost of capital[13] – an outcome plainly contrary to the long term interests of end-users.

B.3 Consistent application of the chosen cost standard

28. Regulatory risk is also unnecessarily increased, and the long-term interest of end-users harmed, by the ACCC's approach in the second area of specific concern to Telstra, namely, consistency in the application of the chosen cost standard.

29. In theory, there are several cost standards that could be used as the basis for access charging. Each of those standards is capable of being defined in such a way that, consistently applied, it would allow full recovery of efficient costs, which is a cornerstone requirement for any sustainable regulatory system. Confidence that the chosen cost standard has been and will be consistently applied in such a way is crucial if investors are to undertake investments that, once made, are sunk. This is true not only in relation to the regulated service at issue, but also in substitute services and in other services that are or could be subject to regulation.

30. The cost standard that has been chosen by the ACCC is TSLRIC+, which it has applied in all instances other than for Local Call and Line Rental services, where regulatory constraints on retail pricing meant a TSLRIC+ access price would exceed the regulated retail price.[14] In choosing to rely on TSLRIC+, the ACCC has emphasised, in claims the Tribunal has subsequently endorsed, that the TSLRIC+ standard:

- Is consistent with outcomes in a competitive market;[15]
- Permits full recovery of efficient costs, while not requiring end-users to pay for inefficiencies in service provision;[16]
- Provides signals that can guide efficient build/buy decisions; and thereby[17]
- Enhances competition in dependent markets; and[18]
- Promotes the long term interests of end users.[19]

31. However, it is apparent that these claims would not be fulfilled were the cost standard not consistently applied. For example, it is difficult, if not impossible, to conceive of a competitive or contestable market that results in producer prices that reflect replacement costs for some items and historical or

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[13] *East Australian Pipeline Pty Limited v Australian Competition and Consumer Commission* [2007] HCA 44, [50].
[14] See Telstra (2008), *Telstra's ULLS Undertaking is Reasonable*, 4 April 2008, section C.2.
[15] ACCC (1997), *Access Pricing Principles – Telecommunications: a guide*, July 1997, page 29
[16] ACCC (2002), *Pricing of unconditioned local loop services (ULLS) – Final Report*, March 2002, p.16
[17] ACCC (1997), *Access Pricing Principles – Telecommunications: a guide*, July 1997, page 29-30
[18] ACCC (1997), *Access Pricing Principles – Telecommunications: a guide*, July 1997, page 30
[19] ACCC (2006), *Assessment of Telstra's PSTN and LCS Undertaking, Final Decision*, 29 November 2006, p.45, see also Re Optus Mobile Pty Ltd & Optus Networks Pty Ltd [2006] ACompT 8, 22 November 2006 [107] and In Re Seven Network Limited (No 4) [2004] 187 FLR 373.

embedded costs for others, depending on which produces the lowest result. The difficulty of conceiving of any such market outcome is all the greater when it is recognised that what the ACCC proposes is that cost elements *within a single service* be valued on different bases, with some inputs having costs determined on a replacement cost basis (i.e. TSLRIC+) and others on a historical cost basis, with the selection being based on whichever produces the lowest total cost. Especially if it is true, as the ACCC contends and the Tribunal has endorsed, that competitive markets set prices on the basis of the costs of a hypothetical new entrant (see section C), then it is apparent that this mixing and matching of cost standards is inconsistent with market outcomes.

32. There is, in other words, no hypothetical competitive market that would set the price of a good so that that price reflected the historical cost of some of the inputs used in the production of the good and the replacement cost of others.

33. The ACCC's approach seems to involve trying to "have one's cake and eat it too". Thus, the costing is undertaken *as if* the network operator could simultaneously have the benefit of an efficient new network with the most up to date technology and of an embedded network which provides some historical cost savings. In reality, however, differently situated providers would have different sources of cost savings. A new entrant with best in use technology might benefit from a more feature-rich, lower cost network, while a long-established incumbent might benefit from having partially depreciated its investment. But the 'price' the new network pays for that benefit is precisely that it is not already depreciated, while the 'price' the old network pays for the benefit of being partially depreciated is precisely that it is not fully up-to-date. It makes no sense to think of a network that gets *both* the advantages of being new and the benefits of being old. Nor does it make sense to think that such a network could determine the level of prices in a competitive market.

34. Equally, a 'mix and match' approach cannot result in expected cost recovery. Thus, if the present value of a stream of TSLRIC+ valuations is equal to the present value of the opening regulatory asset base plus net additions to that asset base, then replacing some elements in that valuation with quanta determined on a historical cost basis will rarely, if ever, allow that equality of costs and expected revenues to be maintained. This is all the more plainly the case when the choice of which costing basis to apply to each element is made with the purpose of reducing the estimated total.

35. The ACCC, in defending this 'mix and match' approach, suggests that it is no different from using TSLRIC+ in respect of some declared services while using RMAC for others.[20] As the ACCC well knows, Telstra believes the ACCC's approach of using differing cost standards for services supplied over the same set of assets is incorrect. However, even setting that aside, the comparison the ACCC draws is flawed. It is one thing to cost an entire service on an RMAC, TSLRIC+ or other basis. It is quite a different thing to price a single service using a mix of the lower of historical cost or replacement cost for inputs.

36. The substitutions the ACCC proposes, although they are inconsistent in application from case to case and time to time, are by no means random. Rather, they are based on an approach that chooses the cost base that yields

[20] ACCC Draft Decision, pages 34-35

the lowest estimate of total costs. Conceptually, this is equivalent to adding together, into a single valuation, nominal and real (inflation adjusted) values, choosing between them on an item-by-item basis so as to minimise the resulting total. No economic meaning, nor any normative significance, can be attached to a cost estimate that is derived in this way. Its sole 'virtue', if it can be called that, is that it leads to a lower, albeit entirely arbitrary, number.

37. Such an approach abandons any economic rigor for the sake of minimising the cost estimate. It is no different from the approach the Tribunal quite properly rejected when, in *East Australian Pipeline Limited,* it criticised the ACCC for putting "*recognised valuation methods to…one side, [in]* ***departing from a quest for value and entering upon a quest for some form of justice or equity***".[21] The Tribunal has also rejected, in the past, the ACCC's decisions with respect to cost methodology which arbitrarily relied upon the lowest of a plausible range of estimates, as exposing regulated businesses to unjustified asymmetric risks.[22]

38. Overall, a regulatory system in which the regulator can jumble values derived from different and inconsistent metrics in the attempt to minimise estimated total costs is plainly incapable of providing regulatory certainty or promoting economic efficiency.

39. Telstra therefore believes that the ACCC's approach, in its Draft Decision, of using TSLRIC+ based estimates for some inputs and historical costs for others is both incorrect in principle and inconsistent with the statutory criteria, including those that go to the long term interests of end-users and the legitimate interests of the access provider.

B.4 The extent of regulatory risk

40. All risk, other than that capable of being costlessly diversified away, must ultimately be paid for. Regulatory risk is no exception. As a result, avoiding unnecessary regulatory risk has been stressed as a goal by regulators, governments and authorities on regulation alike.[23] The approach adopted in the ACCC's Draft Decision is inconsistent with this principle in two important respects.

41. First, inconsistency in the choice of costing standards, and the scope to 'mix and match' those standards without regard to the economic meaning of the resulting composite estimate, itself introduces additional regulatory discretion. The fact that the resulting composite estimate has no discernible economic meaning, or clear relation to the 'thought experiment' in which the ACCC is engaged (notably that of asking what costs would be incurred by an efficient, new build, operator), increases both the regulatory discretion and the resulting additional uncertainty, as there is no external benchmark against which the estimate can be tested. That uncertainty can only increase regulatory risk, deterring investment not only in the service at issue but also in other services that are, or might be, regulated, be it in telecommunications or in other industries.

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[21] *Application by East Australian Pipeline Limited* (2004) ATPR ¶42-006 at 48,804 [19], emphasis added.
[22] *Re Epic Energy South Australia Pty Ltd* [2003] ACompt 5 [90-95].
[23] See for example, Australian Energy Market Commission, Rule Determination – National Electricity Amendment (Pricing of Prescribed Transmission Services) Rule 2006 No.22, 21 December 2006, p.26-27, Government Response to Productivity Commission Review of the National Access Regime, Response to Recommendations 6.1 & 6.3/

42. This effect has been recognised by the ACCC itself in its decision on Telstra's application for an exemption on the supply of ULLS to SingTel Optus in areas where SingTel Optus has in place its HFC. In that decision, the ACCC argued that if it granted the exemption Telstra sought, that would necessarily lead potential builders of facilities to expect or at least fear the loss of regulated access to services.[24] The ACCC also claimed that the resulting chilling effect would be particularly acute as it had no means of committing to forebear from repeating its actions in future.[25] The ACCC, in other words, claims that it cannot bind its hands with respect to its future conduct, so that conduct that seems opportunistic in a particular instance will send a damaging signal as regards the future.

43. To the extent to which the ACCC genuinely believes those claims, it cannot dispute that adopting a 'mix and match' approach in this instance, without any basis in economic principle and substantially altering its previous approach, will send a powerful, adverse signal to investors.

44. Second, the regulatory risk thus created is made all the greater by the ACCC's transparent attempt to shift whatever costs it does recognise into future periods by means of a heavily back-loaded depreciation profile (see section D and E.8). That profile shifts the bulk of overall cost recovery to the final years of the network's life. Indeed, as noted below, under the ACCC's own modelling, the network cost component of ULLS prices would need to increase from $9.81 to approximately $68 per SIO per month toward the end of the ULLS assets' lives. Given that the assets which account for the bulk of the investment (conduit) are estimated to have 40 year lives, the ACCC relies upon its conduct 30 years into the future to comply with its statutory obligations of allowing efficient cost recovery. Telstra is not aware of any other regulator that has sought such large-scale deferral of cost recovery. That it provides no compensation for this increased risk only highlights the extent to which that deferral of cost recovery is unreasonable.

45. The ACCC's back-loading of depreciation sits uncomfortably with its own view, set out in its discussion of the WACC, that Telstra's investors (or the builder of a new efficient network) could benefit from the tax advantages of accelerated depreciation. Even if the tax benefits existed, which Telstra disputes (for reasons dealt with below), from an investor's perspective, the income generated by those benefits would be deferred many periods hence. As a result, the ACCC seeks to claim the cost reductions from the alleged tax benefits by front loading depreciation, while back loading the actual return of capital to the distant future. Not only is this an inherently inconsistent treatment of cost recovery but it also makes all the plainer the abandonment of a principled approach in favour of one that takes the minimisation of the resultant cost estimate as its prime objective.

46. However, the more important point is that this long-term deferral of cost-recovery must create great uncertainty as to whether that recovery will ever occur. That the ACCC is willing, as its Draft Decision suggests, to abandon a long-established approach to cost determination for the sake of artificially reducing the estimate of costs, can hardly provide investors with confidence in this respect. These doubts are necessarily strengthened by the sheer magnitude of the increase in long term charges implied by the back-loaded depreciation profile. That increase involves an almost six-fold increase of

[24] ACCC Telstra's exemption application in respect of the Optus HFC network – Final decision, November 2008, p.113
[25] ACCC Telstra's exemption application in respect of the Optus HFC network – Final decision, November 2008, p.114-115

access charges over the 40 year life of duct and pipe assets. Telstra submits that there is no record or precedent for any such increase in the history of regulated telecommunications access charges in Australia or overseas. The fact that in its Draft Decision, the ACCC claims (in Telstra's view, incorrectly) that increases in access charges can lessen competition (by reducing access seekers incentives for investment in DSLAMs, albeit for reasons the ACCC does not explain) makes it even more doubtful that an increase of the magnitude it proposes would ever actually occur.

47. From an economic perspective, there is a vital issue here of the credibility of the implied regulatory promise. The credibility of commitments becomes especially important when it is desirable for economic agents to make investments that have an element of irreversibility in reliance on actual or implied policy promises, and which hence are vulnerable to loss should those promises not be kept. Time inconsistency is the canonical form of this commitment problem in economics, with the term referring to situations in which conduct by a policy-maker that is rational *ex ante* is not (and is known not to be) rational *ex post*, so that rational actors will discount the probability of a commitment to that conduct being maintained.

48. The ACCC, in its HFC decision, itself states that it is not in a position to commit to acting in a time-consistent way.[26] This makes it all the more extraordinary that, in these proceedings, the ACCC would both act in ways that seemed to confirm the perception of time-inconsistency (by reversing its long-standing commitment to TSLRIC+) and then seek through the back-loading of depreciation to force investors to rely on a promise to repay costs but only in the very distant future. That the ACCC also seeks to set the WACC as if the investments involved little risk must make the contradiction even more glaring.

B.5 Conclusion

49. Central features of the ACCC's Draft Decision are at odds with the requirement of appropriate and sustainable regulation to ensure consistent, predictable and transparent application of regulatory standards, and especially of costing approaches. Rather, they suggest an approach that jumbles differing cost standards, and abstracts from efficiency criteria and notably from the goal of promoting investor confidence, all in an attempt to cobble together a low estimate of costs.

50. No economic meaning can be placed on a cost estimate that combines items based on historical costs with items valued on a replacement cost basis, with the selection seemingly based solely on an attempt to minimise the total cost. The resulting total will never allow either financial or physical capital maintenance, will not reflect the costs that would be incurred by a new entrant or by a replacement network and cannot be analogised to the outcome of any competitive market process. It is difficult to see what benefit that estimate will have other than being lower than estimates derived from more rational approaches to asset valuation.

51. The ACCC seems to believe that generating a low cost estimate is, for some reason, better than a higher number, but this is confused. Costs are costs and understating them does not promote efficiency in any respect; it merely

[26] ACCC (2008), *Telstra's Exemption Application in Respect of the Optus HFC Network: Final Decision*, November 2008, at page 115

distorts market dynamics, immediately makes the access provider worse off, and compromises confidence and investment in the long run.

52. There is no reason why low access prices *per se* would be in the interests of users of the declared service. Additionally, and importantly, there is no sense in which access seekers could have a legitimate interest in obtaining prices that are below a properly constructed measure of costs or which hold the prospect of distorting long term investment decisions.

53. Finally, it is obvious that cost estimates that are artificially minimised do not take adequate account of the legitimate interests of the access provider.

C The ACCC's consideration of the reasonableness of TSLRIC+ and international benchmarking is inconsistent with precedent

54. Despite many decisions over many years proposing that TSLRIC+ is the appropriate standard to apply for pricing ULLS, the ACCC has cast doubt in its Draft Decision on whether it continues to believe that TSLRIC+ pricing meets the relevant legislative criteria. In a press release accompanying the Draft Decision, that ACCC states:[27]

> *Further, the way in which Telstra has applied the ACCC's long standing pricing principle in this undertaking has caused the ACCC to review the application of the current pricing principle [TSLRIC] to both the existing copper network and possible future network developments.*

55. Further, the ACCC states in the Draft Decision:[28]

> *However, the ACCC acknowledges that the past rationale of promoting efficient build/buy decisions through the application of TSLRIC+ may be less relevant in a regulatory environment where the competitive state of telecommunications markets is changing and there may be fewer prospects for efficient by-pass.*

56. Additionally, the ACCC places a considerable amount of weight on a simplistic international benchmarking exercise in its Draft Decision rejecting Telstra's Undertaking for TSLRIC+ based prices. The ACCC states:[29]

> *In this regard, while the TEA model can provide some guidance on the estimated forward-looking costs of providing the ULLS, it is not the only source that the ACCC has relied on in assessing the undertaking. In particular, the ACCC has examined international prices for the ULLS.*

57. The ACCC's Draft Decision, if carried through to a final decision, would be contrary to the principles set out above and would represent an unjustified abandonment of precedent developed by the ACCC and the Tribunal to date. The precedent that has been developed by the Tribunal, and the ACCC itself, stresses that prices based on TSLRIC+ estimated with regard to an efficient new entrant's costs are reasonable and casts considerable doubt on the usefulness of international benchmarking. In particular, the precedent,

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[27] http://www.accc.gov.au/content/index.phtml/itemId/848849
[28] ACCC Draft Decision, at page 34
[29] ACCC Draft Decision, at page 44

comprising the accumulated weight of repeated findings by the ACCC and the Tribunal, states that:

- The overall objective of the reasonableness criteria is to achieve the outcomes of a competitive market (section C.1);

- In competitive markets, prices are driven down by new entrants to reflect the costs of those entrants (section C.2); and,

- Except with a robust consideration of many complex factors, international benchmarking has no value in the consideration of whether prices are reasonable and, even then, it can at best only provide an alternative view point and clearly not a definitive test of reasonableness (section C.3).

C.1 The objective of the statutory criteria is to achieve the outcomes of a competitive market

58. The very reason for declaring a service under Part XIC is because competition does not exist in the market in which that service is supplied. If the market were effectively competitive, then the service would not be declared. Thus, with regard to pricing declared services, the objective of the legislative criteria is to achieve the competitive market outcomes that would exist if the market for the supply of those services was effectively competitive.

59. This 'basic objective' was emphasised by the Tribunal in its assessment of Vodafone's undertaking for MTAS. The Tribunal stated:[30]

> *The starting point in assessing the submissions on this issue is, as throughout this proceeding, the principle that prices should be based on the forward looking costs of an efficient operator.* ***The basic objective is to set prices that promote economic efficiency, which is the outcome that could be expected in a competitive market****. It is because mobile termination has been declared as a service that inherently lacks the discipline of competitive forces that it is subject to Pt XIC of the Act.*
>
> *Of course, the basis of reasonable prices in terms of s 152AH must proceed from the terms of that section, and it is those terms that direct the assessment process towards considerations of efficiency and competitive outcomes. [Emphasis added]*

60. In its consideration of Optus' undertaking for MTAS, the Tribunal also stated:[31]

> *We consider that determining the costs of a stand-alone mobile operator, for the purpose of determining whether the price terms of the undertaking in relation to Optus' DGTAS are reasonable, is more consistent with the matters set out in s 152AH and the objectives in s 152AB than requiring Optus to take into account the cost consequences of it being an operator of a fixed-line network and a mobile network.* ***If the objective of regulating a particular industry is to replicate, as far as possible, the environment of a competitive market, then it is desirable to use as a***

[30] Re Vodafone Network Pty Ltd & Vodafone Australia Limited [2007] ACompT 1 (11 January 2007), 68-69
[31] Re Optus Mobile Pty Limited & Optus Networks Pty Limited [2006] ACompT 8 (22 November 2006), 122

benchmark criteria or principles which would exist in a competitive market, such as determining the costs of an operator operating in that market. *[Emphasis added]*

61. The ACCC has also recognised this basic objective. In its guide to pricing principles the ACCC stated:[32]

> *…the [declared] service must be supplied in markets where the forces of competition, or the threat of competition, work poorly to constrain the price of access to efficient levels.* ***A benchmark for an efficient price is the price that would occur, given the characteristics of the market, if the access provider faced effective competition****. [Emphasis added]*

62. Precedent also shows that the prices that would occur in a competitive market do not reflect perfect competition but, rather, effective competition. The ACCC acknowledges that perfect competition is a theoretical construct that does not occur in practice:[33]

> *At the theoretical level, the concept of 'perfect competition' describes a market structure in which no producer or consumer has the market power to influence prices. Economic theory suggests that perfectly competitive markets have a large number of buyers and sellers, goods/services are perfect substitutes, all firms and consumers have complete knowledge about the pricing/output decisions of others and all firms can freely enter or exit the relevant market.*
>
> *In reality, these conditions are rarely found in any market or industry – even those in which competition between rival firms is relatively intense. It is certainly not a realistic threshold for fixed-line telecommunications markets given that:*
>
> > *- many services are provided by a small number of providers, in a situation where the incumbent as owner of the only ubiquitous local loop remains the predominant provider of most (if not all) essential inputs;*
> >
> > *- the industry is characterised by economies of scale, scope and density over large ranges of output;*
> >
> > *- services are often differentiated from each other; and*
> >
> > *- there are constantly evolving service types and network technologies.*
>
> *The concept of 'effective competition' recognises the practical limitations of the theory of perfect competition.*

C.2 In competitive markets, prices are driven down by new entrants to reflect the costs of those entrants

63. With respect to market prices in an effectively competitive market, the following ACCC and Tribunal precedent stresses that:

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[32] ACCC (1997), *Access Pricing Principles – Telecommunications: A Guide*, July 1997, at page 12
[33] ACCC (2008), *Telstra's Local Carriage Service and Wholesale Line Rental Exemption Applications: Final Decision and Class Exemption*, August 2008, at page 60

- Pricing above the costs incurred by a new entrant would invite the entry of such an operator

- The costs actually incurred by an incumbent operator are irrelevant

- New entrant's costs might differ from an incumbent's

- Competitive market prices will not reflect the costs of the most efficient operator – that would be unrealisable in actuality under even the best of circumstances.

64. The Tribunal and ACCC envisage that the recovery of an incumbent's costs is not guaranteed by competition. Rather, new entrants compete against incumbents, and newer entrants compete against older entrants, until the point when prices in the market reflect efficient new entrants' costs. Thus, in terms of price outcomes, an efficient new entrant's cost is the benchmark for the price outcomes expected in a competitive market, not the costs of an incumbent operator.

65. The Tribunal considered what outcomes would eventuate in a competitive market in its decision in relation to Vodafone's MTAS undertaking. The Tribunal stated:[34]

> *What outcomes would eventuate in a competitive market? In such a market, pricing above the costs that would be incurred by a new entrant having access to the latest and most cost-effective technology would invite the entry of such an operator. Regardless of the actual costs, capital equipment and modes of operation of the incumbent operators, competition would force them to price as if they were using the latest technology. This would extend beyond the age and type of their capital equipment even to the design of their networks.*

66. Similarly, in its guide to pricing principles the ACCC stated:[35]

> *An access price consistent with the legislative criteria is difficult to determine ex ante. The approach adopted by the Commission to guide it when performing its access pricing functions under Part XIC is to consider the constraints that would be placed on the pricing behaviour of access providers if they faced effective competition (given the characteristics of the market). Specifically prices should be consistent with the levels that would occur if the access provider faced the threat of being displaced as a supplier.*

67. The ACCC acknowledged this new entrant benchmark in the Draft Decision. In this context, the ACCC stated that the intent of TSLRIC+ is (or, in the ACCC's view, was) to reflect the costs of a new entrant (or access seeker) entering the market for the supply of ULLS (building rather than buying):[36]

> *The application of TSLRIC+ ('+' refers to the addition of common and indirect costs) pricing is based on the idea that, in certain circumstances,* ***it can be desirable to set an access price that mimics the price that would prevail if the access provider faced effective competition and therefore faced the threat of being displaced as a supplier through***

[34] Re Vodafone Network Pty Ltd & Vodafone Australia Limited [2007] ACompT 1 (11 January 2007), 70
[35] ACCC (1997), *Access Pricing Principles – Telecommunications: A Guide*, July 1997, at page 14
[36] ACCC Draft Decision, at page 34

> ***the possibility of bypass**. Such an access price could potentially promote efficient 'build or buy' decisions, such that an access seekers' decision to build by-pass infrastructure would be based on the relative resource cost of doing so. **Setting prices based on TSLRIC+ was intended to create the right incentives for carriers operating in downstream markets to make the appropriate choice as to whether they should invest in their own upstream infrastructure (i.e. build) in order to provide services to end-users, or to seek access from an existing upstream provider of the listed service (i.e. buy).** [Emphasis added]*

68. The ACCC also states:[37]

> *An important reason for preferring forward-looking costs estimates as a basis for access pricing is that access prices based on forward-looking costs will be more likely to lead to an efficient 'build-or-buy' investment decision by access seekers. The costs relevant to an access seeker deciding whether or not to build its own network are forward looking costs as currently evaluated, as these are the costs that the access seeker would actually have to incur if it constructed its own competing facilities, and the costs that it could avoid seeking access to existing facilities instead.*

69. The ACCC's consultants also concur. In their review of the economic principles Ovum concluded:[38]

> *The TEA model should estimate the costs that a new entrant would incur to supply the ULLS product.*

70. Furthermore, a new entrant's costs can, and usually do, differ from those of an incumbent for a number of reasons. For example, an incumbent would have adopted a network design and technology based on a reasonable set of expectations at the time. A new entrant, however, might adopt a different network design and/or technology today given a different set of circumstances. Similarly, an incumbent would have adopted the most efficient construction practices and placement procedures in the past, while a new entrant might have to adopt a different set of practices and procedures today, given it faces different environmental factors.

71. In its Vodafone decision, the Tribunal determined that the assumption that the most efficient costs, whether the incumbent's or another firm's, would be brought to bear by new entry into a competitive market is "*unrealisable in actuality under even the best of circumstances*". The Tribunal stated:[39]

> *What outcomes would eventuate in a competitive market? In such a market, pricing above the costs that would be incurred by a new entrant having access to the latest and most cost-effective technology would invite the entry of such an operator. Regardless of the actual costs, capital equipment and modes of operation of the incumbent operators, competition would force them to price as if they were using the latest technology. This would extend beyond the age and type of their capital equipment even to the design of their networks.*

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[37] ACCC Draft Decision, at page 80
[38] Ovum Economic Review, at page 5
[39] Re Vodafone Network Pty Ltd & Vodafone Australia Limited [2007] ACompT 1 (11 January 2007), 70-77.

Moreover, no exemption would be given by the forces of competition to existing operators who might be smaller and consequently, or for other reasons, have higher costs than some other operators. For that matter, competitors would not allow a new entrant the luxury of charging in accordance with the higher unit costs associated with starting up a new venture.

These are the considerations that lead to the benchmark of the costs that would be incurred by an efficient, forward looking new entrant. However, it is relevant that an efficient new entrant – even, if realistic markets are envisaged, a hypothetical one – would not itself have immediate access to the economies of scale and scope that might be achievable over time.

It can be seen that, in seeking to emulate the outcomes realisable in a competitive market, some regard must be had to the actual process (the dynamics) by which operators compete and establish themselves in markets. It is not obvious that objectives of economic efficiency lead to basing prices on the costs that an efficient new entrant could achieve after some indefinite period. Similarly, the terms of s 152AH direct the assessment of reasonableness towards some aspects of market outcomes that go beyond over-simplified assumptions that could only be appropriate were perfect competition a realistic outcome.

As might be expected, this means that the task of deciding how to assess the efficient forward looking costs of a new entrant must involve some balancing of opposing considerations and must take account of the actual markets in which the relevant services are provided. This is difficult, not least because, for example – but typically for a regulated service – a competitive market in mobile termination services can only be hypothesised. That market lacks competition because it has structural, and perhaps institutional and regulatory, features that preclude effective competition. The lack of competition is not necessarily a temporary phenomenon, nor one that will be cured by any foreseeable changes in the market itself.

The Commission has dealt with this balancing requirement and the need to take actual circumstances into account by developing the idea of an efficient operator with the scale and scope achievable by all MNOs. In present circumstances that involves the efficient costs associated with a 25% market share. (We note that earlier in its assessment of Vodafone's undertaking, when it released a draft determination, the Commission took the harder position that costs should be assessed by reference to the "most efficient operator".)

As implied above, there is sense in benchmarking against the most efficient operator on the grounds that in a competitive market no operator would be able to charge more than the most efficient operator. However, whether this would occur in real-life markets, even those considered effectively competitive but subject to normal features such as product differentiation, is another matter. The most efficient operator may well be able to price somewhat above its costs. In the sort of highly competitive market often hypothesised it is difficult to see how any less efficient operators could survive. The question is how close prices would actually be to this benchmark.

But even if the most efficient operator were chosen as the benchmark, the other difficulty remains that that operator would not be forced to base its prices on the costs of a hypothetical network optimised for all-new design and technology. ***For that to happen the threat of new entry would have to be based on an ability, unrealisable in actuality under***

> ***even the best of circumstances, to bring the new design and technology to bear immediately in a legacy-sized network***.
>
> *It might therefore be thought that the concept of basing prices on the costs of an efficient operator with the scale and scope achievable by all MNOs represents a compromise between these somewhat offsetting elements of how a competitive market – even a hypothetical one – would operate and the outcomes that it would produce.* [Emphasis added]

72. In summary, the pricing outcomes in an effectively competitive market do not reflect the perfectly efficient costs of a hypothetical operator. The real world is populated by real firms facing real challenges. The best among them are not perfect, they are simply better than their rivals.

C.3 Simplistic international benchmarking provides no guidance on whether a price is reasonable

73. In the Draft Decision, the ACCC has relied on an international benchmarking that takes into account, in Telstra's view insufficiently, only purchasing power and population density. With respect to international benchmarking, the following ACCC and Tribunal precedent shows that:

- There are many factors that need to be considered in an international benchmarking analysis
- It is insufficient to consider only a subset of these factors
- In the case of ULLS, it is insufficient to consider only purchasing power parity and line density
- Considering only a subset of factors could result in the incorrect comparison being made
- Possession of all the information required to sufficiently take into account all the factors is tantamount to a cost model

74. Generally, simplistic international benchmarking provides no evidence as to whether a price satisfies the reasonableness criteria.

C.3.1 Optus MTAS Undertaking

75. Optus, in support of its June 2004 undertaking in relation to MTAS, submitted an international benchmarking analysis based on 3 'comparator' countries: Malaysia, Sweden and the UK. However, the ACCC rejected that benchmarking study on the basis that there were at least 10 factors that should be accounted for in an international benchmarking comparison:

- Spectrum allocation;
- Network purchasing power;
- Vertical integration of fixed and mobile network operators;
- Geographic terrain;
- Population density;

- Network usage and scale;
- Land and labour costs;
- Cost of capital;
- Technology employed; and
- Exchange rate adjustments.

76. In rejecting Optus' international benchmarking analysis, the ACCC concluded that there is little point in making adjustments for only a subset of the factors that might mean costs in one country are within reason different to another's. The ACCC stated:[40]

> *However, as outlined in the MTAS Final Report, the Commission is of the view that any analysis that attempts to make adjustments for factors that drive cost differences between international jurisdictions should be conducted comprehensively, or not at all. In other words, in the Commission's view, it would only be appropriate to adjust estimates of cost from other jurisdictions for Australian-specific factors if all major factors that influence costs in different jurisdictions could be identified and quantified. This is primarily because adjusting cost estimates from other jurisdictions for each of these factors individually will push estimates of the cost of providing the MTAS in different directions and by different amounts.* ***Hence, it is unclear in which direction (and by what amount) a MTAS cost estimate would change if it were adjusted for all factors in combination.***
>
> *For these reasons, the Commission believes that it would be inappropriate to adjust only for a subset of these factors in isolation of other possible adjustment factors as the results may be more misleading than making no adjustments at all.*

77. The ACCC concluded:[41]

> *The Commission considers that, by failing to make adjustments for all of the factors which have been identified by the Commission, Analysys and CRA itself, the international benchmarking can only still be considered partial. Therefore, the Commission believes it is not a sound basis upon which to inform the appropriate costs of supplying the MTAS in Australia.*

78. In the same decision the ACCC commented on the complexity of the task of international benchmarking and concluded that a bottom-up cost model (such as the TEA model) provides superior information. The ACCC stated:[42]

> *In terms of identification and implementation, the Commission believes that adjusting for all the possible factors that may lead to cost differences between international jurisdictions is an extremely complex task and that some of the more complex adjustments may not be possible at all due to a lack of data.*

79. The ACCC concluded:[43]

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[40] ACCC Final Decision on Optus' 2004 Undertaking, at page 117, emphasis added
[41] ACCC Final Decision on Optus' 2004 Undertaking, at page 118
[42] ACCC Final Decision on Optus' 2004 Undertaking, at page 117

Moreover, as noted by its consultant, Analysys, the possession of the information sufficient to make a comprehensive adjustment is tantamount to that necessary to construct a bottom-up model. In the Commission's view, use of the information for the latter purpose would be superior to using it for adjusting cost estimates from other jurisdictions.

80. That decision was ultimately appealed to the Tribunal. The Tribunal concurred with the ACCC, concluding:[44]

We do not consider that the international benchmarking analysis proffered by Optus is of any assistance to us in determining the issue as to the reasonableness of Optus' price. The range of prices derived by CRA is so broad as to be of little assistance. Further, the nature of the adjustments made by CRA and the adjustments to which it gave no consideration, render the figures derived an inadequate comparator for Australian conditions.

In any event, the nature of the international benchmarking exercise was such that it teaches very little, or nothing at all, as to whether Optus' price terms are reasonable having regard to the matters set out in s 152AH and the objectives in s 152AB. In order to place any reliance upon the international benchmarking analysis it would be necessary to know much more about the regulatory environment within which they were determined, the state of the relevant markets and the socio economic environment in which the mobile services were operative.

C.3.2 Telstra ULLS and LSS connection charges

81. In Telstra's undertakings for ULLS and LSS connection charges, the ACCC came to a similar view as it did for Optus MTAS undertaking– that international benchmarking "*cannot be used in preference to the conclusions the ACCC has drawn from applying the statutory criteria in its detailed analysis*". The ACCC stated:[45]

…it is difficult to draw definite conclusions based on comparisons to overseas jurisdictions because of possible differences in a host of factors, such as the regulatory environment, market shares of non-incumbents, state of competition, technical specifications of the ULLS and LSS products and structure and configuration of PSTN networks. These differences may be significant enough that no conclusions should be drawn from simple price comparisons. As far as the undertakings assessment function is concerned, the ACCC considers that the overseas benchmark data it has gathered cannot be used in preference to the conclusions the ACCC has drawn from applying the statutory criteria in its detailed analysis of ULLS and LSS connections in Australia.

C.3.3 Telstra's 2005 ULLS undertaking

82. In support of its December 2005 undertaking in relation to ULLS, Telstra made a submission on international benchmarking for ULLS prices. On review of the ACCC's decision, the ACCC submitted to the Tribunal:[46]

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[43] ACCC Final Decision on Optus' 2004 Undertaking, at page 124
[44] Optus Mobile Pty Ltd & Optus Networks Pty Ltd [2006] ACompT 8 [296-297]
[45] ACCC 92006), *Assessment of Telstra's LSS undertaking relating to connection and disconnection charges: Final Decision*, April 2006, at pages 62-63
[46] Transcript of Proceedings, Telstra Corporation Ltd (No 3) [2007] ACompT 3 [384]

The Commission contends that, before international benchmarks can be resorted to, the Tribunal must be satisfied that, notwithstanding the differences between Australia and the relevant international jurisdictions, those international benchmarks are reasonable comparators. So you have actually got to be satisfied that you are comparing the Australian position to the country that is being promoted as the benchmark comparator.

83. In the Draft Decision relating to Telstra's Undertaking, the ACCC has relied on an international benchmarking that takes into account, in Telstra's view insufficiently, only purchasing power and population density (see Attachment 3, which shows, among other things, that population density has not been considered appropriately). A benchmarking study taking into account the same factors was presented to the ACCC in support of another undertaking, and was categorically rejected by the ACCC and the Tribunal. The ACCC argued to the Tribunal that taking into account only these two factors was not sufficient:[47]

Well, we said that you have got to know the definition of a regulated service. You have got to know the applicable regulatory framework… the geographic price structure, the cost of capital, the prescribed cost standard, if there is one.

…but Telstra, in their response refer to developments in other countries and they refer to ULLS charges and different types of pricing models, but they only take into account, in their reply, purchasing power parity and differences in line density in the different countries. Now, we say that is not sufficient.

84. In the same matter, the Tribunal reasoned:[48]

We are not satisfied that Telstra has provided sufficient evidence to support the use of international benchmarking. Although Telstra's benchmarking report contains summary information regarding ULLS regulation in other jurisdictions, in order to place any reliance upon the international benchmarking analysis it would be necessary to know much more about the regulatory framework, the cost of capital and the price structures employed in other jurisdictions. The summary tables provided by Telstra did not provide us with sufficient information to determine whether the benchmarks were reasonable comparators for Telstra's ULLS monthly charges. In addition, we are not satisfied that the adjustment of the benchmark ULLS charges only for purchasing power parity and line density takes into account all the adjustments that need to be made to the benchmark ULLS charges for them to be reasonable comparators. The costs of providing the ULLS (or similar services) can vary between jurisdictions for a myriad of reasons and we need to be careful when comparing cost estimates across different jurisdictions. The benchmarking analysis conducted by Telstra only makes adjustments for a small number of the possible differences that might exist to generate cost differences in the surveyed jurisdictions. Telstra has not provided us with sufficient evidence to satisfy us that the cost estimates from other jurisdictions considered by Telstra in its international survey do not require further adjustment before we can rely on them to assist in determining the reasonableness of a proposed access charge for the ULLS.

[47] Transcript of Proceedings, Telstra Corporation Ltd (No 3) [2007] ACompT 3 [384-385]
[48] Telstra Corporation Ltd (No 3) [2007] ACompT 3 [385-386]

In summary, we do not accept Telstra's contention that we should be satisfied of the reasonableness of Telstra's ULLS network costs by having regard to cost estimates generated by the NERA model, the historical ULLS network costs, the current ULLS network costs or international benchmarks. We have not found that these estimates provide alternative support for the reasonableness of Telstra's estimated network costs for the periods covered by the undertakings.

85. Precedent therefore clearly stresses that simplistic international benchmarks provide no evidence as to whether a price satisfies the reasonableness criteria.

C.4 Conclusion

86. By deviating from prices based on the TSLRIC+ estimated with regard to the costs of an efficient new entrant, in favour of a simplistic application of international benchmarking, the ACCC has abandoned the precedent that has been developed by the Tribunal and the ACCC itself over the last decade.

87. For reasons set out in section B above, this is both unreasonable in itself and likely to lead to outcomes that are inconsistent with the statutory criteria.

D The ACCC's assessment of the reasonableness criteria

88. The price proposed in Telstra's Undertaking is supported by the result of the TEA model which calculates the TSLRIC+ of an efficient new entrant supplying ULLS. Telstra's Undertaking, if it is accepted by the ACCC, will achieve the following outcomes that are relevant for an assessment as to whether such prices are reasonable for the purpose of the statutory test.

89. First, Telstra's Undertaking price is based on the TSLRIC+ of an efficient new entrant which, as set out in the discussion on Tribunal and ACCC precedent in section B, will reflect the competitive market outcome. The competitive market outcome is the very outcome that declaration of services is aimed at achieving. In other words, under Telstra's Undertaking price, access seekers would face similar prices to those that they otherwise would face if the ULLS market was effectively competitive and the service was not declared.

90. Second, prices that reflect the cost of a new entrant will promote the most enduring and effective form of competition – facilities-based competition.[49] Such prices mean that new entrants into the market can at least expect their financial capital to be maintained. The expectation of financial capital maintenance is a necessary condition to attract entry and encourage reinvestment. Investors will not commit funds into establishing, expanding or maintaining competitive facilities if they expect a regulator to set prices below the level that would allow them to maintain their financial capital.

91. Facilities based competition is achievable. It has been achieved in related markets, as discussed by the ACCC in its final decision to grant Telstra exemptions for the declared Wholesale Line Rental and Local Call services.[50]

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[49] A distinction is drawn between (i) facilities-based competition, which describes intermodal competition between firms that have their own and different networks, (ii) quasi-facilities-based competition, which describes access seekers that purchase ULLS and build their own DSLAM facilities, and (iii) resale-based competition, which describes access seekers who invest in very little of their own facilities.

[50] ACCC (2008), *Telstra's Local Carriage Service and Wholesale Line Rental Exemption Applications: Final Decision and Class Exemption*, August 2008, at page 70

92. Indeed, the beginnings of facilities-based competition for ULLS substitute services have developed in the markets in which ULLS is supplied. Throughout Australia's capital cities and major metropolitan areas there are numerous network providers relying on various technologies to deliver voice and broadband services. Competitive networks include fibre, wireless, 3G Mobile, HFC and satellite networks mainly in Band 1 and 2 ESAs (see Table 1 and Attachment 4). In Band 2 areas, 3G mobile and satellite networks provide blanket network coverage. Both these technologies are capable of providing end users with voice and broadband services. Additionally, as detailed in the following table, there exist a number of fixed networks that together cover 52 per cent of the ESAs in Band 2. These networks employ a range of different technologies and include Optus' HFC cable, TransACT's fibre network and several fixed wireless networks.

Table 1: Number of competitive networks (other than Telstra)

State/Territory	Total Number of ESAs	Number of ESAs with competitor networks	
		1 network	2 networks
[redacted]	[redacted]	[redacted]	[redacted]

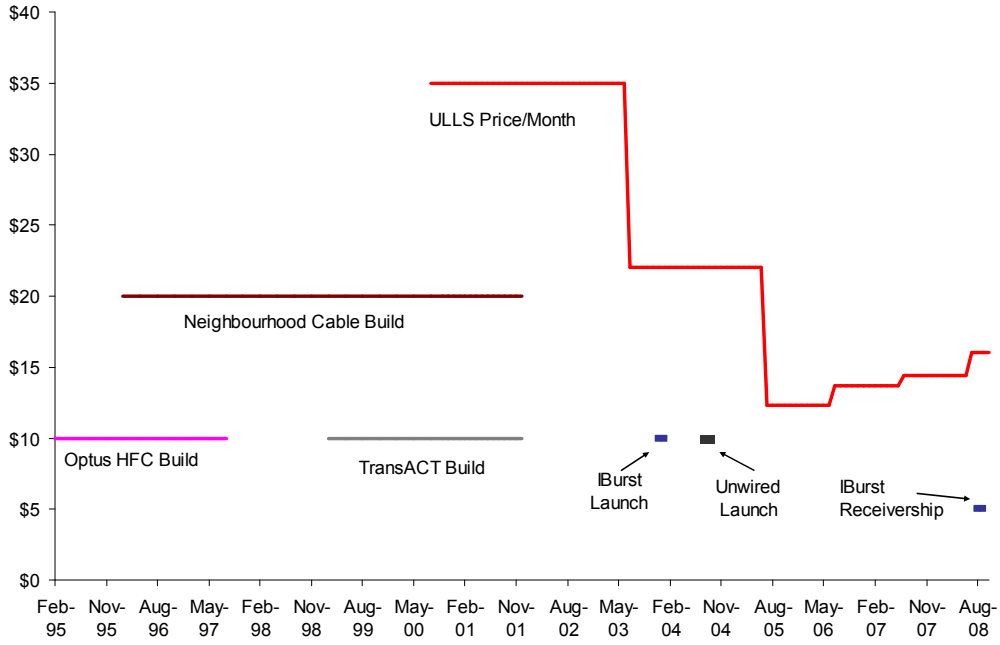
Note: networks included are Optus HFC, Neighbourhood Cable HFC, TransACT, Unwired, iBurst, Amcom's fibre network in SA and WA and e-wire's fibre network in WA.

Source: See Attachment 4.

93. It is notable, however, that the substantial facilities-based entry that occurred did so prior to the ACCC setting very low ULLS prices: $12.30 for 2005/06 (this was made up of $9.81 of network costs) to $16 for 2008/09.[51] This is illustrated in Figure 1 below.

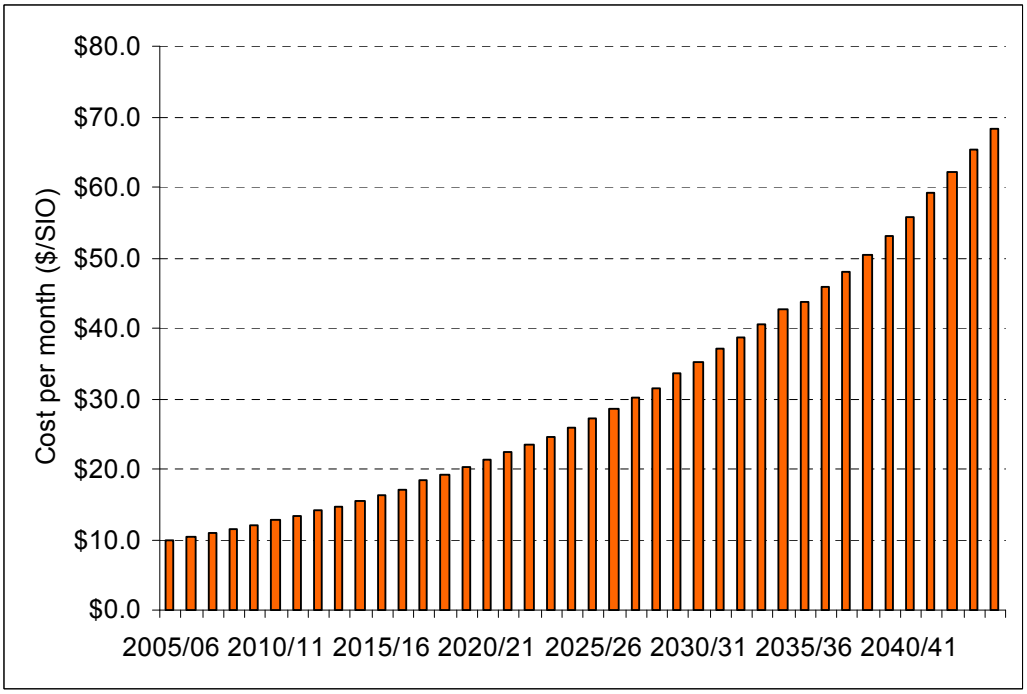
[51] ACCC (2008), *ULLS Pricing Principles and Indicative Prices*, June 2008

Figure 1: Number of competitive networks (other than Telstra)



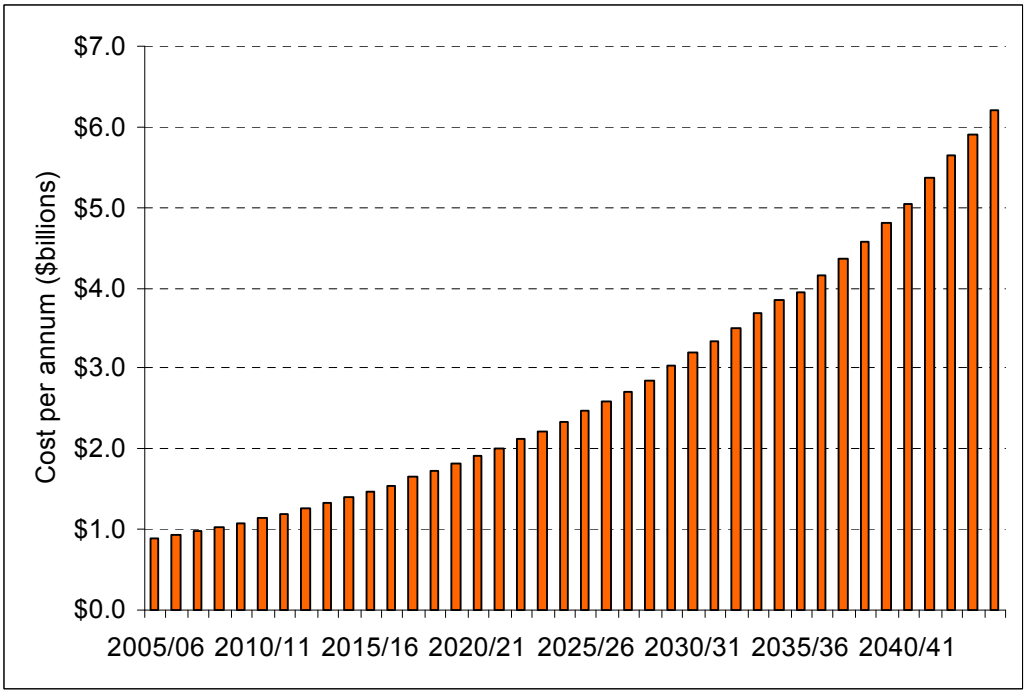
94. The current low ULLS prices are not only the result of the ACCC imposing a low valuation of Telstra's CAN, but also of its questionable use of the tilted annuity method of calculating capital costs (depreciation and cost of capital). The tilted annuity method results in very low prices today by deferring recovery of capital costs into the future. In effect, it means the ACCC requires Telstra to recover only a small amount of the cost of the assets in early years on the promise that Telstra will be allowed to recover a much larger proportion of that cost in the future. This is illustrated in Figure 2, below, by setting out the network cost component of ULLS prices derived from the cost model used by the ACCC to set ULLS prices over the life of ULLS assets. The network costs in year one of the figure below, plus the ULLS specific cost charge, reconcile with the ACCC's ULLS price in 2005/06. As can be seen, the ACCC's choice of modelling methodology allowed it to set low prices in 2005/06 and at present because a substantial amount of cost recovery is held off into the future – the network cost component of prices was assumed by the ACCC to increase 50% in 9 years, over 100% in 15 years and 200% 23 years. Indeed, under the ACCC's own modelling, the network cost component of ULLS prices would need to increase from $9.81 to approximately $68 per SIO per month toward the end of the ULLS assets' lives.

Figure 2: Network cost component of the ACCC's current Band 2 ULLS prices



95. Similarly, Figure 3 below shows the corresponding annual cost recovery that is allowed by the ACCC's current prices and future price path.

Figure 3: Network cost recovery under the ACCC's current ULLS price path



96. As a consequence of those determinations, facilities-based entry has stalled with firms preferring to utilise Telstra's network rather than their own. The ACCC's recent pricing decisions have coincided with one facilities-based competitor going into liquidation. This is, at least to some extent, the effect of setting ULLS prices below the level that gives investors the expectation of financial capital maintenance.

97. That firms now would rather use Telstra's network than build their own, given the ACCC's recent pricing decisions, has been observed by a prominent European economist, Professor Martin Cave. Prof. Cave has observed that, given the ACCC's recent pricing decisions, firms now would rather use Telstra's network than build their own. He concludes, with respect to Optus:[52]

> *The key departure in Australia from practice elsewhere is the behaviour of the major infrastructure competitor in Australia, which [is] Optus, in areas where it has built out its own end-to-end HFC network, capable of providing both narrowband [voice] and broadband services, nonetheless chooses to rent unbundled loops from Telstra as well as using its own installed network. Optus appears to "dual source" with its HFC footprint: sometimes connecting customers to its own network and sometimes using regulated access services.*

[52] Cave, Martin (2007), *Applying the Ladder of Investment in Australia*, 17 December 2007, http://www.accc.gov.au/content/item.phtml?itemId=806382&nodeId=f5d25363c660592b183c99ca0f7c856a&fn=Telstra%20submission%20-%20Schedule%20A%20-%20annnexure%201%20-%20Martin%20Cave%20Report%20(Dec%202007).pdf, at page 2.

> *In other words, Optus is stepping down a rung in the ladder of investment, and limiting the scope of its competition with Telstra. I am aware of no other local network competitor which dual sources in this way. I examine the reasons why Optus may have adopted this policy, one of which one of which [sic] is likely to be the price set by the ACCC for Unconditioned Local Loop Service (ULLS) in Australia or ULLS.*

98. Third, Telstra's Undertaking price provides the expectation of financial capital maintenance for Telstra's and other facilities based competitors' new investments in CAN infrastructure. This expectation is important, because Telstra's network is in constant need of expansion, reinforcement and refurbishment. As new customers come on to the CAN and existing customers move from one location to another, for example, Telstra must change the capacity in the network. To increase capacity, Telstra must dig trenches in built-up areas, lay additional conduit and cable and reinstate the trenches according to local council requirements. These costs would be similar, if not the same, as those faced by a new entrant digging and reinstating the same trenches, and laying the same cable. Over the course of a year, these investments in the CAN are substantial. Telstra alone invested $629m dollars of capital in the CAN in the 2006/07 financial year.[53] Without the expectation of financial capital maintenance, there would be little incentive to make these investments. The reality is that, while ULLS represented a small proportion of total lines, Telstra faced only a small disincentive to invest in the CAN by low ULLS prices ($12.30-$16 per month). However, now that a substantial number of Telstra's lines are used to provide ULLS, the disincentive has increased significantly. Hence, ULLS pricing that is below TSLRIC+ will, particularly in the near future, put pressure on Telstra to reduce its CAN investment below efficient levels.

99. Fourth, with the correct incentives for facilities-based entry, a price properly based on the TSLRIC+ of an efficient new entrant will provide other benefits of competition – improvements in quality standards driven by facilities-based competition and the development of new and innovative services by new entrants. These outcomes cannot be achieved through regulation and regulated pricing alone. It is through actual entry or the credible threat of entry, not regulation, that firms strive to improve service quality and develop new and innovative services.

100. In contrast, pricing below the TSLRIC+ of an efficient new entrant will result, in the long-run, in a continued reliance on declaration and regulation. While the regulator might achieve prices below competitive market levels, by doing so it will never provide the incentive for service providers to improve quality standards or develop new and innovative products. Two examples of this are at the forefront of debate in the telecommunications industry. The first is Telstra's compact to deploy ADSL2+ infrastructure in areas outside a competitive footprint only after Telstra had assurances from government that services provided over that infrastructure would not be declared and subjected to pricing that undermined Telstra's financial capital maintenance.[54] The second is the necessity for the Government to request proposals to substantially rewrite legislation in a way that would prevent Telstra's (and other proponents') expectations of financial capital maintenance being

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[53] Telstra's 2007 Annual Report, at page 44.
[54] Telstra (2008), *Media Release: More high-speed broadband after Government removes roadblock*, 6 February 2008, http://www.asx.com.au/asx/statistics/announcementSearch.do?method=searchByCode&issuerCode=tls&timeFrameSearchType=Y&year=2008

undermined after investing in the replacement of Telstra's copper main network with fibre (the National Broadband Network). While the Government's request for proposals also offered subsidies for extending the investments into rural areas, the investments in Band 2 areas would likely require no Government subsidy, just assurance that regulation could not be used to undermine the proper return of and on the investment being made.

101. Furthermore, while accepting Telstra's Undertaking means increasing ULLS prices, access seekers will continue to make substantial returns on the investments they have made in DSLAMs (Attachment 1 shows that Optus will earn 46.75% or $157m per annum EBIT and iiNet will earn 40.62% or $74m per annum EBIT). They will, more generally, continue to face incentives to invest further in DSLAM infrastructure, where demand supports such investment.

102. Ultimately, on the ACCC's own repeated findings, as endorsed by the Tribunal, a decision to accept Telstra's Undertaking and to set ULLS prices on the basis of the TSLRIC+ of an efficient new entrant is a decision to promote new entry into the market, to facilitate enduring and effective facilities-based competition, and to eventually eliminate the need for declaration of ULLS. A decision to reject Telstra's Undertaking is a decision to undermine continuing investment in Telstra's network, to outright reject the goal of facilities based competition and hence ensure the industry remains reliant on the regulation of resale competition for as long as telecommunications services are required by consumers.

103. The ACCC has, in its Draft Decision, chosen the latter, on the basis of:

- An incomplete review of the specific reasonableness criteria to which the ACCC must have regard; and,

- The ACCC's incorrect view that Telstra's inputs into the TEA model result in an overestimate of TSLRIC+.

104. The ACCC's review of the specific reasonableness criteria is discussed below. The inputs into the TEA model are discussed in the section that follows.

D.1 Promoting competition

105. In determining whether something promotes competition, s152AB(4) requires that the ACCC have regard to:

> *…the extent to which the thing will remove obstacles to end-users of listed services gaining access to listed services.*

106. The price of ULLS can be a factor that determines whether some end users face obstacles to gaining access to listed services. It is not a valid interpretation of s152AB(4) to suggest that prices must be below TSLRIC+ or more generally, that the section permits or encourages the setting of prices below cost. Rather, as discussed below, the intention of s152AB(4) is to ensure that end-users will not face obstacles that are greater than would otherwise be present in a competitive market.[55]

[55] Telstra's Undertaking price is below the TSLRIC+ estimated using Telstra's inputs. This reflects that Telstra has been seeking a $30 commercial price and is consistent with Telstra's previous positions on ULLS pricing in Band 2 areas.

107. First, the Explanatory Memorandum to the *Trade Practices Amendment (Telecommunications) Bill 1996* ("**Explanatory Memorandum**") states, in the context of declaration, that the access regime is not intended to apply where competitive market conditions exist:[56]

> *First, promoting competition in markets for carriage services or services provided by means of carriage services (paragraph (2)(c)). It is not intended that the access regime embodied in this Part impose regulated access where existing market conditions already provide for the competitive supply of services. In considering whether a thing will promote competition, consideration will need to be given to the existing levels of competition in the markets to which the thing relates.*

108. This implies that the prices that would prevail for a service provided in a competitive market should be regarded as presumptively reasonable, as that service would, according to the Explanatory Memorandum, not warrant regulation. Put in those terms, there can be no justification for relying on the promotion of competition criterion to force prices (or obstacles to end-users more generally) below the level that market conditions would otherwise provide for were the supply of services competitive.

109. Second, pricing below the level of a new entrant's cost will, in the long run, unequivocally prevent any entry in the supply of ULLS because, as discussed above, a strict prerequisite for entry is the expectation of financial capital maintenance. Pricing below an efficient entrant's cost will also reduce the level of entry and competition by substitutable networks, which have proven to be the primary source of competition for the incumbent's fixed line CAN based services in other parts of the world (e.g. cable networks in the United States). For example, potential new entrants wishing to supply broadband and voice services over wireless CANs would be forced to compete against ULLS priced below the cost of new ULLS network entry. Even if wireless based entrants could remain competitive in the face of below cost competition through differentiating their products, the corresponding level of new wireless network entry would be below the level that would eventuate were ULLS prices set at economic cost – a level that will also serve to promote efficient ULLS network entry. The same impact will apply for other networks that are substitutable with ULLS in Band 2 areas – Optus' HFC network, TransACT's fibre network, mobile networks (owned by Hutchison, Vodafone, Optus and Telstra) and others (see Attachment 4).

110. Preventing entry in the supply of ULLS and investment in substitutable networks creates obstacles to end users gaining access to a range of choices that they would otherwise have, resulting from the availability of alternative networks and services delivered on those entrant networks. This would be contrary to the particular intention of s152AB(4), which is set out in the Explanatory Memorandum:[57]

> *Further, in considering this objective, proposed s. 152AB(4) requires that regard must be had (but not be limited to) the extent to which the thing will remove obstacles to end-users of carriage services or services provided by means of carriage services gaining access to those services.* ***In this regard, it is intended that particular regard be had to the***

[56] Explanatory Memorandum to the *Trade Practices Amendment (Telecommunications) Bill 1996,* Division 1, Proposed Section 152AB

[57] Explanatory Memorandum to the *Trade Practices Amendment (Telecommunications) Bill 1996,* Division 1, Proposed Section 152AB

> ***extent to which the particular thing would enable end-users to gain access to an increased range or choice of services***. [Emphasis added]

111. Therefore, if ULLS prices are currently below the TSLRIC+ of an efficient new entrant, which is currently the case, then increasing prices closer to cost will promote competition. This price increase is necessitated by a proper interpretation of s152AB(4).

112. Furthermore, any attempt by the ACCC to deliberately price ULLS below the TSLRIC+ of a new entrant in an attempt to increase the number of downstream competitors (ULLS access seekers providing ADSL and voice service over Telstra's CAN) is futile and would have a long term debilitating effect on competition. Such pricing would only serve to distort the evolution of an effectively competitive, facilities-based market for broadband and voice services by propping up inefficient suppliers, thereby undermining otherwise economic investment and innovation. In any case, as discussed in Attachment 1, access seekers currently in the market will continue to earn substantial margins at a Band 2 ULLS price of $30 and will not, therefore, exit the market. Indeed, financial analysis of Optus and iiNet's data shows that at a $30 ULLS price in band 2, they will earn EBIT margins of 40.62% and 46.75%, respectively, from services supplied using ULLS. Indeed, further entry will be profitable.

113. Importantly, however, it is not the number of competitors that the ACCC should give consideration to when assessing Telstra's Undertaking against this legislative objective, but the efficient outcomes that would prevail in an effectively functioning competitive market. Indeed, it is the express objective of the Act to promote competition, not protect specific competitors.[58] If prices are set closer to the TSLRIC+ of a new entrant, the resultant outcomes in downstream markets can be expected to be the same as that which would have resulted had the process of competition in the supply of ULLS worked effectively and if declaration had not been necessary.

114. The TEA model, as constructed and populated with Telstra's inputs, produces costs equivalent to those an efficient new entrant would face. Prices set on this basis would, on the reasoning repeatedly set out by the ACCC and the Tribunal, promote (the process of) competition.

115. In its discussion of this criterion in the Draft Decision, the ACCC relies on four arguments to, in Telstra's view incorrectly, conclude that Telstra's Undertaking does not promote competition.

116. First, the ACCC states:[59]

> *The ACCC considers that prices that reflect efficient forward-looking costs of supply will best promote effective competition in the supply of fixed-line voice services and broadband/DSL services in the present environment…As noted previously, the ACCC considers that Telstra's application of the TEA model results in an estimated access price that does not reflect efficient forward-looking costs. Further, the ACCC's preliminary view is that the TEA model network cost assumptions would result in an over-estimation of the cost of providing the ULLS. As a*

[58] Section 2 of the Act.
[59] ACCC Draft Decision, at page 48

consequence the ACCC does not consider that the TEA Model is able to support a conclusion that the Proposed Monthly Charge reflects the efficient forward-looking costs of providing the ULLS.

117. Telstra submits that the ACCC has erred in its assessment of the TEA model and Telstra's inputs into the TEA model (see section E). The TEA model does calculate the efficient forward-looking costs of supplying ULLS. Therefore, the ACCC is incorrect in concluding that Telstra's Undertaking does not promote competition.

118. Second, the ACCC argues:[60]

The ACCC also considers that the 2008 Undertaking does not provide certainty to access seekers, potentially affecting their ability to compete in telecommunications markets. In particular, the ACCC notes that the 2008 Undertaking does not include all the relevant costs in the monthly charge such that access seekers will need to negotiate with Telstra on other aspects of the monthly charge. The contemporaneous nature of the undertaking assessment also adds uncertainty to the regulatory environment as it is unclear when, and if, all aspects of the monthly charge would come into operation.

119. Telstra's Undertaking encompasses all elements of the ULLS monthly charge.[61] The costs associated with the monthly charge in Telstra's Undertaking are ULLS network costs and ULLS specific costs. Most attention to Telstra's Undertaking has been given to Telstra's estimate of ULLS network costs, since this, on its own, supports a $30 ULLS price. Given this, and for the purpose of limiting the scope of debate around Telstra's Undertaking, Telstra is willing to accept the ACCC's $2.45 cost estimate for ULLS specific costs set out in its 2008 ULLS pricing principles. It is not clear to Telstra what other costs the ACCC might consider should be included and recovered from the monthly charge for ULLS. As such, after acceptance of Telstra's Undertaking, access seekers will not have to negotiate with Telstra on other aspects of the monthly charge and there are no other "aspects of the monthly charge" that would come into operation subsequently. In any event, as noted below, even were it the case that Telstra's Undertaking did not encompass all aspects of the relevant charges, that would not in itself affect whether those elements it did cover were in fact reasonable.

120. Third, the ACCC argues:[62]

Further, the ACCC notes the lack of industry operators with access to the full version of the TEA model - insufficient external review of the full version of the TEA model does not generate confidence in the reasonableness of the undertaking.

121. The ACCC's assertion is incorrect. As set out in section E.1, 18 individuals had approval for, and 13 individuals had, full access to the TEA model and 29 individuals had access to the same version of the TEA model but with simulated vendor prices and simulated network data. Additionally, ACCC staff and ACCC consultants had access to the full version of the model.

[60] ACCC Draft Decision, at page 48
[61] Excluding taxes.
[62] ACCC Draft decision, at page 49

122. Further, all ACCC staff and their consultants have had unfettered access to the full version of the TEA model, with which to conduct their own enquiry and analysis.

123. Fourth, the ACCC states:[63]

> *As noted previously, the ACCC also considers the incomplete nature of the undertaking (absence of key terms and conditions in the undertaking) may create a degree of uncertainty amongst market participants although this, of itself, is not likely to be determinative of reasonableness in most circumstances.*

124. Telstra agrees with the ACCC that this is not determinative of the reasonableness of Telstra's Undertaking, for the reasons set out in section B.1 of Telstra's response to the ACCC's discussion paper.

D.2 Encouraging efficient investment in infrastructure

125. When assessing whether Telstra's Undertaking encourages efficient investment in infrastructure, s152AB(6)(c) requires the ACCC to have regard to:

> *The incentives for investment in:*
>
> *(i) the infrastructure by which services are supplied; and*
>
> *(ii) any other infrastructure by which services are, or are likely to become capable of being supplied.*

126. This criterion should be interpreted with a forward-looking focus. That is, that incentives should be maintained for infrastructure suppliers to undertake efficient investments in:

- The augmentation to and replacement of existing infrastructure;
- The addition of infrastructure to serve new customers; and
- New networks that are or likely to become capable of supplying substitutable services.

127. Additionally, as stressed in section B above, consideration must be given to the signal being sent to investors in other regulated or potentially regulated services as to the consistency and predictability of the regulatory scheme.

128. Generally, efficient new investment is encouraged when investors expect they will receive prices for output that recover the cost of their investment (that is, they expect their financial capital to be maintained intact). Telstra is no different from other competitors in this regard. It is discouraged from investing in facilities when its expectation is that it will not be allowed to set prices at compensatory levels.

129. Demand for Telstra's ongoing investment in the CAN is substantial. For example, Telstra's capital expenditure in the CAN was $629m in the 2006/07 financial year.[64] Figure 4 below illustrates Telstra's capital expenditure in CAN

[63] ACCC Draft decision, at page 49
[64] Telstra's 2007 Annual Report, at page 44

ducts and pipes and CAN copper cables from 2000/2001 to 2006/07.[65] While Telstra has continued to invest in CAN infrastructure, the adverse effect of prices being below TSLRIC+ is evident from declining investment over time.

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130. Much of the investment that does take place requires Telstra to incur costs that are, by their very nature similar to those a new entrant would incur. That is, Telstra must dig trenches, place conduit and haul cable through the conduit ducts, and reinstate the affected area to a similar state as originally encountered. Thus, regardless of Telstra's historic or embedded costs (which also required significant trenching and reinstatement), the cost to Telstra and other existing facilities-based competitors of adding to and upgrading existing networks is very similar to the costs that would be faced by a new entrant undertaking the same work.

131. Thus, the ongoing incentives for investment in infrastructure will not be maintained by prices that are less than the forward-looking costs that would be faced by a new entrant building a network as measured by a properly constructed TSLRIC+ model. Figure 4 shows the real consequence of pricing below this level – reduced investment in infrastructure.

132. ULLS access seekers will also undertake efficient investments if they expect their prices to recover the costs of their investments (that is, they expect their financial capital to be maintained). As shown in Attachment 1, ULLS prices based upon TSLRIC+ will afford access seekers the ability to continue to earn substantial margins on their investments. Additionally, such prices will

[65] Other CAN investment was in, for example, radio equipment, fibre cables, and CAN multiplexing plant.

encourage ULLS access seekers to efficiently become new entrants (as ULLS prices will be based on the cost of new entry) in the supply of ULLS rather than being forever an access seeker (that is, to build rather than buy). This will promote facilities-based competition, leading to a more sustainable and effective form of competition than arbitrage based resale competition. Such competition should be encouraged.[66]

133. If prices are set below the TSLRIC+ of an efficient new entrant, efficient facilities-based investment will be stifled. This is the current outcome that the Australian industry is experiencing, given the current level of ULLS prices, which are extremely low and below cost.[67]

134. In its discussion of this criterion in the Draft Decision, the ACCC argues:[68]

> *The ACCC considers that an access price that reflects efficient, forward-looking costs best meet the objective of encouraging the economically efficient use of and investment in infrastructure.*

And

> *The ACCC's view is that where access prices are based on costs that are not the costs of a fully optimised and efficient network, the resulting access prices may not reflect the efficient costs of providing the service and will not encourage appropriate build/buy decisions. On this basis the ACCC considers that the objective of promoting efficient investment is not achieved when costs of providing the ULLS are based on a network which has not been fully optimised and does not use forward looking and efficient cost values.*
>
> *As discussed above, the ACCC does not consider that the TEA Model is able to support a conclusion that the Proposed Monthly Charge reflects efficient forward-looking costs of providing the ULLS.*

135. Telstra submits that the ACCC has erred in its assessment of the TEA model and Telstra inputs into the TEA model (see section E). The TEA model does calculate the efficient forward-looking costs of supplying ULLS. Therefore, the ACCC is incorrect in concluding that Telstra's Undertaking does not encourage efficient use of and investment in infrastructure.

136. Further, by reference to the term "fully optimised", it appears that the ACCC is creating a standard of optimisation in a cost model that the ACCC cannot or will not define.[69] As Telstra understands it, the ACCC proposes that full optimisation would involve trenching inputs being based on Telstra's actual incurred costs while other inputs should be based on forward-looking efficient costs.[70] This is hardly "optimisation" in any conventional sense and in any event is unobtainable. No provider can benefit from the cost savings associated with undertaking trenching work over many past decades while

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[66] See for example Jan Bouckaert, Theon van Dijk, Frank Verboven "How does access regulation affect broadband penetration?" 19 December 2008 available at http://www.voxeu.org/index.php?q=node/2715

[67] See, for example, Cave, Martin (2007), *Applying the Ladder of Investment in Australia*, 17 December 2007; Eisenach, J. A. (2008), Evidence Relating to the ACCC's Draft Decision Denying Telstra's Exemption Application for the Optus HFC Footprint, 13 October 2008; Ergas, H. (2008), *Wrong Number*, Allen & Unwin, Sydney.

[68] ACCC Draft Decision, at page 50-51

[69] For instance, in a letter dated 2 December 2008, Telstra requested that the ACCC "*provide clarification/explanation regarding which optimisations and efficiencies it would like included in the TEA model design*". The ACCC responded in a letter dated 18 December 2008 by saying "*…the ACCC does not consider that any further explanation/clarification of these issues would significantly assist Telstra in responding to the Draft Decision*".

[70] See, for example, section E.4.

also benefiting from the cost savings associated with deploying the entire network today using the latest technologies. As noted by the Tribunal and the ACCC, in assessing the reasonableness of an undertaking, the ACCC must have regard to the actual process by which operators compete and whether outcomes are realisable in practice.[71] In this case, the ACCC has not had due regard to these factors.

137. The ACCC also argues:[72]

> *The ACCC considers that access prices should be set so as to allow more efficient sources of supply to displace less efficient sources of supply in dependent markets. At an inflated access price, access seekers will look to build and not buy, when it may be more efficient to buy.*

138. This is inconsistent with the ACCC's view that trenching costs should be based on Telstra's historic or embedded costs.[73] In effect, on the ACCC's own arguments, as set out above, efficient build/buy decisions are made when investors face the forward looking costs of "buying" relative to the forward looking costs of "building". To that extent, if prices are based on the historic or embedded costs of trenching (and assuming these are below current costs), then access seekers will never build their own infrastructure even when it is more efficient for them to do so.

139. Put slightly differently, if prices are set below the costs that even a fully efficient new builder would incur, then it is plain that any firm contemplating entry, no matter how efficient it is, will not enter, as it will not expect to recover its investment.

140. The ACCC also argues:[74]

> *The ACCC considers that a significant, unanticipated rate increase may also reduce the incentive for access seekers and potential new entrants to make infrastructure-based investment such as in DSLAMs.*

141. It is notable that, if the ACCC applies its current approach to pricing (particularly its approach to depreciation), the network cost component of ULLS prices will increase from their current levels to almost $70 (as shown in section D from paragraph 90). Moreover, if the rate increase is correcting a previous error, and is based on a credible model that can inform future price expectations, then efficiency and predictability is more likely to be enhanced than undermined. Finally, as shown in Attachment 1, access seekers will continue to earn substantial margins on their DSLAM infrastructure at a ULLS price of $30.

D.3 Encouraging efficient use of investment in infrastructure

142. In a competitive market, it would be economically efficient for an access seeker to use its own CAN infrastructure if the resource cost of doing so was less than the competitive market price of buying access to another firm's CAN infrastructure. Thus, if ULLS prices reflect the prices which would result in a competitive market, those being approximated by the TSLRIC+ of an efficient new entrant, this will encourage access seekers to use their own investments

[71] See the quotes in paragraph 60 in section C.1, and paragraph 69 in section C.2
[72] ACCC Draft Decision, at page 51
[73] ACCC Draft Decision, at page 79-80
[74] ACCC Draft Decision, at page 51

in infrastructure, where they can do so more efficiently. Conversely, setting ULLS prices below TSLRIC+ stifles all new infrastructure investment, including investment by providers who could build alternatives to ULLS more efficiently than the incumbent, because the expectation of financial capital maintenance is a necessary prerequisite for investment to take place.

143. Further, setting input prices below economic cost encourages the production of goods and services in downstream markets that are valued by consumers at less than the cost of their production. This creates an economic inefficiency and imposes dead-weight losses on society.

D.4 Telstra's legitimate business interests

144. The ACCC is required, under s152AH(1)(b) and s152AB(6)(b) to have regard to the legitimate business and commercial interests of Telstra when assessing whether Telstra's Undertaking is reasonable.

145. The ACCC considers that the term 'legitimate commercial interests' should be interpreted as it is in other parts of the Act, that "*it is unlikely the access provider's legitimate business interest would extend to achieving a higher than normal commercial return through the use of market power*", and "*carriers should also not be precluded from earning higher than normal commercial returns where these returns are generated from, for example, innovative investments or unique cost-cutting measures rather than through the exercise of market power or barriers to entry*".[75]

146. This interpretation is broadly consistent with the Explanatory Memorandum, which states:[76]

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

147. The ACCC interprets this quote (at page 54) as meaning:

> *This requires that an access price should not be inflated to recover any profits the access provider (or any other party) may lose in a dependent market as a result of the provision of access.*

148. Prices based on TSLRIC+ meet this criterion interpreted as above. Prices that reflect the costs of a new entrant and competitive market outcomes would not deliver to Telstra or any firm a higher than normal commercial return, as might be secured through the use of market power or barriers to entry. In the exercise of modelling an efficient new entrant's costs with the TEA model, barriers to entry are assumed not to exist. For example, it is assumed:

- The entrant has immediate access to capital to fund the build of a new network;

[75] Draft Decision, at page 52
[76] Explanatory Memorandum to the *Trade Practices Amendment (Telecommunications) Bill 1996*, Division 1, Proposed Section 152AH

- There are no barriers to the new entrant to immediately achieving sufficient scale by building a network to supply approximately 7 million customers throughout Australia, in a very short time;

- There are no barriers to customer acquisition, such as switching costs or brand recognition as the new entrant 'replaces' Telstra's customer base; and,

- The new entrant has access to the latest technology to provide ULLS and best engineering practices.

149. The ACCC considers that two of Telstra's inputs into the TEA model would allow Telstra to recover more than its legitimate business interests – the WACC and the trenching and reinstatement costs.

150. A discussion of the ACCC's comments on Telstra's WACC is included in section E.7, below.

151. In relation to trenching and reinstatement costs, the ACCC appears to consider Telstra's historic or embedded costs (albeit incorrectly in Telstra's view – see section E.4) when assessing whether Telstra's Undertaking is consistent with Telstra's legitimate commercial interests. The ACCC comments (at page 53):

> *In a substantial majority of cases, local copper pairs were installed in turf and only subsequently paved over. Telstra has proposed that forward-looking costs should include the retrenching and re-paving of trenches where local copper pairs were initially laid.* ***The result would be that Telstra would be compensated for costs that it (in most cases) never incurred*** *and is not likely to incur within the economic life of the existing copper pairs.* [Emphasis added]

152. Telstra considers that historic or embedded costs are irrelevant to the consideration of legitimate commercial interests. As discussed above, it is legitimate for Telstra to earn a return that would otherwise occur in a competitive market for the supply of ULLS. Such a return would not be determined by Telstra's historic or embedded costs but rather the costs of an efficient new entrant. Further, in consideration of Telstra's legitimate business interests, the ACCC is singularly focused upon the prevention of recovery of higher than a normal commercial return, while ignoring its responsibility to enable Telstra to earn a normal commercial return. This approach is exemplified through the ACCC's exclusive focus on the prospect that forward looking providers may incur costs that Telstra has not historically incurred, while ignoring all costs which Telstra has efficiently incurred in the past, which can be avoided by new entrants going forward. It is noteworthy that the ACCC takes the opposite tact when considering the interest of persons who have a right to use ULLS. In that instance the ACCC is singularly focused on assuring that those rights are protected through the lowest possible price, while ignoring the danger that the rights can be abused through access to services at prices that do not fully reflect the costs the provision of those services requires.

153. More generally, as noted in section B above, the ACCC's approach involves a "heads you lose, tails I win" form of regulation, in which the estimate of costs is reduced to historical costs when current costs are considered higher than those historically incurred, while current costs are used when these are lower than historical costs. Telstra submits that this is plainly inconsistent with its

legitimate interests and is suggestive of an element of bias, or systematic lack of neutrality, in the approach adopted.

154. Telstra submits that it is also in its legitimate interests that it be able to rely on consistent application by the regulator of a cost methodology. As noted in section B above, the ACCC's approach in this draft decision, which involves changing its approach to costing, arguably for purely opportunistic reasons, creates regulatory risk that is unnecessary and prejudicial to Telstra's legitimate interests.

D.5 Interests of persons who have rights to use ULLS

155. Telstra submits that this criterion is served when end users and persons who have a right to use ULLS benefit from the same outcomes (ULLS price) that they would obtain were the market in which ULLS was supplied was competitive and ULLS was not declared. This is the competitive market outcome.

156. Consistent with the precedent discussed above (section C), the TSLRIC+ of an efficient new entrant approximates the outcome that would occur in a competitive market and, therefore, promotes the interest of persons who have rights to use the ULLS. End users would be no worse off, in terms of the amount they pay for services downstream from ULLS, than they would otherwise pay were the market competitive and ULLS not declared. Furthermore, prices so set allow efficient new entrants to recover the costs of their investments. If entry occurs in the supply of ULLS or substitutes, then the other benefits of competition will result – greater quality and new services supplied to end users. These outcomes will not be achieved if prices are set below the TSLRIC+ of a new entrant, as even efficient new entrants will not expect to recover the cost of entering the market and, therefore, entry will not occur.

157. The ACCC considers that this criterion is served when prices enables access seekers to compete on their merits. The ACCC states:[77]

> *The interests of persons who have a right to use the ULLS, access seekers, are served by an access price that enables them to compete on their merits (that is, on the basis of their own efficiency) in downstream markets.*

158. Prices based on the TSRLIC+ of a new entrant achieve this criterion as well. Access seekers that can be more efficient in the supply of the CAN have the incentive to invest in the CAN and profit from their efficiencies. If access seekers can be more efficient in the supply of downstream products, they pay a competitive market price for use of the CAN which enables them to compete in those markets on equal terms and conditions. As noted above, to be even handed in the consideration of the legislative criteria, an impartial arbiter would necessarily conclude that the interest of those who have a right to use ULLS do not extend to receiving access at prices below those which they could expect in a competitive market – a level the ACCC and the Tribunal have repeatedly identified as being defined by TSLRIC+.

159. The ACCC also comments:[78]

[77] ACCC Draft Decision, at page 53
[78] ACCC Draft Decision, at page 53

The ACCC considers that the TEA model network cost assumptions result in cost estimates that would overcompensate Telstra. The ACCC also notes that a Proposed Monthly Charge that is significantly above the current prevailing ULLS price is not in the interests of access seekers. These findings favour Telstra over others which would distort the competitive process and consequently harm access seekers' interests.

160. The network cost assumptions in the TEA model result in cost estimates that reflect the prices that would occur in a competitive market for the supply of ULLS. This criterion does not and cannot be used to promote access seekers' interests beyond access at these prices. Nor can it be used to justify continuing current prices that have, for whatever reason, been set below the forward looking cost of supply through regulatory intervention in the market. Below cost access serves to distort the market away from the outcomes which would prevail were that market effectively competitive. Such price-setting unjustly and unwisely discriminates against access providers and, in the long term, access seekers first because of reduced incentives for access providers to offer better and new wholesale services to access seekers and second, because it raises barriers to the efficient entry of alternative sources of ULLS supply (or of services that substitute for ULLS).

161. In any case, the ACCC's current pricing methodology sets low prices today but on the basis of significant increases in prices in the future. This is the result of the tilted annuity formula the ACCC applies. If the ACCC were to continue its pricing methodology, ULLS prices would increase 50% in 9 years, over 100% in 15 years and 200% 23 years (see section D, from paragraph 92).

162. Furthermore, continuing below-TSLRIC+ prices is beyond the interests of access seekers who, as the analysis at Attachment 1 shows, will remain very profitable if Telstra's Undertaking is accepted.

D.6 Direct costs

163. The ACCC uses the Explanatory Memorandum to interpret this criterion (at page 54) as follows:

This requires that an access price should not be inflated to recover any profits the access provider (or any other party) may lose in a dependent market as a result of the provision of access.

164. Prices based on the TSLRIC+ of a new entrant include no inflation to recover the profits the access provider (or any party) may lose in a dependent market as a result of the provision of access. Prices so set would allow parties to recover only the return that would be available from the supply of ULLS if the market was competitive. Consequently Telstra's price proposed in the Undertaking is consistent with this interpretation of the statutory criterion.

165. The ACCC also states (at page 54):

This criterion also implies that, at a minimum, an access price should cover the direct incremental costs incurred in providing access. It also implies that the access price should not exceed the stand-alone costs of providing access.

166. This implies that, in the ACCC's view, the direct costs fall between the direct incremental and standalone costs of providing ULLS. The price proposed in Telstra's Undertaking is below the standalone cost of providing ULLS, since only a proportion of (not all) indirect costs are allocated to ULLS, and therefore is consistent with the direct cost criterion.

167. However, the ACCC's analysis in the Draft Decision is inconsistent with its own two interpretations of the direct costs criterion. The ACCC relies on two sets of material to incorrectly assert that the price proposed in Telstra's Undertaking exceeds the level necessary to ensure that Telstra would be able recover the direct costs of providing ULLS.

168. First, the ACCC asserts that international benchmarking can be used to assess the direct costs criterion. The ACCC states (at page 54):

> *The ACCC has examined evidence from international benchmarks which suggests that overseas operators are able to provide similar unconditioned local loop services at much lower prices, suggesting that they were able to provide these services at much lower direct costs.*

169. The international benchmarking analysis relied upon by the ACCC has serious flaws and, as explained above, is inconsistent with the ACCC's previously expressed views in relation to international benchmarking. These flaws are discussed in more detail in Attachment 3.

170. Notwithstanding those flaws, the ACCC cannot conclude that the international benchmarking suggests that overseas operators "*were able to provide these services at much lower direct costs*". International benchmarking does not compare the direct costs incurred by overseas operators: rather, it compares the prices that they are, in most if not all cases, required to charge by their respective regulators. The regulatory regimes in those countries seek to achieve objectives that are different to the objectives of Part XIC and the criteria for regulated pricing in those countries are different to s152AH of the Act. It is incorrect to assume that overseas regulators have had regard to direct costs in the same way as regard is required to be had by the ACCC in Australia. Even if they had, there is no evidence that overseas regulators correctly determined the direct cost of provision of services in their own country let alone Australia.

171. Furthermore, there is nothing that suggests the international benchmarking undertaken by the ACCC is of costs that are consistent with the ACCC's own interpretation of the direct costs criterion – that is, costs that are not "*inflated to recover any profits the access provider (or any other party) may lose in a dependent market*" and fall between the "*direct incremental costs*" and "*standalone costs*" of providing ULLS.

172. For these reasons and others, the ACCC's international benchmarking material is flawed, and its use of that material is inconsistent with the ACCC's own interpretation of the direct costs criterion.

173. Second, the ACCC also draws on Telstra's RAF data to assess direct costs. Although the ACCC lists two qualifications to using RAF data, they are by no means comprehensive. For example, the ACCC should also be concerned that the RAF data:

- Does not account for assets that have reached the end of their accounting lives but not their economic lives and, therefore, substantially understates the economic value of CAN assets;
- Values assets at their written down value, rather than their economic value; and
- Values a different mix of types of assets and network designs than would be used by an efficient new entrant.

174. The RAF is a measure of Telstra's written down historic/embedded cost of supplying the CAN. The RAF provides no evidence as to the direct incremental or standalone costs of supplying ULLS. It is noteworthy that Telstra relied on its historic costs, measured by the RAF, in an earlier undertaking. In considering that undertaking, the Tribunal commented:[79]

> *Telstra submitted that its historic ULLS costs provided a useful basis for assessing the reasonableness of its network costs. Telstra estimated that the historic cost of a ULLS line is $27.05 per month by reference to Telstra's regulatory accounting framework (RAF) accounts prepared for the Commission using the Commission's record keeping rules (RKR) accounts.*

and

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

175. The ACCC's reliance on historic/embedded costs derived from the RAF is also inconsistent with its 2002 ULLS pricing principles. In that context, the ACCC clearly concludes that TSLRIC is consistent with the direct cost criterion. The ACCC then stated:[80]

> *In the past the Commission has adopted the TSLRIC approach to access pricing. This is consistent with the requirements of Part XIC of the Trade Practices Act that pricing should reflect the direct costs of supply… The Commission therefore considers that TSLRIC should be applied in the costing of provision of the ULLS.*

176. The ACCC's use of Telstra's embedded historic costs is inconsistent with its own interpretation of the direct cost criterion.

D.7 The economically efficient operation of a carriage service, telecommunications network or a facility

177. The ACCC states in the Draft Decision (at page 56):

> *The ACCC considers that, in the context of access prices, prices that reflect the efficient forward-looking costs of the service best meet this criterion.*

178. Prices based on the TSLRIC+ of an efficient new entrant reflect the efficient forward-looking costs of the service and, therefore, meet this criterion.

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[79] Telstra Corporation Ltd (No 3) [2007] ACompT 3, at 378 and 380

[80] ACCC (2002), *Pricing of Unconditioned Local Loop Services (ULLS): Final Report*, March 2002, at page 17-128

E The ACCC's assessment of inputs into the TEA model

E.1 Ability to properly assess the TEA model (ACCC section B.1)

179. The ACCC states:[81]

> *…it is in the public interest…and it is Telstra's responsibility to enable the ACCC, and other parties, to sufficiently scrutinise its model and to enable sensitivity testing of Telstra's preferred assumptions and input values such that the ACCC can be satisfied that the model is capable of generating efficient forward-looking cost estimate.*

180. As stated in Telstra's response to the ACCC's Discussion Paper, and as acknowledged by the ACCC in its Draft Decision, Telstra considers that the documentation provided with the TEA model is comprehensive, very detailed and more than adequate to evaluate the TEA model.

181. In addition, the ACCC's Draft Decision acknowledges that, since reports by Ovum and other interested parties became available, Telstra has proactively sought to address all errors identified by submitting a revised version of the TEA model, together with additional documentation.[82]

182. The ACCC concludes: [83]

> *The ACCC considers that most of the TEA model calculations are well documented but could be improved with access to documentation for certain aspects of the model (such as the Access database).*

183. This conclusion is consistent with Telstra's view and its submission regarding the adequacy of documentation provided.

184. Following the ACCC's Draft Decision, Telstra has continued to proactively file further documentation including documents entitled:

- *TEA Model Route Optimisation Process documentation* which provides a detailed, step-by-step explanation of the methodology used to extract necessary data from Telstra's source databases, rationalise and optimise the network data to adhere to strict efficiency guidelines and format the data for loading into the TEA model's excel spreadsheets; and

- *An Assessment of Telstra's TEA Cost Model for Use in the Costing and Pricing of Unconditioned Local Loop Services (ULLS)*", an expert report of Dr. Robert G Harris and Dr. William Fitzsimmons.

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[81] ACCC Draft Decision, at page 60

[82] Including Telstra's documents entitled *TEA Model Issues Schedule* available at http://www.accc.gov.au/content/item.phtml?itemId=842768&nodeId=3bc5af58c181b5235589754840e5259a&fn=TEA%20model%20issues%20schedule.pdf, *Measure of TEA Model Efficiency* available at http://www.accc.gov.au/content/item.phtml?itemId=842770&nodeId=a00d0b6613a3a278bd5366f739b25175&fn=Measure%20of%20TEA%20model%20optimisation.pdf and *Modifications in v1.2 of the TEA Model* available at http://www.accc.gov.au/content/item.phtml?itemId=842773&nodeId=eb58e0eb2c734a19acdef53fc0d0bb96&fn=TEA%20model%20version%201.2%20%20modifications.pdf

[83] ACCC Draft Decision, at page 63

185. This additional documentation bolsters Telstra's, already substantial, body of material provided to the ACCC in support of Telstra's ULLS Undertaking.

186. Telstra acknowledges the conclusion that:[84]

> *Overall, the ACCC considers that it is satisfied with the useability of the TEA model.*

and the ACCC's recognition of: [85]

> *…the difficulties and complexities inherent in any cost modelling exercise.*

187. In addition, Telstra welcomes the ACCC's understanding that:

> *…any cost model will need to be refined and adjusted to ensure that the model is robust.*

188. Telstra considers that it has made considerable and consistent efforts to ensure any concerns or suggestions regarding the TEA model that are brought to Telstra's attention are addressed in a timely manner and, if appropriate, acted upon. The release of version 1.1 and 1.2 of the TEA model clearly evidence Telstra's efforts in this regard.

E.1.1 Confidentiality arrangements

Telstra's arrangements comply with the ACCC's expectations

189. Telstra remains perplexed by the ACCC's statement (at page 64) to the effect that it continues to hold concerns that Telstra's confidentiality arrangements have made it difficult for interested parties to gain reasonable access to the TEA model.

190. Telstra's confidentiality arrangements are fully and clearly documented in Telstra's submission entitled *Accessing Telstra's Confidential Information* dated 23 May 2008[86] (**Confidentiality Submission**). This Confidentiality Submission was provided by Telstra in direct response to correspondence from the ACCC[87] (**14 May Letter**) stating:

> *The ACCC expects that Telstra will prepare two forms of confidentiality undertaking, one for access seeker employees (commercial) and one for external advisers (non-commercial), which will allow those who execute the undertaking to view all subsequent [to the TEA model which had been release from late February 2008] confidential supporting material that Telstra submits in relation to the ULLS Undertaking. The ACCC anticipates that the confidentiality undertaking prepared for external advisers (non-commercial) will encompass the confidential versions of the O&M Factor Study, Factor Calculation excel documents and the redacted version of the Access Network Costing information. The ACCC expects that interested parties will not be required to sign any further forms of confidentiality undertakings in relation to the ULLS Undertaking.*

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[84] ACCC Draft Decision, at page 63
[85] ACCC Draft Decision, at page 64
[86] Available at http://www.accc.gov.au/content/item.phtml?itemId=830207&nodeId=25ed9c9fdf87ef3f6cd85badb946e4f9&fn=Telstra%20submission%20-%20confidentiality%20regime.pdf
[87] Letter from Mr Ed Seymour, Acting General Manager, Compliance and Regulatory Operations, Communications Group to Ms Rebecca Mitchell, Legal Counsel dated 14 May 2008.

191. As explained in Telstra's letter responding to the ACCC's 14 May Letter[88] and in Telstra's Confidentiality Submission, Telstra's confidentiality arrangements comply with the ACCC's expectations as described in the 14 May Letter. Telstra's arrangements have not changed and, as such, continue to comply with those expectations on an ongoing basis.

192. In considering Telstra's confidentiality arrangements, it is important to recognise that Telstra made the TEA model available for access by interested parties from 28 February 2008. The confidentiality undertakings applicable to the TEA model were made available at that time to ensure that access seekers and their external advisers/consultants would gain access to the TEA model promptly. Telstra had not lodged any other confidential supporting material with the ACCC in support of Telstra's Undertaking at that time. As such, the TEA Model Confidentiality Undertakings dealt only with access to the TEA model[89].

193. By the date of the ACCC's 14 May Letter, Telstra had already received 16 executed TEA Model Confidentiality Undertakings from approved access seeker employees and external advisers/consultants. These access seeker employees and external advisers/consultants represented 7 different interested parties. Pursuant to those executed TEA Model Confidentiality Undertakings, Telstra had also already provided access to appropriate versions of the TEA model. In addition, other access seekers had requested amendments to one or other of the provisions of the existing TEA Model Confidentiality Undertakings.

194. In light of the established and widely socialised TEA Model Confidentiality Undertakings, Telstra did not consider that approved access seekers or external advisers/consultants who had already agreed, executed or negotiated amendments to the TEA Model Confidentiality Undertakings should be asked to forego the benefit of those undertakings and re-execute or re-negotiate a new undertaking which would relate to both the TEA model and any further confidential supporting material that Telstra had, or intended, to file. For this reason, Telstra prepared a separate Confidential Materials Confidentiality Undertaking which covered access to Telstra's other confidential information (as distinct from the TEA model). The Confidential Materials Confidentiality Undertaking was, and remains, in very similar terms to the TEA Model Confidentiality Undertaking.

195. In its Confidentiality Submission, Telstra notes the consistency between the TEA Model Confidentiality Undertakings and the Confidential Material Confidentiality Undertakings, and the fact that TEA Model Confidentiality Undertakings had already been executed by numerous individuals by the date of the ACCC's 14 May Letter. In those circumstances, Telstra considered the preparation of the Confidential Material Confidentiality Undertakings was the best way to proceed and represented a straight-forward approach and process which would not place an unreasonable burden on interested parties, either from an administrative or legal perspective. In its Confidentiality Submission, Telstra also expressly stated (at page 3):

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[88] Letter from Tony Warren, Executive Director Regulatory to Mr Robert Wright, General Manager, Compliance and Regulatory Operations, Communications Group dated 23 May 2008.

[89] The TEA Model Confidentiality Undertakings also had the advantage of permitting use of the TEA model for the purposes of Telstra's ULLS Undertaking and, in addition, in relation to any arbitrations under Part XIC of the Trade Practices Act 1974 involving the relevant access seeker. Telstra deliberately provided broad terms of use as a means of facilitating the immediate desire for interested parties to gain access to the TEA model and as a means to assist access seekers in the arbitral context.

…if any Access Seeker or External Adviser believes that this process is cumbersome, or that it imposes an unreasonable burden upon them, Telstra would be pleased to hear those concerns and seek to address them.

196. Telstra's covering letter responding to the ACCC and enclosing its Confidentiality Submission also stated:

I trust that the arrangements outlined above are satisfactory. We would be pleased to discuss these arrangements in more detail with the Commission, if the Commission has any remaining concerns.

197. The ACCC did not indicate it had any remaining concerns and, in fact, published Telstra's letter, Telstra's Confidentiality Submission and all the forms of confidentiality undertakings on the ACCC's website.

Telstra has attempted to address any concerns

198. Following Telstra's response to the ACCC's 14 May Letter and Telstra's Confidentiality Submission, the ACCC released its Discussion Paper. The Discussion Paper contained statements which purported to continue to take issue with Telstra's confidentiality arrangements. In response, Telstra's letter dated 4 July 2008, once again, explained Telstra's confidentiality arrangements and specifically stated:

…Telstra has not received any complaints from access seekers or their representatives to the effect that Telstra's confidentiality arrangements are confusing, onerous or complex and is not aware of any such complaint to the ACCC. Indeed, as the ACCC is aware, Telstra has received signed confidentiality undertakings from 25 individuals. In the circumstances, Telstra cannot understand the basis for the position taken by the ACCC in relation to Telstra's confidentiality arrangements as described in the Discussion Paper. The ACCC has never made clear in what respect the proposed confidentiality arrangements are either "onerous" or "confusing". Further, Telstra notes that the form of confidentiality undertaking proposed by the ACCC in its draft Procedural Rules is virtually identical to the form of undertaking Telstra has employed in the Undertaking context.

…Telstra wishes to address any issues which arise regarding its confidentiality arrangements promptly and with a satisfactory outcome for all parties. As such, please provide details of any complaints or concerns that Telstra's confidentiality arrangements are confusing, onerous or complex (or to that effect), so Telstra may have an opportunity to address and resolve any issues directly and promptly."

199. No response to Telstra's letter has ever been received from the ACCC.[90] Where Telstra ultimately became otherwise aware of access seeker concerns in this regard, it has proactively sought to deal with the same on a balanced and ongoing basis.[91]

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[90] This is despite the fact that, unbeknownst to Telstra at the time of its 4 July 2008 letter to the ACCC, the ACCC had already received a letter from Optus dated 28 March 2008 on the matter – now available at http://www.accc.gov.au/content/item.phtml?itemId=839900&nodeId=b710d429892b58cc3e3382c5f941f6c3&fn=Optus%20letter%20responding%20to%20discussion%20paper.pdf

[91] See Telstra letters to Optus dated 2 September 2008 and 16 December 2008 both copied to the ACCC and Telstra's *Response to Access Seeker Submissions* dated 18 November 2008, section E.

E.1.2 Telstra's confidential information

200. There are two classes of information contained within the TEA Model which Telstra considers to be confidential to such a degree that they cannot be disclosed or can only be disclosed in carefully controlled circumstances. Those classes of information are:

- Telstra's confidential network base data; and

- Telstra's confidential vendor pricing information.

201. Telstra has also claimed confidentiality in relation to some of the content of 3 documents (Category 2 confidential material) (as discussed below).

Why Telstra's network base data is highly confidential

202. Telstra considers the network base data to be confidential for a number of reasons. Telstra's concerns around its network information extend beyond commercial confidentiality to national security and criminal damage.

203. The network base data details the characteristics of Telstra's physical network assets. Those assets, and the information about them, are proprietary and go to the core of Telstra's business. They affect the value and pricing of Telstra's services – both retail and wholesale – and Telstra's position in the market. The unqualified disclosure of the information would cause detriment to Telstra's interests and confer advantages on its competitors. Aside from the obvious national security concerns, the commercial sensitivity of Telstra's network base data has caused it to be kept securely with limited access within Telstra.

204. By way of specific examples:

- Cable lengths in particular exchange service areas covered by competing networks goes to the extent and quality of broadband services provided in those areas. Competing network owners, on receipt of Telstra's confidential network base data, could deploy or reconfigure their own network facilities to target specific customers on Telstra's network who might, for example, experience relatively low speeds due to the length of the cable between customers' premises and Telstra's exchanges. Access to the confidential network data could similarly be used by a competitor to design a network which sought to exploit regulated wholesale access products. Such an outcome would certainly put Telstra at a substantial competitive and financial disadvantage *vis-a-vis* competitors as Telstra would not have access to the same information in relation to its competitors.

- The confidential network data could be used by competitor's marketing departments to focus their sales efforts on particular geographic areas where Telstra's most valued customers are. This would provide a commercial advantage to competitors, who clearly do not provide the same information to Telstra with respect to their fibre optic, HFC or mobile broadband networks for example.

- Telstra's confidential network data would be a near perfect planning tool for a network builder to roll out a new network

competing against Telstra. The information in Telstra's confidential network data is a culmination of many years of experience in determining the most efficient location and configuration of plant and equipment in the network. It would allow a network builder to develop a near perfect blueprint for a competing network without incurring the costs that other operators are required to bear. As Telstra would not have comparable access to the information about the new by-pass network, its ability to engage a competitive response would be unfairly hampered.

205. For these reasons, Telstra considers its network base data confidential and has restricted access to the same to interested parties' external advisors/consultants.

Why Telstra's vendor pricing information is highly confidential

206. The prices at which Telstra purchases materials and services from third party vendors is highly confidential and not appropriate for disclosure to access seekers.

207. This is because:

- access seekers are Telstra's direct competitors in the retail market and may be Telstra's customers in the wholesale market – as such, Telstra's confidential vendor pricing information, if disclosed, may be used for purposes including:
    - to achieve more favourable terms for the acquisition of goods and/or services, noting that Telstra makes considerable investments in understanding the markets in which it undertakes those purchases and more generally in securing those terms;
    - in the context of future negotiations with Telstra's vendors or other third party vendors; or
    - to achieve an unfair advantage over Telstra in its wholesale or retail operations.
- the pricing is commercially confidential and is subject to contractual terms between Telstra and third party vendors restricting its disclosure.

208. For these reasons, Telstra considers its vendor pricing information confidential and has restricted access to the same to interested parties' external advisors/consultants.

Why Telstra's Category 2 Confidential Material is highly confidential

209. Telstra has nominated the following documents as Category 2 Confidential Information:

- the Operations and Maintenance Factor Study;
- the related Factor Calculation Excel spreadsheet; and

- the redacted version of Access Network Costing Information document.

210. The first two of these documents are highly confidential as they include data prepared for and in accordance with the Regulatory Accounting Framework Record Keeping Rule. This data includes highly sensitive, highly valuable, disaggregated information relating to Telstra's network and its costs which, if disclosed, would cause detriment to Telstra's interests and confer advantages on its competitors. The data would clearly demonstrate, in a detailed manner, Telstra's operational costs and provide an unfair advantage to a competitor with access to it. Given its confidential and highly sensitive nature, Telstra prepared and provided public versions of both these documents.

211. The Access Network Costing Information document contains vendor pricing information and is confidential for the reasons explained above.

Interested parties' access to TEA model and Telstra's other Confidential Materials

212. Telstra has approved more access seeker employees and external advisers/consultants for access to both the TEA Model and Telstra's other Confidential Materials than those who have returned executed confidentiality undertakings. Table 2 sets out a summary of the relevant approvals provided and confidentiality undertakings returned to date.

Table 2: Approvals provided and executed confidentiality undertakings returned as at 23 December 2008

	ACCESS TO TEA MODEL				**ACCESS TO CONFIDENTIAL MATERIALS**			
	Access seeker employees		**External advisor/consultant**		**Access seeker employees**		**External advisor/consultant**	
Access Seeker	*Approved*	*Executed CU returned*	*Approved*	*Executed CU returned*	*Approved*	*Executed CU returned*	*Approved*	*Executed CU returned*
AAPT/ Powertel	7	0	*No request*	-	*No request*	-	*No request*	-
Adam Internet	4	4	5*	5*	*No request*	-	*No request*	-
Agile	3	3	*No request*	-	*No request*	-	*No request*	-
Comman-der	1	0	*No request*	-	*No request*	-	*No request*	-
iiNet	2	2	5*	5*	*No request*	-	1	1
CCC	1	1	3#	3#	*No request*	-	*No request*	-
Last Mile	1	0	*No request*	-	*No request*	-	*No request*	-
Macquar-ie	4	1	*No request*	-	*No request*	-	*No request*	-
NEC	3	0	*No request*	-	*No request*	-	*No request*	-
Optus	17	15	10	5	6	6	9	4
Primus	5	2	*No request*	-	*No request*	-	*No request*	-
Soul	2	0	*No request*	-	*No request*	-	*No request*	-
TransAct	1	1	*No*	-	*No*	-	*No*	-

			request		*request*		*request*	
TPG	2	0	1#	1#	*No request*	-	*No request*	-
Total	**53**	**29**	**24** **(18*#)**	**19** **(13*#)**	**6**	**6**	**10**	**5**
** Note: Adam Internet and iiNet retain five common external advisers with access to the TEA model.* *# Note: CCC and TPG retain one common external adviser with access to the TEA model.* *These common external advisers/consultants are accounted for once only in counts marked with (*#)*								
Total incl ACCC experts				**25 (19*#)**				**11**

213. As can be seen from Table 2, Telstra has approved the following people, not all of whom have returned executed confidentiality undertakings:

- For access to the TEA model - 53 access seeker employees and 18 external advisers/consultants; and

- For access to Telstra's Confidential Materials - 6 access seeker employees and 10 external advisers/consultants.

214. Telstra is not, however, responsible for approved access seeker employees and/or their external advisers/consultants failing to facilitate their own access to the TEA model and Telstra's other Confidential Material by electing not to return appropriate executed confidentiality undertaking documents.

215. In addition:

- Telstra has approved all external advisors/consultants for whom access to the full version (v1.0/1.1/1.2) of the TEA model has been requested.

- Telstra has provided access to the full version (v1.0/1.1/1.2) of the TEA model to **13** external advisers/consultants retained by interested parties (when common external advisers/consultants are accounted for once only).

- to Telstra's knowledge, 7 of the 13 external advisers/consultants are employed by/represent 3 different economic consultancy firms and, as such, Telstra assumes they are external economic advisers/consultants (as opposed to legal advisers).

- the various Ovum reports considering the TEA model name 6 other individuals from Ovum, the ACCC's own economic experts.

- the total number of external economic advisors/consultants with access to the full version (v1.0/1.1/1.2) of the TEA model, including the ACCC's own experts, is therefore **13**.

216. In light of the above, Telstra cannot accept the ACCC's statements (at page 64) that:

Telstra's confidentiality arrangements have affected interested parties' ability to provide full, timely analysis and comment on the 2008 Undertaking and the TEA model.

217. Telstra considers that its confidentiality arrangements are clear and appropriate. This is evidenced by the strictly limited nature of Telstra's confidentiality claims and the number of approvals provided and confidentiality undertakings returned. Telstra has proactively sought to understand any purported difficulties with its confidentiality arrangements which may be experienced by interested parties. In this regard, Telstra has granted approvals in a timely manner and continues to do so upon request on an ongoing basis. Telstra has also proactively sought to address any concerns raised in relation to its confidentiality arrangements once it becomes aware of the same.

218. Similarly, Telstra corrects the ACCC's statement (at page 64) that:

…only six individuals gained access to the full version of the TEA model.

219. In fact, including Ovum, 19 individuals plus ACCC staff gained access to the full version of the TEA model and, of these, on the information available to Telstra, 13 are economic advisors/consultants retained by access seekers or the ACCC. Telstra has approved each and every external advisor/consultant for whom access to the full version (v1.0/1.1/1.2) of the TEA model has been requested.

220. Finally, Telstra cannot accept the ACCC's statement (on page 64) that:

These restrictive arrangements contribute to the ACCC's ongoing concerns that the model has not been subject to comprehensive external review…

221. Telstra has clearly explained on multiple occasions to the ACCC and access seekers alike the need for, and appropriateness of, its confidentiality arrangements. The ACCC itself acknowledges (at page 76) that:

…it is usually the case that vendor prices are confidential.

222. Further, other than making broad allegations without substantiation, no access seeker has stated how the confidentiality arrangements have in any way prevented or hindered them or their external advisors from reviewing the TEA model.

223. In summary, therefore, Telstra remains of the view that its confidentiality arrangements:

- are limited to only the most confidential materials/information;
- appropriately and carefully balance Telstra's legitimate commercial interests with interested parties' ability to make (or have made on their behalf) fully informed submissions on Telstra's Undertaking;
- are clear and easily comprehended by interested parties as evidenced by the number of approvals sought and confidentiality undertakings executed and returned to Telstra without any apparent difficulty;

- comply with the ACCC's expectations as expressed by the ACCC to Telstra; and

- have not inappropriately restricted access to the TEA model or Telstra's other Confidential Material as evidence by the lengthy submissions made by multiple interested parties and their external advisers/consultants in relation to Telstra's Undertaking.

E.2 Network design and engineering rules (ACCC section B.2)

224. The ACCC concludes that the TEA model has not been implemented using the most efficient network build and does not incorporate all efficiencies and optimisations that would theoretically be possible using efficient forward-looking technology. This conclusion is flawed. The ACCC states:[92]

> *The ACCC agrees with commissioned reports, including from Ovum and MJA that as the TEA model reflects Telstra's actual network, this suggests that the model has not been implemented using the most efficient network build.*

And: [93]

> *The ACCC considers that given the starting point of scorched node and the need to model a copper network, the TEA model is broadly based on a best practice engineering rules and practices. However design and implementation issues mean the extent of the efficiencies in the model is not as extensive as claimed by Telstra. The ACCC also notes that Telstra's application of its TEA model does not incorporate all efficiencies and optimisations that would be theoretically possible using efficient forward-looking technology.*

225. The ACCC has no basis for its conclusion. As has been demonstrated through the documentation, statements, studies and reports submitted by Telstra, the TEA Model produces an efficient, optimised network design. In stark contrast to this abundance of evidence, the ACCC does not cite a single example of "efficiencies and optimisations that would be theoretically possible using efficient forward-looking technology," which have not been incorporated into the TEA model. The only rationale the ACCC provides for this conclusion is their allegation that the TEA Model reflects Telstra's actual network. [94]

> *The ACCC does not consider that the costs of the existing network reflect forward-looking costs as they reflect past investment decisions that are not assessed for relevance or adjusted for efficiency.*
>
> *Further, the ACCC's view is that where access prices are based on actual network costs, rather than the costs of an efficient network, the resulting access prices will not reflect the efficient costs of providing the service and will not encourage appropriate build/buy decisions. Therefore, the object of promoting efficient investment is not achieved when costs of Telstra's existing network, without taking account of efficiency savings, are used to determine costs of providing the ULLS.*

[92] ACCC Draft Decision, at page 71
[93] ACCC Draft Decision, at page 72
[94] ACCC Draft Decision, at page 71

226. Unfortunately, the ACCC's opinion that the TEA Model reflects Telstra's actual network and produces actual network cost is unsubstantiated, ill-considered and incorrect. The only support for this opinion cited by the ACCC is purported agreement with commissioned reports, including Ovum and MJA, and their allegation that "*Telstra submits that the TEA model represents its actual existing network*".[95] Both claims are false. Neither Ovum nor MJA allege, suggest or imply that the TEA Model reflects Telstra's actual network in their commissioned reports. And even a casual reading of Telstra's submissions makes Telstra's position clear – the TEA model is a TSLRIC+ model, which produces the cost of a forward-looking, efficient replacement CAN. To claim otherwise is a misrepresentation of the facts.

E.2.3 MJA

227. The ACCC characterises MJA's report as follows:[96]

> *MJA notes that the methodology used in TEA model is to develop a model of access network costs* ***based on Telstra's existing network design and actual network costs****, while allowing for a degree of optimization.*

228. MJA actually says:[97]

> *There are essentially two approaches that could be used to model the access network. The first of these involves developing a theoretical structure reflecting the network within certain geographic areas and using geo-coded data, electronic maps and network design rules to develop the cost of a hypothetical network. The second approach, which is the approach followed by the TEA model,* ***is to develop access network costs based using inputs directly from the Telstra network*** *allowing for certain amounts of optimisation.*
>
> *There are advantages and disadvantages to each of these approaches. The approach relying on a theoretical structure is closer in spirit to a bottom-up model and will – by nature of being independent of the existing network – not be influenced by any inefficiency that might be present in Telstra's network. On the other hand, the theoretical approach will necessarily utilise fairly strong assumptions that could lead to in [sic] erroneous results. A model using information derived from Telstra's network is unlikely to suffer these problems, but may – depending on the use of the information – incorporate inefficiencies. Clearly, Telstra has sought to remedy this problem by allowing for optimisation of distribution and main cable routes, but, as discussed, we have reservations about the adequacy of the optimisation performed.*

229. In its report MJA correctly explains that the TEA Model develops access network costs "*using inputs directly from the Telstra network allowing for certain amounts of optimisation*". Nowhere in its report does MJA allege, suggest or imply that the TEA model's use of inputs from Telstra's network results in the model producing actual or existing network costs. Indeed, one cannot conclude, as the ACCC erroneously does and MJA clearly does not, that the TEA Model reflects Telstra's actual network or that it estimates actual network costs from the model's use of inputs directly from the Telstra network in the

[95] ACCC Draft Decision, at page 65
[96] ACCC Draft Decision, at page 66, emphasis added
[97] MJA Review of the TEA Model, at page 6, emphasis added

development of access network costs. The TEA model's methodology and its use of Telstra's engineering records are fully explained in Telstra's submissions and summarised below.

230. MJA does not criticise the TEA Model in its report for reflecting the actual network, because this is not the case. In fact, MJA affirms that the TEA model is necessarily based in reality to ensure the results reflect the costs that a new entrant would incur. MJA objects that the TEA Model produces cost of a copper network, rather than incorporating alternative technologies into the network. The use of alternative technologies is discussed below:[98]

> *MJA appreciates that Telstra wishes to provide a model with a thorough base in reality; indeed "reality" is required in TSLRIC modelling,* ***to ensure the results reflect the costs that a hypothetical new entrant would incur****. MJA also appreciates that there is a risk of underestimating costs in a model not based on "real" data. However, by using existing data and neglecting to optimise by considering alternative technological solutions, there is a risk of a suboptimal outcome.*

And: [99]

> *A charge based on the costs of reproducing a copper network which is essentially what TEA does, is useful only to calculate the costs of ULLS based on copper. It is not necessarily capable of providing any useful signals to encourage efficient entry into the access network. To do so the TEA model must make appropriate technological choices, which it does not.*

E.2.4 OVUM

231. The ACCC also misrepresents the findings in Ovum's report. The ACCC quotes the following passage from Ovum regarding modelling approach:[100]

> *The TEA model uses a "scorched node" approach. The main nodal locations are fixed, which in this model include: the telephone exchange locations, the Distribution Area ("DA") boundaries, the Pillar locations at the edge of each DA, and the customer locations. The model then dimensions a traditional access network to meet the customer demand using the locations specified. This method is appropriate but its design should be modified. In Europe and across the world many regulators have adopted a modified scorched-node approach.*
>
> *A modified scorched-node approach takes the existing topology as a starting point, but then modifies the network by eliminating inefficiencies. The technology between the existing nodes is optimised to meet the demands of a forward-looking efficient operator. There is little evidence of the network being optimised and the design is inefficient in some aspects.*

232. In its reports, Ovum criticises Telstra for providing little evidence to support the level of optimisation in the TEA model's network design; but nowhere does Ovum allege, suggest or imply that the model reflects Telstra's actual network or produces actual, existing network costs. To the contrary, Ovum cites a number of examples where the TEA model produces an efficient, forward

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[98] MJA Review of the TEA Model, at page 2
[99] MJA Review of the TEA Model, at page 5, emphasis added
[100] Ovum economic review, at page 5; ACCC Draft Order, at page 67

looking design; and, as is seen in the passage above, which is quoted in the Draft Decision, Ovum finds the TEA Model's scorched node approach to be appropriate. It is also instructive to note that Ovum prepared its reports prior to Telstra's submission of the *TEA Model Route Optimisation Process* documentation. This report addresses Ovum's complaint regarding lack of evidence.

233. Rather than suggesting the TEA Model reflects Telstra's actual network and produces cost of the actual existing network, Ovum supports many of the model's optimisation and efficiency measures, in section 2 of their report - Optimisation and Efficiency.[101]

> *The main optimisations and efficiencies built into the engineering rules of the TEA model are:*
>
> *-The provision of a single cable route from each customer premises to the exchange;*
>
> *-The placement of pits and manholes to minimise their use;*
>
> *-The sizing of cables in the distribution and feeder networks;*
>
> *-The placement of cable joints to optimise the jointing of cables;*
>
> *-The sizing of pillars.*
>
> *This chapter considers each of these items in turn.*

234. Ovum's findings in each for these items are as follows. With regard to cable routes and distribution areas, Ovum states:[102]

> *The Telstra documentation indicates that two network designs are not used in the model:*
>
> *-Cabinet-fed pillar;*
>
> *-Customer fed directly from branch cable.*
>
> *These are non-standard designs that lead to operational complexity. It is appropriate that they should be eliminated.*

235. Ovum finds fault with the way the model implements the elimination of duplicate cable runs and the choice of shortest-path routes. These criticisms are addressed in Telstra's response to the Ovum submission.

236. With regard to pits and manholes, Ovum states:[103]

> *The pits and manholes are laid out according to the diagram and rules in section 3.2 of Access Network Dimensioning Rules. The description is of a very clean, efficient design and layout in the default case. This represents best practice in laying out a Distribution network.*
>
> *Section 3.3.4.1 of Access Network Dimensioning Rules suggests that manholes may be placed at "severe changes of direction" in the Distribution network. This is a good design rule. There appears to be no provision for this rule in the model itself, as changes of direction are not*

[101] Ovum review of network design, at page 6
[102] Ovum review of network design, at page 6
[103] Ovum review of network design, at page 10

indicated in the base data. This could lead to an underestimate in the number of manholes placed by the TEA model.

237. With regard to cables and cable sizing, Ovum states:[104]

A key issue in the design of cables for the distribution and main-cable networks is the assumed maximum transmission distance for each cable gauge. The transmission limits for the default case are given in a table in section 3.1.1.1 of Access Network Dimensioning Rules. The maximum distances given are not conservative but, rather, permit suitable transmission losses.7 Thus, if anything, the cable gauges and hence the cost of cables will be underestimated.

238. With regard to cable jointing, Ovum states:[105]

The jointing rules for Distribution cables are described in section 3.2 of Access Network Dimensioning Rules, particularly in section 3.2.3. The jointing of cables, as described in the documentation, is efficient. Joints are only included where necessary: where cable connections are required or where the maximum cable lengths require a joint in a long network branch.

239. With regard to pillars, Ovum states:[106]

The "sizing" of pillars consists of choosing either a 900-type pillar or an 1800-type pillar, depending on how many pairs are to be terminated. The sizing algorithm leaves some spare capacity in the pillar. The effect of this oversizing of pillars is likely to be small.

240. Further, with regard to provisioning rules, Ovum finds:[107]

The engineering rules described in the documentation are extensive and detailed and, on the whole, represent good engineering practice.

241. From this reading of the Optimisation and Efficiency section of Ovum's report, it is not possible to reach logically the conclusion that Ovum agrees with the ACCC's opinion that "the TEA Model reflects Telstra's actual network" (or to the extent that it does so, is inefficient).

242. The ACCC's claim that it "*agrees with commissioned reports, including from Ovum and MJA that as the TEA model reflects Telstra's actual network*" is specious. There is no evidence in the record to support a finding that the TEA model reflects Telstra's actual network, or that it costs the actual, existing network where doing so would embody inefficiencies. Neither Ovum nor MJA support this finding in their respective reports.

E.2.5 Telstra

243. The ACCC also misconstrues Telstra's position with respect to the TEA model:[108]

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[104] Ovum review of network design, at page 10
[105] Ovum review of network design, at page 12
[106] Ovum review of network design, at page 12
[107] Ovum review of network design, at page 4
[108] ACCC Draft Decision, at page 65

Telstra submits that the TEA model represents its actual existing network, which is based upon Telstra's records of the locations of its equipment and customers, rather than a hypothetical lay-out of its network.

244. The ACCC repeat this allegation in section B.4:[109]

The ACCC notes that when Telstra developed the TEA model it sought to use actual costs incurred as a basis for determining efficient forward looking costs.

245. Telstra does not claim that the TEA model represents its actual existing network, nor has it ever made such claims. Telstra's advocacy is clear and unambiguous from even a casual reading of its submissions - the TEA Model estimates the forward looking cost of building a replacement Customer Access Network.

***The model estimates the cost a new entrant would incur to supply the ULLS product**. Since ULLS is provisioned over the Customer Access Network (CAN) and defined as unconditioned copper facilities, the TEA model estimates the cost of a forward-looking, replacement CAN comprised of unconditioned copper facilities.*[110]

*The replacement network design follows best practices and forward-looking provisioning rules, as if the network had been constructed with perfect foresight in a single day. The model **only includes costs that an efficient company would incur in building a new CAN**.*[111]

The TEA model applies best-in-use and forward-looking engineering practices and determines the efficient quantities of plant and equipment that are necessary for a ULLS network. The engineering rules applied in the design of the efficient network are set out in the Access Network Dimensioning Rules and the application of those rules is documented in TEA Model Documentation.

*In addition to the above mentioned submissions, accompanying this submission is the statement of [CIC]. That statement shows, by detailed reference to each of the engineering rules, that those rules **reflect a best practice, forward-looking engineering approach that would be adopted by a network constructor building such a network today**.* [112]

246. While the TEA Model does not represent Telstra's actual existing customer access network, it does incorporate real world conditions in its network design process. The model produces a realistic Total Service Long Run Incremental Cost of ULLS, which reflects the conditions and constraints an efficient provider would face today in constructing an alternative to Telstra's access network.[113]

*The concept of TSLRIC+ is meaningless in any practical sense unless it **takes into account the unchangeable physical constraints within which the service must be provided and which any competitor or network builder would undoubtedly face**. A CAN must reach end-user customers in fixed locations across the network. It must do so taking its*

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[109] ACCC Draft Decision, at page 80
[110] Telstra Efficient Access (TEA) Model Overview, at page 3, emphasis added
[111] Telstra Efficient Access (TEA) Model Overview, at page 4, emphasis added
[112] Telstra response to Discussion paper, at page 10, emphasis added
[113] Telstra response to Discussion paper, at page 10, emphasis added

surrounding physical environment as given. While the long-run nature of TSLRIC+ may require the factors of production to be variable, the practical geographic constraints facing the network are not variable. A TSLRIC model that does not take these factors into account will not reflect the efficient costs of supply nor would it reflect the actual services supplied.

And:[114]

The objective of TSLRIC+ pricing principles is to set prices at levels that would occur in a competitive market. These costs are not some hypothetical construct that ignores real world constraints of the environment in which new entrant firms operate. Rather, in the interests of sensible and accurate decision making, those costs must, when possible, ***reflect the actual and real environment in which the new entrant would build and operate a reliable network*** *with the same service potential as Telstra serving the customers actually using the declared service.*

247. In its response to the ACCC's Discussion paper, Telstra further explained what it meant by "real world constraints" with an example.[115]

For instance, TSLRIC estimates derived from hypothetical models assume that trenches, conduit and cable can run through buildings, rivers, parks, harbours and other obstacles.19 Therefore, current prices will not accurately ***reflect the efficient costs of a new operator*** *unless trenches, conduit and cable are, in fact, able to run through buildings, rivers, parks and harbours. They certainly are not.*

248. The ACCC's allegation is unfounded and disingenuous. Even if a passage could be found in Telstra's hundreds of pages of submissions, which was worded such that it could be construed as a statement that the TEA model estimates cost for Telstra's actual existing network, the overwhelming context of Telstra's advocacy, a small sample of which is quoted above, makes Telstra's position clear – the TEA model is designed to model the cost an efficient new entrant would incur in constructing an alternative to Telstra's access network.

249. The TEA model makes use of Telstra's extensive engineering records, not so as to model Telstra's existing network, but to accurately measure the route distances a new, efficient access network would necessarily have to traverse, taking account of the immutable terrain that comprises each of the 584 exchange service areas included in the Undertaking, in order to provide service to all of the addresses the defined service area. In other words, Telstra uses its engineering data to identify the rights of way that all providers must use in constructing a cable network. Telstra's use of actual engineering data in the TEA Model is well documented; and the advantages of this approach have been fully explained.[116]

Use of actual network data provides the following advantages:

· Precise identification of points of ingress, where demand enters the CAN;

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[114] Telstra response to Discussion paper, at page 11, emphasis added
[115] Telstra response to Discussion paper, at page 11, emphasis added
[116] TEA Model Route Optimisation Process, at page 3

· Identification of routing within legal rights of way past virtually every address in Australia;

· Ability to design a network which takes account of all natural and man-made obstacles;

· Ability to select efficient, least distance routes from customer locations to telephone exchange buildings from a vast array of alternative paths providing virtually universal coverage;

· Access to data related to all customer locations, rather than making assumptions based upon sampling;

· Ability to model a network designed with actual, efficient engineering standards, rather than model a simulation based upon hypothetical design algorithms that never have been and never will be used in designing a real network;

· Ability to calculate the required number of network components such as pits, joint covers and manholes, rather than estimating a number based upon route miles; and

· Identification of efficient "last mile" routing for FTTN Networks.

250. Additionally, Telstra has fully documented the rationalisation and optimisation process employed in the development of the TEA Model, which ensures that the use of actual engineering records necessary to bring realism to the network design process does not introduce inefficiencies into the resulting forward-looking network design. As explained in the TEA Model Route Optimisation Process document, actual engineering data is used to identify the points of ingress (where demand enters the access network) and to identify the shortest network routes, which reside within legal rights of way, necessary to serve the entire service area.[117]

The TEA model uses the CAN cable routing information from these databases, which reflect actual cable routes that serve real building addresses, reside in legal rights of way and account for all natural and man-made obstacles, to design an efficient CAN, which is in all ways based upon fundamentally sound, forward-looking engineering principles and best practices placement procedures. This ensures that the engineering design underlying the TEA model would work in the real world – something not assured in other models with hypothetical designs.

Besides use of previously engineered cable routes, three other processes ensure the TEA network design is forward- looking, efficient and reflective of best practices. The provisioning process employed in TEA follows in all ways the Access Network Provisioning Rules provided by Telstra's Network Fundamental Planning (NFP) department. The labour and equipment prices built into the model are taken from the Access Network Modelling Costing Information document also produced by NFP. And, the routing information derived from Telstra's network systems and databases is rationalised and optimised before it is loaded into the TEA Engineering Modules.

[117] TEA Model Route Optimisation Process, at page 1

E.2.6 Efficient forward looking technology

251. As noted above, MJA objects that the TEA Model calculates the cost of a copper network, rather than incorporating alternative technologies into the network. The ACCC also finds fault with the TEA Model's choice of technology.[118]

> *The ACCC also notes that Telstra's application of its TEA model does not incorporate all efficiencies and optimisations that would be theoretically possible using efficient forward-looking technology.*

252. The TEA Model includes two service definition options: one option models cost for ULLS; the other models cost for basic exchange access. The difference between the two options is that the ULLS option necessarily constrains the choice of technology to that which meets the service description and technical parameters of ULLS; while the other has no such constraints. Both options use only forward-looking, best in use technology in network design.

253. The ULLS version of the TEA model makes use of technology proscribed in the Access Network Modelling Costing Information document provided by Telstra's Network Fundamental Planning (NFP) department. As explained in the statement of [CIC], this technology is the most efficient, forward-looking technology in commercial use, which satisfies the service definition and technical parameters of ULLS – unconditioned copper wire.

254. Contrary to the ACCC's claim, there is no unconditioned copper wire in commercial use that is more efficient and forward-looking than the unconditioned copper wire used in the TEA Model. Further, no further technological advancement in unconditioned copper wire is expected for the foreseeable future. Consequently, it is not possible to derive greater efficiencies and optimisations, theoretical or otherwise, through the incorporation of more technologically advanced unconditioned copper wire into the TEA Model's network design.

255. Likewise, MJA's criticism of the TEA Model for "neglecting to optimise by considering alternative technological solutions," cited above, is similarly without merit. Substituting fibre and radio for copper in the modelled network fails to meet the definition and technical parameters of ULLS, which is an all copper service.

256. Under the terms of the ULL service declaration, Telstra is required to provide a copper wire service. Telstra's legitimate interests plainly require that the charges it should be allowed to set for that service reflect the technological constraints the service declaration places upon it. To do otherwise would be inconsistent with any concept of capital maintenance.

257. Further, the TEA Model can be run using the basic exchange access option. This option does incorporate fibre into the access network design, where it provides a lower priced option. Even though this option of the model is inappropriate for costing ULLS, because it employs technology which does not meet the definition of ULLS, it is available to the ACCC for examination of the impacts of alternative technology.[119]

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[118] ACCC Draft Decision, at page 72
[119] MJA Review of the TEA Model, at page 5

In MJA's view efficient cost of supply requires consideration of an array of different options in modelling the access network. In particular, new entrants are unlikely to reproduce a copper based network similar to the one that has already been rolled out by Telstra. Instead, they will roll out the technology that is most appropriate to the areas they serve (for example, using fibre in urban areas and radio in rural areas). This has been clearly evidenced by the long standing debate surrounding the building of a fibre to the node (FTTN) in different geographical areas.

258. The ACCC quotes Ovum confirming that aerial cabling is not available in Australia.[120] Underground cabling reflects the reality of contemporary Australian telecommunications infrastructure installation.

259. Telstra has submitted compelling evidence on network design which shows that the current construction requirements for cable networks virtually preclude the use of aerial facilities.[121] In contradiction to its submission in the context of Telstra's Undertaking, Optus' material submitted to the ACCC on its own CAN in October 2008 clearly acknowledges that installing aerial cable is, in practice, impossible.

260. Optus states:[122]

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

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

261. Ovum also expressly acknowledges that the use of conduit to house cable runs in Band 2 exchanges is appropriate and states (at page 10 of the Ovum Economics Review):

The model also assumes that all cables have been laid underground and no alternative use of other technologies such as aerial cable has been included….in Australia ***there is no alternative. Ovum believes local councils will not accept such usage of alternative equipment. With such an assumption in place the model has been modelled fairly to represent no alternative technologies****. [Emphasis added]*

[120] ACCC Draft Decision, at page 67
[121] Statement of [redacted] at paragraphs 40 to 55
[122] Optus (2008), *Optus Public Submission to the Australian Competition and Consumer Commission in Response to its Draft Decision on Telstra's Exemption Application in Respect of the Optus HFC Network*, October 2008, at paragraphs 4.42 and 4.43

262. The reality is, in today's environment, it is very difficult for a telecommunications provider to rollout aerial cabling throughout the major capital cities and established urban areas in Australia. As Optus acknowledges in the statement quoted above, while Optus was rolling out its cable network there was a significant public outcry against putting aerial cables on poles. As has been recently confirmed publicly by an Optus executive, it would be impossible to for similar rollout of aerial cable to be repeated today.[123]

263. Under the existing regime, the installation of aerial cable is governed by the Schedule 3 of the *Telecommunications Act* 1997 (Cth) (**Telco Act**). The Telco Act distinguishes between 'high impact facility' and 'low impact facility'. Schedule 3 to the Telco Act stipulates that a 'designated overhead line' (which includes aerial cables of greater than 13mm external diameter) cannot be a 'low-impact facility'. Therefore, aerial cabling cannot be approved under Commonwealth law. Instead, approval is required from the relevant State or Territory administrative authorities, usually the relevant local council. In the event that a carrier is unable to obtain such approval, the carrier does have the option of applying to the Australian Communications and Media Authority (**ACMA**) for a facility installation permit (**FIP**). ACMA may only issue a FIP in limited circumstances however (for example, the telecommunications network to which the facility relates is of national significance)[124] and the process is lengthy and involves, amongst other matters, public consultation.

264. While leaving the regulation of the installation of aerial cables to, largely, local councils, the Telco Act provides for the removal of installed aerial cables in certain circumstances. Specifically, clause 51 of Schedule 3 to the Telco Act requires carriers to remove aerial cabling within 6 months, where the cable has shared poles with other non-communications cabling (such as electricity cables) and all the non-communications cabling has been permanently removed and not replaced. In this regard, it is relevant to note that across Australia local councils and electricity authorities have plans to relocate the electricity cables underground.[125] Such removal would require the telecommunications carrier to also remove installed aerial cables from the power poles within 6 months.

265. As is apparent from the above:

- the current Telco Act regime severely restricts a carriers ability to install aerial cable;
- installation of aerial cable is subject to approval by relevant State or Territory administrative authorities, usually local councils;
- requisite approvals for aerial cabling are highly unlikely to be forthcoming;

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[123] Commentary by Maha Krishnapillai, Director, Government and Corporate Affairs, Optus at CEDA *Australia's Broadband Future* event, Sydney, 3 December 2008.
[124] See ACMA *Guide to Applying for a Facility installation Permit*, June 2007 available at http://www.acma.gov.au/webwr/telcomm/infrastructure/facility_installation_permit_guide.doc
[125] As recently acknowledged by the Department of Broadband, Communications and the Digital Economy at http://www.dbcde.gov.au/communications_and_technology/policy_and_legislation/carrier_powers_to_install_telecommunications_infrastructure/issues/placing_aerial_cables_underground

- without requisite State or Territory administrative authority approval, a carrier's ability to obtain a FIP via the ACMA process is similarly restricted;

- where aerial cable is already installed, the current Telco Act regime expressly requires a carrier to remove such aerial cable within 6 months of non-communications cabling being removed – such removal is already occurring where, for example, local councils and power authorities are relocating power cables underground;[126] and

- both the ACCC's experts and Optus acknowledge that the installation of aerial cabling is, in practice, unrealistic under the current Telco Act regime.

E.3 Cost valuation (ACCC section B.3)

E.3.1 Vendor Prices

266. The ACCC notes (at page 73) that "*only six individuals gained access to the full version of the TEA model*". This is incorrect. As set out above, 18 individuals had approval for, and 13 individuals had, full access to the TEA model including Telstra's confidential vendor prices. In any event, this fact has no bearing upon the validity of the vendor prices included in Telstra's inputs to the TEA Model.

267. The ACCC states (at page 76):

> *In considering whether the costs in the TEA model are efficient and forward looking, where Australian prices are unavailable for comparison, the ACCC prefers an approach which benchmarks cost values with international equivalents. The ACCC also notes that it is usually the case that vendor prices are confidential. On this basis, the ACCC has relied on Ovum's analysis which suggests that the equipment prices should be lower and Optus' submission that the cost of cable used in the TEA model is high.*

268. With respect to the cost of cable, despite Ovum's conclusion that "*the cost of cable is broadly in line with international benchmarks*",[127] the ACCC appear to place more weight on Optus' arguments that "*copper cable costs and joint costs appear to be significantly higher than those used in other jurisdictions*" and "*on a like for like basis the Optus costs [of copper cable] are significantly lower than the Telstra costs*".[128] However, Optus' view is based on the vendor prices in version 1.2.1 of the TEA model, which has simulated vendor prices to protect confidentiality. Optus' vendor prices for copper cable support the vendor prices in version 1.2 of the TEA model, which is the version that contains Telstra's confidential vendor prices.

269. The table below compares the vendor prices in the TEA model with the vendor prices that Optus made available. Caution must be exercised in making

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[126] See, for example, the Government of Western Australia's *Underground Power Program* which, since 1996 has progressed the conversion of residential suburbs from overhead power to underground cabling. Detail at http://www.energy.wa.gov.au/2/3211/64/underground_pow.pm

[127] Ovum's Economics Report, at page 11.

[128] Optus' response to the ACCC's discussion paper, at page 41

these comparisons for the reasons set out in Optus' Response to the Discussion paper (at paragraph 4.97) and Telstra's Response to Access Seekers' Submissions (at section F.2.6). However, as can be see from Table 3 below, a comparison of vendor prices broadly shows that [**Optus CIC**]

Table 3: Comparison of vendor prices for copper cable

Size	Telstra vendor price (0.40mm)	Telstra vendor price (0.64mm)	Optus vendor price (0.50mm)
2400 pair main cable	CIC [redacted]	n/a	[**Optus CIC**]
1200 pair main cable	CIC [redacted]	[redacted]	[**Optus CIC**]
800 pair main cable	CIC [redacted]	[redacted]	[**Optus CIC**]
400 pair main cable	CIC [redacted]	[redacted]	[**Optus CIC**]
200 pair main cable	CIC [redacted]	[redacted]	[**Optus CIC**]
100 pair main cable	CIC [redacted]	[redacted]	[**Optus CIC**]

270. Ovum's comparison of vendor prices for cable support Telstra's inputs. Ovum, in Telstra's view, compared the incorrect cable costs from the TEA model. As explained in Telstra's response to Ovum[129], Ovum had compared its view of the material cost of cost with Telstra's fully loaded cost (that is, including the cost of material, hauling and indirect overhead). Table 4, below, shows that when a like for like comparison is made, that is material cost with material cost, Telstra's vendor prices are below Ovum's for all sizes of distribution cable.

Table 4: Comparison of loaded costs for copper cable

Size	Telstra vendor price (materials)	Ovum cable cost (materials)
100 pair distribution cable	CIC [redacted]	[**$9.73 Ovum CIC**]
50 pair distribution cable	CIC [redacted]	[**$5.41 Ovum CIC**]
30 pair distribution cable	CIC [redacted]	[**$2.96 Ovum CIC**]
10 pair	CIC [redacted]	[**$1.44**

[129] Telstra (2008), *Response to Ovum Submissions*, 5 December 2008, at page 14

distribution cable		**Ovum CIC]**

271. The ACCC quotes Network Strategies analysis of cable costs (at page 74), but does not appear to place any weight on it. Network Strategies conclusion that "*…copper cable costs – appear to be high…*"[130] is based on its assertion that "*the per-metre installed cable costs (including jointing and Telstra's loading factor) appear to be around 30% higher than what we would have expected, based on our experience of similar costs calculated in 2007*".[131] However, this assertion is not backed up with any references or statement as to what costs calculated in 2007 Network Strategies is referring to.

272. Consequently, the evidence provided by Ovum and Optus support the vendor prices in the TEA model and the assertion by Network Strategies cannot be relied upon.

273. In relation to the vendor prices for other plant and equipment, the ACCC appears to rely on Ovum's statement (at pages 74):

> *Ovum states that there is no evidence that the network costs submitted in the model have been re-valued and made forward looking. Further, Ovum concludes that the cost inputs are in fact generally historic averaged costs sourced from Telstra's engineering department and mainly drawn from three Access and Associated Services ("A&AS") agreements.*

274. Telstra's response to Ovum's Economics Report shows that the A&AS contract rates are current and forward-looking, as they are applicable until at least CIC [redacted] – they are not historic costs.[132]

275. The ACCC also quote Ovum's conclusion (at page 75):

> *Ovum concludes that the other equipment prices in the TEA model should be lower as they should be valued at current cost of a modern equivalent assets and if the cable costs are adjusted with international benchmarks and other equipment prices are reduced by 10 per cent, then the final ULLS cost falls by 6 per cent.*

276. Ovum's suggestion to reduce equipment prices by 10% is made on the basis that equipment prices have fallen by 5-15% per annum over the last five years. Telstra does not consider such an adjustment is necessary as Telstra's vendor prices were negotiated in 2007 and are current until at least CIC [redacted]. However, even if such a change was warranted, the price trends proposed by Ovum are inconsistent with the ACCC's view that trenching and duct costs are expected to increase over time. For instance the ACCC state (at page 123):

> *The ACCC's analysis indicates that an economically significant positive tilt should be applied to the value of the ULLS, in aggregate, since the value of the ULLS lines and trenches and ducts are expected to be valued significantly higher in the future in nominal terms.*

[130] Network Strategies response to the ACCC's discussion paper, at page 68, quoted by ACCC in the Draft Decision at page 74
[131] Network Strategies response to the ACCC's discussion paper, at page 5
[132] Telstra's response to Ovum, at page 16

277. Indeed, in its recent determination, the ACCC concluded that distribution conduit and trenching prices increased by 5.11% and main conduit and trenching increased by 5.02%.[133] Consequently, if the ACCC were to adjust Telstra's vendor prices for plant and equipment other than copper cables, then to be consistent with other parts of the Draft Decision, the ACCC would need to increase them.

E.3.2 Lead-ins

278. The ACCC concludes that the cost of a 2 pair lead in should not be included in the TEA model. The ACCC states (at page 76):

> *The ACCC also notes that Telstra has included the cost of a 2 pair lead-in of $282.91 to network costs. The ACCC's preliminary view is that this cost should not be included in the cost of providing the ULLS. As noted in the 2005 Undertaking Final Decision, Telstra has previously submitted that the cost of lead-ins is recovered through connection charges. Further, and consistent with the ACCC's views in recent arbitral final determinations the ACCC does not consider that lead-in costs should be included in network costs as:*
>
> *-the ACCC considers that lead-in costs, being once-off costs associated with connecting a service are more appropriately recovered through connection charges;*
>
> *-the ACCC in not satisfied that the cost of lead-ins is not already fully or partially recovered by Telstra's connection charges; and*
>
> *-lead-in costs may already be recovered in O&M costs.*

279. Telstra's earlier submission that lead-in costs were recovered through connection charges was incorrect. The ACCC's further reasons for considering lead-in costs should not be included in network costs are similarly incorrect for the following reasons.

280. First, whether lead-in costs are 'once-off' or 'ongoing' is irrelevant to how those costs should be recovered. Lead-in costs are 'once-off' in the sense that Telstra (or a new entrant) must incur the cost of installing them upfront, but so are all other network costs in the TEA model. This does not mean that it is unreasonable to recover those costs from ongoing charges rather than connection charges. It is definitely not a justification for denying total or partial recovery of these costs. Indeed, as a matter of principle, it is appropriate to recover lead-in costs via the ULLS monthly charge because installing a lead-in results in a piece of telecommunications infrastructure that Telstra owns and is responsible for, that will provide service for a considerable period of time (25 years), and forms part of the infrastructure required to provide ULLS.[134]

281. Second, Telstra is unable to recover lead-in costs from connection charges as lead-ins are already installed at a loss and connection charges cannot be increased by more than CPI.[135] For example, Telstra's RAF shows that, in 2006/07, Telstra's installation revenue for retail and wholesale end user access

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[133] ACCC (2007), *ULLS Access Dispute Between Telstra and Primus: Statement of Reasons for Final Determination*, December 2007, at paragraph 419

[134] Telstra's response to the ACCC's discussion paper, at page 13

[135] Telstra Carrier Charges — Price Control Arrangements, Notification and Disallowance Determination No. 1 of 2005

under-recovered costs by [CIC] - connection revenues were $[CIC] and installation costs were $[CIC].

282. Third, lead-in costs have been excluded from O&M. They are accounted for by the installation cost category in Telstra's RAF, which is excluded from the factor study.[136] Therefore, they are not recovered from O&M.

E.3.3 Entrance Facilities

283. The ACCC states:[137]

> *The ACCC also notes that the TEA model includes entrance facility costs to total network costs. These costs should not be included in total network costs of providing the ULLS as these costs are already recovered in TEBA charges.*

284. Telstra Equipment Building Access (TEBA) charges compensate Telstra for letting alternative access providers install their equipment in a Telstra exchange building. The TEBA charges compensate Telstra for:

- Floor space used by an access provider equipment
- MDF space (equipment side of MDF) used by the access seekers to allow them to connect to the CAN
- Common infrastructure such as;
  - Superstructure Ironwork
  - Cable trays
  - Optical Fibre trays
  - DC Power systems
  - Air-conditioning
  - Telstra Main Distribution Frame (MDF) equipment side access
  - Digital Distribution Frame (DDF) for transmission cross connection
- Other Building facilities such as;
  - Bricks and mortar building
  - Security and site access management
  - Fire protection systems
  - Remotely monitored alarms

[136] Telstra (2008), *Operations and Maintenance and Indirect Cost Factor Study*, 7 April 2008, at paragraph 14
[137] ACCC Draft Decision, at page 76

- Back-up power batteries and diesel generators
- Lighting
- General purpose 240volt outlets
- Loading bays or un-crating areas
- Car parks
- Lifts, Hoists or other heavy lifting equipment
- Building washrooms and toilets
- Building cleaning and maintenance

- Other Telstra support systems
  - CADlink - for floor space and MDF block management
  - NPAMS – for MDF cable pair management
  - Netpower - for DC power management
  - TRAC – used for the allocation of tie cables and transmission system

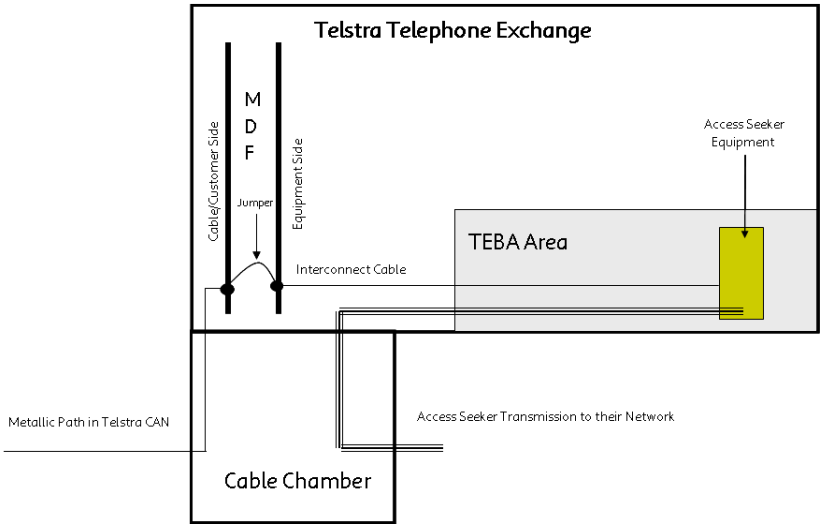
There is also a connection charge that covers the cost of connecting the access providers' lines, which have been terminated at the collocation frame, to the retail customer lines, which have been terminated on the main distribution frame.

285. All of these costs relate to the equipment side of the Main Distribution Frame (e.g. the side where switching, DSLAM, etc equipment is located). The entrance facilities costs in the TEA model relate to the costs on the customer side (line side) of the Main Distribution Frame, that is, the costs associated with terminating cables from Telstra's Main Cable Network on the Main Distribution Frame (MDF) in the exchange building. These costs include:;

- A portion of the cable vault (chamber) where the main cables enter the exchange building;
- The cable racking required to transport the cable from the cable vault to the main distribution frame;
- The line side, or customer side, of the main distribution frame; and
- The blocks where the main cables terminate.

286. All of these facilities are required to terminate copper main cables, regardless of which carrier is providing the actual service over the lines. They are part of the CAN. None of the costs associated with these facilities are included in the TEBA charges.

287. Following is a diagram which identifies the entrance facilities required to connect a loop to the exchange, the TEBA facilities and the cable that is used to connect the two.



288. The TEBA facilities are on the right side of the diagram, and on the equipment side of the Main Distribution Frame. They include all the facilities from the Access Seeker TEBA space to the equipment side of the main distribution frame. The costs for these the facilities are recovered through the TEBA rates. The facilities on the left side of the diagram are on the customer side of the Main Distribution Frame. They are the components of the network required to terminate main cables, and consequently all copper loops, on the main distribution frame. These facilities run from the cable vault/chamber to the customer side of the main distribution frame. These facilities are identified in the TEA model as entrance facilities and are included in the cost of the ULLS.[138]

289. There is a cable that connects the customer side to the equipment side of the main distribution frame. The cost for this wire is recovered through a connecting charge assessed when an alternative access provider acquires a new customer.

290. As shown on the above illustration, there is no overlap between the TEBA facilities and the entrance facilities required to terminate all copper main cables on the main distribution frame. None of the TEBA charges compensate for any of the entrance facility costs in the TEA model.

E.4 Trenching costs (ACCC section B.4)

291. The ACCC has clearly stated that prices that reflect forward-looking efficient costs meet the legislative criterion for evaluating an Undertaking.

[138] Note that only half the cost of the main distribution frame (i.e. line side of the frame) is included in the ULLS cost.

The ACCC considers that ULLS access prices that reflect the efficient (as opposed to actual) cost of supplying the ULLS will best promote the LTIE.[139]

The ACCC considers that prices that reflect efficient forward-looking costs of supply will best promote effective competition in the supply of fixed-line voice services and broadband/DSL services in the present environment. [140]

The ACCC considers that an access price that reflects efficient, forward-looking costs best meet [sic] the objective of encouraging the economically efficient use of and investment in infrastructure. [141]

The ACCC's view is that where access prices are based on costs that are not the costs of a fully optimised and efficient network, the resulting access prices may not reflect the efficient costs of providing the service and will not encourage appropriate build/buy decisions. On this basis the ACCC considers that the objective of promoting efficient investment is not achieved when costs of providing the ULLS are based on a network which has not been fully optimised and does not use forward looking and efficient cost values. [142]

The ACCC considers that, in the context of access prices, prices that reflect the efficient forward-looking costs of the service best meet this criterion [of encouraging the economically efficient operation of a carriage service] [143]

292. Despite this unambiguous guidance, the ACCC now wishes to create exceptions to this rule, apparently because it does not like the results of following its own prescriptions. Thus, in the case of trenching costs, the ACCC has created a "*cost incurred*" exception to its finding that forward-looking efficient costs, rather than actual costs, best meet the legislative criterion. The ACCC evidently intends to apply this exception whenever it believes "circumstances" warrant thereby removing any consistency, certainty or predictability from its pricing principles. The ACCC states: [144]

However, the ACCC recognises that there will be sets of circumstances where forward-looking costs do not adequately promote the objectives of the criteria that the ACCC must have regard for in determining whether the undertaking is reasonable. The ACCC is of the view that this is such a circumstance.

Telstra has proposed that forward-looking costs should include the retrenching and repaving of trenches where local copper pairs were initially laid. However, the ACCC agrees with Optus submission that Telstra did not incur trenching costs of the same magnitude as those modelled in the TEA model since, for example housing estate developers excavated many of the trenches which Telstra use (footnote omitted). Therefore by allowing Telstra to include these cost as part of the TEA model would result in Telstra being compensated for costs that it (in most

[139] ACCC Draft Decision, at page 47
[140] ACCC Draft Decision, at page 48
[141] ACCC Draft Decision, at page 50
[142] ACCC Draft Decision, at page 51
[143] ACCC Draft Decision, at page 56
[144] ACCC Draft Decision, at pages 80 to 81

cases) never incurred and is not likely to incur within the economic life of the existing copper pairs.

…In conclusion, the ACCC believes that the inclusion of trenching costs, where they have not been incurred by Telstra, will lead to access prices which discriminate between access seekers and access providers which is not in the LTIE.

293. There are a number of problems with the ACCC's decision.

294. First, the ACCC attempts to achieve the perceived cost savings that Telstra might achieve by building a network over many past decades, and the cost savings that a new entrant might achieve by building a new network today. No carrier can benefit from having both an old network that reaches 100% of the population and a new one. Therefore, the ACCC's approach lacks any link to the practical reality of firms' costs and the competitive process in the markets in which ULLS is supplied.

295. Second, the ACCC's premise is wrong. Telstra has incurred trenching costs of a similar magnitude as those modelled in the TEA Model.

296. Third, the TEA model allows for a significant proportion of cable to be placed in open trenches in the calculation of forward looking efficient network costs.

297. Fourth, the ACCC appears to justify its approach by the basis of the incorrect view that the TEA model is also based on actual costs. The ACCC fails to understand that the TEA model is based on a forward-looking efficient network.

298. Fifth, the ACCC has incorrectly changed the inputs into the TEA model to eliminate trenching and reinstatement costs, which therefore, leads them to the incorrect conclusion that there is a set of inputs that leads to a cost estimate below $30.

E.4.1 Practical reality

299. The ACCC attempts to achieve the perceived cost savings that Telstra might achieve by building a network over many past decades, and the cost savings that a new entrant might achieve by building a new network today.

300. However, no carrier can benefit from the cost savings associated with having both an old network that reaches 100% of the population and the cost savings from having a new network with the most efficient technology and routes to supply current demand. Firms are either one or the other.

301. Therefore, at the most fundamental level, it would not be reasonable for the ACCC to select the time frame for any subset of inputs into the TEA model on the basis of seeking to minimise the estimated cost. For example, it may be that undertaking some construction activities would have cost less 20 years ago than today. However, there are also other activities in which costs as then incurred would have been higher than they currently are. Focussing on the former for one set of inputs and the later for another set, would not accurately reflect costs at any point in time and hence could not be consistent with Telstra's legitimate interests.

302. Furthermore, while the ACCC focuses on the cost saving associated with historical costs incurred, it does not place any concern on the additional, efficiently incurred costs associated with building a network in the past. For

example, when Telstra originally built the network, much of the current demand on the network was unknown. As a result Telstra had to augment the network with new cable and conduit runs as new demand was identified and connected to the network. These reinforcements and redesigns of the network to meet the growth in demand were not a product of inefficient designs but a direct result of building a network to meet an uncertain future demand. In the TEA model these overbuilds and reinforcements have been eliminated due to the forward-looking design, where current demand is known. Similarly, Telstra has efficiently built facilities to customers at one point in time, but who no longer require service, stranding capacity in areas where customer demand decreased after the initial construction of the network.

303. As discussed in the Harris and Fitzsimmons report:[145]

> *The validity of the TSLRIC+ approach rests on its ability to estimate costs that are reasonable proxies for the costs that an efficient firm could actually achieve. The key word is "reasonable". Prices based upon cost estimates that are reasonable approximations of what a real-world firm could achieve will drive efficient and beneficial investment decisions for incumbents and entrants alike.*

And

> *This goes to the fundamental goal of TSLRIC+ pricing, which is to provide the proper signals for efficient investment decisions by incumbents and entrants. To accomplish this, TSLRIC+ must provide estimates that are reasonable approximations of the costs that an efficient firm could actually hope to achieve.*

304. The ACCC's approach lacks any link to the reality of firms' costs and the competitive process in the markets in which ULLS is supplied.

305. Thus, in Telstra's view, mixing costs standards so as to achieve a lower cost estimate is:

- Harmful to the statutory objectives of promoting competition and encouraging efficient investment;
- Inconsistent with Telstra's legitimate interests and goes beyond the legitimate interests of users of the declared service;
- Undermines regulatory predictability in ways that must increase regulatory risk, ultimately increasing costs; and is
- Capricious and unreasonable, and suggestive of a predisposition to attain a particular outcome rather than to dispassionately and objectively apply a method that properly determines outcomes.

E.4.2 Telstra's Costs Incurred

306. The ACCC is of the opinion that Telstra has not incurred costs of the same magnitude of those modelled in the TEA Model. The basis for this belief apparently lies in the fact that developers excavate and reinstate trenches in

[145] Harris, Dr, Robert and Fitzsimmons, Dr William (2008), *An Assessment of Telstra's TEA Cost Model for Use in the Costing and Pricing of Unconditioned Local Loop Services (ULLS)*, 4 November 2008, at pages 11 and 13 and see section 2 generally.

new estates, since this is the only rationale given by the ACCC for its opinion. The ACCC also cites Optus' submission as support for its view. Optus' rationale for its view is the same – that the costs of excavation and reinstatement of trenches is incurred by the developers of new estates. The ACCC states:[146]

> *However, the ACCC agrees with Optus submission that Telstra did not incur trenching costs of the same magnitude as those modelled in the TEA model since, for example housing estate developers excavated many of the trenches which Telstra use. Therefore by allowing Telstra to include these cost as part of the TEA model would result in Telstra being compensated for costs that it (in most cases) never incurred and is not likely to incur within the economic life of the existing copper pairs.*
>
> *For example, when considering this issue in the context of greenfield estate [sic], the ACCC does not consider the following scenario as reasonable:*
>
> *• On Friday, Telstra lays the local copper pairs for a new estate, Telstra then seeks a certain rate of return on the assets which are valued at x, from the ACCC.*
>
> *• On Monday, Telstra return to the ACCC with an increased asset value of x + y on the basis that over the weekend the value of the assets has increased because the council or property developer have back-filled the trenches and laid concrete footpaths.*

307. Optus states:[147]

> *Telstra itself did not historically incur trenching costs of the same magnitude as those modelled as a result of TEA's surface barrier costs in question (eg, since housing estate developers excavated many of the trenches that Telstra currently uses).*

308. First and foremost, the ACCC's example that relates to costs incurred historically and Optus' assertion are not germane. Telstra's Undertaking price is a step closer to the efficient forward-looking TSLRIC+ of a new entrant. Such pricing is what would be produced in an effectively competitive market and is reasonable. Prices based on Telstra's actual costs incurred historically are not those that would eventuate in an effectively competitive market.

309. Notwithstanding, Telstra submits that it has had to dig and reinstate trenches to a similar extent as modelled in the TEA model. In practice, and in the TEA model, the only instance in which Telstra does not incur trenching costs during construction is when trenches are provided by developers in new estates. In all other instances, Telstra must incur trenching costs in order to install conduit in the ground. Furthermore, over time, Telstra must add cable capacity and new routes to customers initially connected to the CAN in a new estate. This requires Telstra to re-dig trenches and reinstate them. Thus, even if Telstra had installed a cable in a developer provided trench in 1980, over the course of the next 30 years, Telstra might have had to re-dig that trench, lay additional cables, and reinstate the trench. As such, the ACCC's scenario where Telstra lays cable in a new estate on Friday and then, on Monday, seeks a higher valuation of those assets due to the street being paved above the cable, is not germane. In the ACCC's simplistic language, over the weekend,

[146] ACCC Draft Decision, at page 80
[147] Optus' Response to the ACCC's Draft Decision, at page 44

Telstra is likely required to re-dig those trenches to add capacity to the network.

E.4.3 Cable Placed in Open Trench

310. The TEA model estimates the amount of trenching necessary in the construction of a forward-looking, efficient new network. The TEA model does not include the cost of breaking out surface structures (e.g. concrete or asphalt), digging trenches (or boring) or reinstating original surfaces in the calculation of the cost of placing conduit in new estates or where distribution conduit shares a trench with the main cable network or another distribution area. Rather, in such instances, the TEA model only includes the cost of placing conduit in an open trench. Consequently, the forward-looking efficient cost of constructing a network in new estates, as calculated in the TEA model, is substantially lower that the cost of construction elsewhere.

311. The percentage of conduit length, which is assumed to be installed in new estates (New Estates Ratio) or trenches shared between the main and distribution networks or shared between adjacent distribution areas, is a user adjusted input to the model.[148] This amount is input to the model as a ratio of conduit installed in open trenches to total conduit. In a forward-looking context, Telstra estimates 1% of total network construction can be expected to be done in new estates and 5.95% of conduit can be expected to be placed in trenches that are shared between the main and distribution networks or shared between adjacent distribution areas. The total proportion of conduit placed in open trenches is 6.95% in the TEA model. Once a forward looking new estates construction estimate is decided upon, the model excludes that portion of construction from the calculation of trenching costs. The model then calculates trenching costs for only the remaining lines expected to be constructed outside of new estates and not shared between main and distribution networks or within the distribution network.

312. This is an approach that has been consistently applied in all recent ACCC decisions and the ACCC has consistently sought that 13% of trench lengths have no attributed trenching and reinstatement costs. For instance, the ACCC sought the followings values:

- 13% in December 2004;[149]
- 13% in December 2005;[150]
- 13% in August 2006;[151]
- 13% in December 2007, on the basis that this value best met the LTIE;[152]
- 13% in June 2008;[153]

[148] The input is labelled 'Cable Placed in an Open Trench' in version 1.2 of the TEA model and was previously called 'New Estates Ratio' in version 1.1.
[149] ACCC (2004),*Assessment of Telstra's undertakings for PSTN, ULLS and LCS: Final Decision*, December 2004,at pages 76-77
[150] ACCC (2005), *Assessment of Telstra's ULLS and LSS monthly charge undertakings: Draft Decision*, December 2005, at page 101
[151] ACCC (2006), *Assessment of Telstra's ULLS monthly charge undertaking: Final Decision*, August 2006, at page 56
[152] ACCC (2007), *ULLS Access Dispute between Telstra and Primus: Statement of Reasons for Final Determination*, December 2007, at paragraphs 447 to 454
[153] ACCC (2008), *ULLS Pricing Principles and indicative Prices*, June 2008, at pages 19-20

313. In its Draft Decision the ACCC has increased its preferred value for this input to a range of 13% -17%. It appears that the ACCC uses the new 'cost incurred' constraint to justify such a high trench sharing input.

314. However, since the TEA Model allows for a substantial proportion of conduit to be placed in open trenches (6.95%), which attracts no trenching or reinstatement costs, the ACCC's concern regarding whether or not Telstra actually incurred these costs in the construction of its network is unwarranted and inapposite.

E.4.4 Forward-Looking Costs

315. The TEA model calculates the forward-looking costs an efficient provider would incur today, if it were to build a new access network capable of providing ULLS service. The model designs efficient routes capable of providing service to all current addresses in the serving area (in this case Band 2 ESAs). Next the model provisions the quantum of forward-looking best in use equipment necessary to serve the customers along those efficient routes. Finally the model calculates the investment necessary to purchase and install that equipment.

316. Despite this, the ACCC misrepresents Telstra's use of base data to justify its decision to adopt a "cost incurred" standard. For example, the ACCC states: [154]

> *The ACCC notes that when Telstra developed the TEA model it sought to use actual costs incurred as a basis for determining efficient forward looking costs. However, Telstra has not provided any evidence of incurring costs for the breakout, placement and reinstatement of terrain for new network installations and has only provided evidence of the costs a contractor would charge Telstra for this activity.*

317. As discussed in section E.2 above, Telstra did not seek to use actual costs incurred as a basis for determining efficient forward looking costs in the development of the TEA model. Telstra uses Telstra's conduit locations as the basis for determining the rights of way for an efficient forward-looking trench layout for the CAN.[155] Further, the ACCC implies that, since Telstra has not provided evidence of its historic trenching costs, the company must not have incurred any such cost. Telstra did not provide evidence of having incurred costs for breakout, placement and reinstatement in the past, because Telstra historic costs incurred are irrelevant to the consideration of whether Telstra's Undertaking price is based on efficient forward-looking costs.

318. Furthermore, the ACCC claims: [156]

> *Telstra has proposed that forward-looking costs should include the retrenching and repaving of trenches where local copper pairs were initially laid.*

319. It is not true that the model "*include[s] the retrenching and repaving of trenches where local copper pairs were initially laid*," as alleged by the ACCC. The TEA model calculates the cost an efficient provider would incur today to build a new network, as would any properly constructed TSLRIC+ model – it does not calculate the cost of the existing network. Consequently, the model does not

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[154] ACCC Draft Decision, at page 80
[155] See Statement of [CIC redacted], 18 November 2008, Annexure A.
[156] ACCC Draft Decision, at page 80

examine existing local copper pairs and where they were initially laid for any purpose, let alone for the purpose of "*retrenching and repaving of trenches*" where they are laid.

E.4.5 ACCC's model inputs

320. The ACCC has tested the reasonableness of Telstra's $30 pricing proposal by running the TEA Model with a set of input parameters. The ACCC presumably considers these parameters – which it has chosen – to be reasonable. One of the assumptions in the ACCC's set of input parameters is that a forward-looking network construction can be accomplished by an efficient new entrant by placing conduit in trenches, which are excavated in turf 100% of the time. The ACCC states:[157]

> *The ACCC also notes that Telstra has asserted that the Proposed Monthly Charge can be supported by the results of the TEA model under any reasonable set of inputs. The ACCC has found that when the TEA model is run with other parameter values, the resulting range of monthly charge estimates are significantly less than $30. This leaves the ACCC with significant doubt as to whether the Proposed Monthly Charge of $30 is reasonable. While this does not, of itself, mean that the ACCC cannot be satisfied of the reasonableness of the $30 price, the ACCC does have concerns that the $30 figure falls outside what could be considered, when all submissions are taken into account, to be a reasonable price range.*
>
> *In particular, the ACCC applied the following assumptions to the TEA model in its scenario run:*
>
> *-trenching of turf only;*
>
> *-Ovum's pre-tax WACC of 9.22, post-tax WACC of 8.58;*
>
> *-tilt to the ducts and pipes of 3 per cent; and*
>
> *-$0 for lead-ins rather than the TEA model assumption of $282.91.*
>
> *In combination, these assumptions result in the monthly charge for the ULLS being significantly less than $30.*

321. The ACCC appears to believe it reasonable to assume that an access network can be built and reinforced over time though the city centre of every suburb and medium sized town in the most populated parts of Australia without ever encountering a concrete footpath, a driveway or a road. Since new estates are excluded from the trenching assumption, and the ACCC believes that 13 to 17% of lines can be constructed in new estates in an efficient forward-looking build, it follows that the ACCC believes that the remaining 83 to 87% of lines, which are constructed outside of new estates, can be placed in turf without exception.

322. Telstra submits that this assumption is plainly unreasonable, even if it is only being used as a 'limiting case'. In effect, there is no possibility that such a 'limiting case' could ever arise, and hence that it could ever properly define or even inform the range of the appropriate cost estimate. Adopting such an assumption in determining that range would be no different from adopting an assumption that vendors would provide equipment without charge.

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[157] ACCC Draft Decision, at page 41

323. Telstra always has and always will incur breakout and restoration costs in building or reinforcing its network. This fact is confirmed by the multitude of municipal and other governmental regulations and rules governing the reinstatement of concrete when roads and footpaths are excavated in order to place new telecommunications facilities. If there is no possibility that roads and footpaths would ever require reinstatement, why would virtually every municipality develop extensive regulations governing the reinstatement of these roads and footpaths? They wouldn't. The regulations are required to address the frequent and extensive need to reinstate road and footpath surfaces as new telecommunications facilities are constructed. Any assumption that this never occurs defies credibility.

324. Finally, even the Ovum engineering report commissioned by the ACCC recognises that surface structures cannot be simply assumed away. Ovum suggests that, "*while this may not be entirely satisfactory for copper cable placement*", concrete breakout and restoration in a suburb could be avoided in suitable circumstances with lateral boring.[158]

> *Further, there is the issue of what a modern, efficient operator would do if it were to duplicate the Telstra infrastructure. Much of the concrete surface breakout and restoration in a suburb could be avoided in suitable circumstances. For example, when Bright laid fibre for a pilot in South Perth, it used lateral boring through the nature strips for the fibre runs. This avoided the concrete footpaths in most cases. While this may not be entirely satisfactory for copper cable placement, it indicates that careful surveying and planning can avoid difficult surfaces*

325. Telstra agrees with this proposition and makes liberal use of boring in its model inputs, wherever feasible. The ACCC, on the other hand, eliminated all boring in its "reasonable set of inputs" and replaced them with turf. However, such an approach is clearly inappropriate as it assumes that all drives, footpaths and roads in Band 2 areas are turf.

E.5 Trench sharing (ACCC section B.5)

326. As the ACCC and Tribunal have previously ruled, a reasonable TSLRIC+ model calculates the cost a new entrant would incur in replicating Telstra's network. A new entrant in a competitive market replicating Telstra's network will not have available to it open trenches that have since been reinstated. Instead, the new entrant could only take advantage of open trenches in new estates that are under development during the course of the new entrant's network build.

327. The duration of a new entrant's network build is not a directly observable variable. In Telstra's 2005 ULLS undertaking, which was an undertaking for prices in all ULLS bands, Telstra considered that it was appropriate to set the proportion of the trenches in new estates on the basis of a national figure assuming that the new entrant would build a network over the course of one year. Approximately 1% of premises in Bands 1, 2, 3 and 4 were added to the network and in new estates each year.

328. However, it is possible to distinguish new estates by different bands. Since Telstra's Undertaking is for Band 2 only, Telstra considers it reasonable to use only the Band 2 ratio of new estates for this input (CIC per annum) for the purpose of calculating Band 2 costs. Furthermore, the majority of new estates are

[158] Ovum (2008), *Review of the network design and engineering rules of the TEA cost model*, 6 August 2008, at pages 38-39

deployed with fibre in at least part of the network, making them unsuitable for ULLS. The proportion of Band 2 SIOs that will be developed in new estates with a full copper loop suitable for ULLS is [CIC] per annum.[159] This is a reasonable new estate trench sharing input for determining the costs of Band 2 ULLS with respect to the New Entrant Benchmark.

329. It appears from the Draft Decision that the ACCC agrees that the New Entrant Benchmark is appropriate, however, the ACCC considers that a new entrant would roll out its network over a longer time than the one year assumed by Telstra. In a final determination with respect to an arbitration over ULLS pricing, the ACCC stated:[160]

> *The ACCC considers that the concept of a forward-looking network needs to be related to realities of deployment of the network. The ACCC considers that, in the real world, construction of a network would be planned a significant time in advance with other operators and utilities, and would allow a new entrant to progressively make use of open trenches in new estates at no cost. Accordingly, the best available proxy for trench sharing in new estates is the cumulative (or historical) trench sharing measure.*

330. Similarly, in the Draft Decision (at page 87) the ACCC state:

> *The ACCC considers that, when applying the TSLRIC framework in a practical sense, forward looking network costs need to reflect the realities of network deployment and that it is not possible for the CAN to be constructed in one period (or instantaneously). The ACCC view is that network construction would generally be planned a significant time in advance…*

331. However, in assuming a short roll-out period Telstra has conservatively understated costs. Adopting a longer time frame would require additional costs to be included in the TEA model to reflect the real costs of delaying a new entrant's network build. As discussed in Telstra's response to the ACCC's Discussion Paper:[161]

- An approach that assumes a new entrant would progressively roll out its network beginning at the start of the Undertaking period would necessarily mean that that new entrant would leave many users unserved at the start of the Undertaking period and potentially throughout the course of the Undertaking. Such an assumption is inconsistent with the Standard Access Obligations, which require the service provider to supply an active declared service.

- An approach that assumes that a new entrant commenced rolling out its network some years ago and finished at the start of the Undertaking period would mean that the interest during construction, which would accrue over the 'advance' period from when the network began to be built to the time it was placed in service (start of the Undertaking period), should be accounted for. In the derivation of its 13% to 17% new estate ratio, the ACCC considered a construction timeframe beginning in 1992. The compounded cost

[159] Statement of [CIC] at Annexure [CIC]; and Telstra's Response to the ACCC's Discussion Paper at page 25
[160] ACCC, ULLS Access dispute between Primus and Telstra (monthly charges), Statement of Reasons for Final Determination, December 2007, (Public Version), paragraph 442.
[161] Telstra's Response to the ACCC's Discussion Paper at page 23 to 26

of interest during construction accruals over just 10 years must be added to the ACCC's cost of construction, adding $2268 per SIO in interest to the $2717 per SIO investment cost in band 2 areas.[162] Clearly, assuming a shorter roll-out timeframe results in lower costs on net.

- The TEA Model includes the efficiencies of scope and scale in estimating the cost of ULLS. If the ACCC were to estimate the cost of a provider beginning with a small market share and building share over a decade or more, these economies would not be achievable or achievable to any where near the same extent. Rather, as in mobile termination, a model would need to be constructed which reflected some lower level of the scale and scope efficiencies.

332. Despite these submissions, the ACCC concluded in the Draft Decision (at page 87):

> *In this regard the ACCC considers that a trenching sharing value of between 13-17 per cent approximates cumulative trench sharing potential in new estates…*
>
> *This figure has been re-calculated to include data up to 2006-07.*

333. The ACCC characterises their updated figure as "*the accumulative stock of new estates over the last ten years*"[163] updated to account for data to 2006/07.[164] However, in its 18 December 2008 Letter to Dr. Tony Warren, the ACCC explains that its 17% new estates ratio estimate was calculated using "*data on the number of new dwellings constructed since 1992*". Presumably, the ACCC considers an estimate of the cumulative percentage of new dwellings (adjusted to account for those constructed in already populated areas) constructed nation wide over a 16 year horizon is a reasonable approximation for the number of new estates which would be encountered in a forward looking construction.

334. Aside from differences between Telstra's and the ACCC's assumptions in relation to a new entrant's network roll out timeframe, the ACCC has made two mistakes in their calculation. The ACCC has, first, used the national average ratio, rather than just the Band 2 ratio and, second, used the total historical number of dwellings constructed in new estates, which includes dwellings in those new estates that have been served with fibre and those that are served with all copper lines, even though new estates that have been provisioned with fibre are excluded from the TEA Model, because they are unsuitable for ULLS. Consequently, the ACCC's methodology removes the cost of trenching for lines which are not included in TEA, dramatically overstating the savings in trenching costs and understating the average cost per line.

335. Finally, the forward looking projection of the proportion of Band 2 SIOs that will be developed in new estates is estimated to be CIC per annum.[165] The cumulative effect of CIC per annum over a 16 year period is CIC, not 13-17% as the ACCC has calculated using historic data.

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[162] Assuming that construction cost is spread evenly over a 10 year construction period and a compound interest rate of 12.28%.
[163] ACCC (2004), *Assessment of Telstra's undertakings for PSTN, ULLS, and LSS*, December 2004, at fn 156
[164] Draft Decision at fn 232
[165] Statement of CIC] at Annexure CIC .CIC of green field new estates in Band 2 multiplied by CIC total green field new estates in 2006/07.

336. Consequently, a 1% input into the trench sharing in new estates variable in the TEA model conservatively overstates the proportion of new estates that a new entrant would face within a one year construction timeframe. Conversely, a 13-17% new estate ratio, is more than 50% higher than the proportion of new estates that a new entrant would face within even a 16 year construction timeframe, which is clearly an excessive construction horizon for a properly constructed TSLRIC+ study. The 1% new estates ratio input, therefore, should be considered reasonable by the ACCC.

337. The ACCC also notes that Telstra might be able to share trenches with other utilities, despite noting Telstra's submissions to the contrary. The ACCC states:[166]

> *Telstra, in their submission, state that there is limited ability to share trenches outside of new estates. However, the ACCC notes that on Telstra's website that in their guidance to new home builders that:*
>
> > *"…the trench may be shared with other utilities, such as electricity, gas and water, as well as the phone line (contact your builder to find out)".*
>
> *As such, the ACCC considers this gives further weight to the view that the level of trench sharing is above that stated by Telstra in the 2008 Undertaking application and that 1 percent for trench sharing in new estates is unreasonable.*

338. However, the passage from Telstra's website, as stated therein, relates to trenches from the property boundary to the customer's premise. The cost of this trench is incurred by the property owner, as is also clearly stated on the website. The cost associated with this type of trench is appropriately excluded from the TEA Model. Consequently, any sharing with other utilities in this trench would not result in any savings to Telstra. This sharing should not be considered in the new estates ratio, and it should not weight the ACCC's view that 1% trench sharing in new estates is unreasonable, as the ACCC indicates that it does.

339. To summarise, the ACCC's claim in the Draft Decision that 1% trench sharing in new estates is unreasonable is based, in part, on the weight that the ACCC has given to the incorrect finding that sharing trenches between the property boundary and customer premise would save cost to Telstra. Notwithstanding, the ACCC has incorrectly used a national new estate ratio rather than a Band 2 ratio, and its ratio incorrectly includes fibre connected SIOs which have been excluded from the TEA Model, because they are unsuitable for ULLS. Finally, the ACCC's use of a 16 year construction horizon is beyond the pale, considering that Telstra has constructed and placed in operation a nationwide 3G network in a single year. Consequently, Telstra considers that the ACCC has erred in the Draft Decision that 1% trench sharing in new estates is unreasonable.

E.6 O&M and indirect cost factors (ACCC section B.6)

340. In its conclusion regarding operating and maintenance (O&M) and indirect cost factors the ACCC made the following findings:[167]

[166] ACCC Draft Decision, at page 87
[167] ACCC Draft Decision, Section B6 Pages 92 & 93

- Historic cost factors should have been calculated using the 2006 – 07 Regulatory Accounting Framework (RAF) data as opposed to the 2005 – 06 data used in the actual calculation;

- Telstra should have adjusted the factors to reflect Band 2 provisioning costs;

- The ACCC concurs with Ovum's conclusion that the indirect expenses are extremely high when compared to indirect expenses in other publically available cost models;

- Forward looking O&M costs should be less than the historic counterpart since the new plant is installed throughout the network; and

- O&M and indirect cost factors should not be based on accounting classification of those costs.

341. Based on these findings the ACCC concludes:[168]

> *The ACCC's conclusion is that the O&M costs in the TEA model do not reflect efficient forward-looking O&M costs.*

342. Telstra addresses each of the concerns raised by the ACCC below. First we will address some factor calculation changes that we have made pursuant to the ACCC's Draft Decision and our analysis of issues raised by various parties to this proceeding.

E.6.1 Updated factor calculation

343. Telstra has reiterated numerous times that it stands ready to modify the TEA model to address legitimate concerns raised by the ACCC or other interested parties. As such, Telstra is revising the factors calculation to address those issues raised in the ACCC Draft Decision or other parties' submissions in relation to Telstra's Undertaking, which we believe warrant action. The adjustments that Telstra made to the factors calculation in this regard are:

(a) The new calculation is based on the RAF data for the year ending June 30, 2007;

(b) The new calculation uses book cost as the denominator in the calculation of the copper cable operating and maintenance factor;

(c) The new calculation updates the forward looking investment used in calculating the denominator of the O&M factor for ducts and pipes to equal the ducts and pipes investment in version 1.2 of the TEA model;

(d) The new calculation uses the line ratio proposed by Ovum to convert the Band 2 ducts and pipes investment in the TEA model to a total company investment for use as the denominator in calculating the ducts and pipes O&M factor; and

[168] ACCC Draft Decision, at page 92

(e) The new calculation removes intangibles from the calculation of indirect investment costs.

344. Each of these adjustments was made pursuant to a thorough examination of all issues raised by the ACCC in its Draft Decision and the other parties in their submissions. Each adjustment will be discussed in greater detail below. The net result of the updates and corrections to the factors calculations is a $2.51 reduction in the monthly per loop cost.

345. The ACCC states:[169]

> *In deriving costs inputs to the TEA model, Telstra has chosen to use 2005-2006 RAF data and not 2006-07 data, which was available at the time the TEA model was developed.*

346. The ACCC went on to argue that the factor calculation should have been based on the 2006-07 data since it was the latest available data at the time of filing the Undertaking. Even though the 2006-07 data was available at the time the Undertaking was filed, it was not available sufficiently in advance of the filing to be included in the factor calculation. A significant amount of data and analysis was required to finalise the factor calculation. This analysis began long before the publishing of the 2006-07 data. Nevertheless, the ACCC's request that 2006-07 data be used in the factor calculation is, in Telstra's view, reasonable. With this submission in response to the Draft Decision, Telstra has updated the factors to reflect the 2006 – 07 operating results (i.e. RAF data). The result of this update is to decrease the ULLS monthly cost by $1.78 or 3.7 percent.

347. Ovum and Network Strategies identify problems with using the current copper cable and ducts and pipes costs from the TEA model as the denominator in the O&M factor calculation. Ovum lists the following concern with regard to the factor calculation:[170]

> *the model using the model calculated investment for some asset categories while other types of investment are taken from the RAF accounts (historical investment);*
>
> And
>
> *outputs of the model (investment per line) are used to calculate inputs (O&M factors).*

348. Network Strategies echoed many of these same concerns.[171]

349. Section 2.4 of Ovum's *Review of the Economic Principles, Capital Cost and Expense Calculations of the Telstra Efficient Access Cost Model* (Economic review) contains an analysis in which Ovum claims that the use of factors developed using the book investment as the denominator in the factor equation would reduce the loop cost by 1.4%[172]. In this analysis, book costs were used as the denominator for all the factors except conduit. For conduit Ovum opted to use

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[169] ACCC Draft Decision, at page 92
[170] Ovum (2008), *Review of the economic principles, capital cost and expense calculations of the Telstra Efficient Access cost model*, 6 August 2008, at page 44.
[171] Review of Telstra TEA model version 1.1 (Review of Tea model), Report for Optus, Network Strategies, Section 5.4.1, Pages 54 and 55
[172] Ovum (2008), *Review of the economic principles, capital cost and expense calculations of the Telstra Efficient Access cost model*, 6 August 2008, Section 2.4, Pages 15 and 16

the Telstra factor developed using the current investment from the TEA model as the denominator in the factor calculation. Ovum used this option for calculating the ducts and pipes factor because it produced lower O&M costs than would have been produced using a factor based on booked investment.

350. In this factor update, Telstra has adopted the approach used by Ovum in the above analysis. All of the factors in the new study are developed using the booked investment as the denominator in the equation, except for the ducts and pipes (conduit) factor. The conduit factor is developed using a calculation that relies on the current TEA model investment as the denominator in the equation. The net result of using booked investment as opposed to the forward looking investment in the TEA model as the denominator in developing the copper cable O&M factor is a $0.49 reduction in the ULLS costs. Note that if the conduit factor calculation was similarly adjusted to use book cost as the denominator (as would seem reasonable on grounds of intellectual consistency) the cost of a ULLS line would increase by $2.78.

351. It should be noted that in the Ovum analysis the book cost factors were developed using a book investment amount that included an assignment of indirect network support asset investments. The updated factor calculation discussed above does not adopt this approach since the O&M factors being derived in the study will be applied to the direct network investments and that category that does not include any indirect network support asset assignment. This issue will be discussed in more detail below.

352. As discussed above, the denominator in the conduit factor calculation is derived from the current investment costs in the TEA model. In filing Version 1.2 of the TEA model, the conduit factor was not updated to reflect the revised current cost of the conduit investment in version 1.2 of the model. Ovum recognised this fact in its economic review when it stated:[173]

> *The investment per line of "ducts and pipes" and "copper cables" asset categories and the number of lines in Band 2 used in the factor calculation sheet are not the same as the ones that the model calculates.*

353. In this factor filing, the factor calculation is updated to reflect the current cost per line of conduit in version 1.2 of the TEA model (i.e. CIC [redacted]).

354. This adjustment corrects the mismatch of ducts and pipes investment raised by Ovum in the above statement. The mismatch of copper cables investments is no longer an issue because the use of book investment as the denominator of the copper cable operating and maintenance factor (see above), eliminates the need to update the copper cable investment with the new results from the updated TEA model. The mismatch of line counts was fixed when version 1.2 of the model was filed.

355. The impact of updating the ducts and pipes investment to match the output of the latest run of the TEA model is an increase of $0.05 in the monthly cost of ULLS.

356. O&M factors are calculated by dividing total company O&M costs by the total company investment for each asset account. This is required because O&M expenses are not accounted for by band. In developing factors that are based on booked costs, the total company investment is readily available from the

[173] Ibid, Section 3.4, Page 44

RAF reports. Difficulty arises when the current cost is used as the denominator in the factor calculation (i.e. for the ducts and pipes account). The TEA model only develops investment costs for Band 2 exchanges. In order to develop an O&M factor for conduit, the Band 2 investment needs to be converted to a total company investment so that it matches the O&M costs taken from the RAF. In the original filing of the TEA model this conversion was based on a ratio that was developed by comparing Band 2 and total company investment in an old cost study.

357. In its economic review of the TEA model, Ovum argued that the ratio used for this conversion was unreasonable because it did not reflect the current ratio of Band 2 lines to total company lines. Ovum argued:[174]

> *According to the data above, the ratio of Band 2 lines to total lines should be [**66-67% Ovum CIC**], instead of* CIC *% as used in the TEA model.*

358. We concur with Ovum that the investment ratio used in the original factor calculation appears outdated. Consistent with the Ovum analysis, a ratio of Band 2 to total company lines is used to convert Band 2 conduit investment to a total company conduit investment for use in factor development. The impact of this change in factors is to reduce the monthly ULLS cost by $0.20 or 0.4 percent.

359. In its economic review Ovum stated:[175]

> *In general financial calculations do not include intangibles because they are not monetary and/or are difficult to measure.*

360. Telstra disagrees with this assessment. We believe intangibles should be included in financial calculations. Nevertheless, we have decided to remove intangibles from the calculation because we have not been able to validate these figures to our satisfaction within the necessary timeframes. Removing intangibles decreases the monthly ULLS cost by $0.09 or 0.2 percent.

E.6.2 The ACCC's findings in the Draft Decision – expense and indirect asset factors

Factors should have been based on 2006-07 RAF

361. Factors have been updated in the latest filing to reflect 2006-07 RAF expenses and indirect asset investments. See above.

Factors should be based on Band 2 specific provisioning costs

362. The ACCC concludes that the Telstra cost model factors should be calculated based on Band 2 costs:[176]

> *The ACCC also notes that Telstra has not made any adjustments to the RAF data to take account of Band 2 specific service provisioning costs. The ACCC considers that the application of RAF values for the entire network implies that O&M costs in Band 2 are equivalent to those in Bands 1, 3 & 4. .However, the ACCC's view is that Band 2 costs are likely to be lower than costs in Band 3 and 4 and agrees with submissions that it is inappropriate to apply the total value of all services*

[174] Ibid, Section 2.3, Page 13
[175] Ibid, Section 2.3, Page 12
[176] ACCC Draft Decision, Section B6 Page 92

in the RAF across all Bands when the 2008 Undertaking only applies to Band 2.

363. Similarly to Optus and Network Strategies, the ACCC argues that the factor calculation should be based solely on Band 2 operating expenses. Calculating allocated expenses and investments by band in order to develop band specific factors is not consistent with the normal process used in TSLRIC+ models. The reason this approach is seldom if ever adopted is:

- Using a standard factor across all bands automatically assigns more costs to those bands with more investment (i.e. less urban areas);

- The additional modelling cost of assigning all operating and maintenance expenses to specific exchanges or geographic regions far outweighs the potential benefits that can be attained by any supposed gain in precision in the factor development;

- As operating and maintenance expenses comprise approximately [redacted] percent of the total ULLS costs, even significant shifts in the assignment of O&M costs have a minimal impact on the ULLS price for any band;

- Presumably, any gains from increasing the allocation of those costs to any one band are matched by higher costs being imposed on other bands; and

- Developing costs for every exchange will at best require numerous allocations predicated in large part on subjective judgements and hence unlikely to result in greater precision.

364. Applying a standard factor across all density groupings or bands results in higher maintenance costs in exchanges with higher investment. When a constant factor is applied to varying levels of investment, the resulting costs are higher in those bands with higher investment. An elaborate and expensive cost allocations system is unlikely to result in a more accurate or precise assignment of costs, since in all likelihood the allocation of many of the costs would be predicated on investment.[177]

365. Also, as explained in Telstra's Response to Access Seeker Submissions[178], developing factors by band would require assigning or allocating all the company's expenses and investments to each band. If the ACCC desired flexibility in assigning exchanges to different bands or density groups, investments and expenses would need to be recorded at an exchange by exchange level. The additional cost of performing this function would far outweigh any potential benefit. Optus has not provided any information that would imply that there is any benefit that could be derived that would justify the significant outlay of resources such an approach would require.

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[177] Note that the use of lines to convert Band 2 conduit investment to total company conduit investment implies that the conduit investment in Band 2 is similar to other bands. In theory, the ratio used should be Band 2 conduit investment to total company conduit investment. The only source for a factor of this type was the dated cost study from which the [redacted]% ratio Ovum criticised was derived. This ratio implied that Band 2 investment per line in ducts and pipes was greater than the per line investment in ducts and pipes for all bands. This result did not appear unreasonable since conduit is used in urban areas but not always in non-urban areas. For this reason Telstra feels that using a line ratio to derive total company investment in conduit is reasonable.

[178] Telstra's Ordinary Access Undertaking for the Unconditioned Local Loop Service: Response to Access Seeker Submissions 18 November 2008, Section F.5.2, Page 65

366. In the United States, not one regulatory agency (state or the FCC) requires the calculation of separate factors for each density grouping, when access prices are deaveraged. Models produced by the FCC, all the states, and the access providers (i.e. AT&T's sponsored HAI model, derive operating and maintenance costs using a standard factor or a standard cost per line across all density groups. All these regulators and access providers recognise that the potential benefit of shifting a small amount of costs between bands or density groupings would never justify the significant resources required to compile density group specific operation and maintenance expenses.

367. There is little benefit to be gained in developing factors by Band. Operating and maintenance expenses comprise [CIC] percent of the cost of the loop. The use of factors allocates more costs to Bands with greater investment. If an extensive study were to find that the factors assignment of costs based on investment understates the required assignment of costs to rural areas by 10%, the impact on the ULLS cost will be less than [CIC] percent (i.e. [CIC]).

368. There is also a question of cost recovery. If Telstra incurs the significant cost to develop and maintain a system to account for historic operating expenses and investment by exchange, it would be solely for the purpose of developing Band specific factors. No other reason exists for developing such a system. If the sole purpose of the new system is to set ULLS prices, the cost of developing and maintaining the system would be directly attributable to the ULLS service. Increasing the cost of ULLS for all providers simply to potentially shift a small amount of costs between exchanges at the bequest of a few providers would be inefficient and unreasonable for those providers that do not wish to incur these added costs.

Indirect expenses are high in comparison to other models

369. The ACCC argues that the indirect expense factors in the TEA model are extremely high when compared to other models:[179]

> *Further, the ACCC agrees with Ovum's conclusions that the indirect expenses used as inputs into the TEA model are extremely high relative to other comparable indirect expenses in publicly available costs models used in telecommunications.*

370. In their economic review, Ovum presents a table (Figure 3.16) that compares the O&M and indirect cost factors in the TEA model to those in Danish and Swedish cost models. Ovum states:[180]

> *All factors except indirect expenses seem acceptable in the model. The indirect expenses in the TEA model [CIC] compared to the publicly available models [7.5%-18.0%] are extremely high.*

371. As observed by Ovum, the TEA model factors are reasonably comparable to the factors in these other models, except for the indirect expense factor. However, when making comparisons of this nature it is important to compare like with like. The indirect expense factor used in the TEA model [CIC] is applied to the direct O&M and indirect network expenses in the TEA model.

[179] ACCC Draft Decision, Section B6 Page 92
[180] Ovum (2008), *Review of the economic principles, capital cost and expense calculations of the Telstra Efficient Access cost model*, 6 August 2008, Section 3.5, Page 49

372. The model developed by the Danish regulator (ITST) does not calculate indirect expenses in the same way. ITST's model calculates indirect expenses by multiplying the indirect expense factor by total cost (including capital costs).[181] The model developed by the Swedish regulator (PTS) calculates indirect expenses in a similar way.[182] Obviously, their indirect expense factors will be lower, since they are applied to a much higher cost base.

373. Therefore, it is not appropriate to compare the indirect expense factor in ITST and PTS's models with the indirect expense factor used in the TEA model without adjustment for the underlying differences. Further inspection of the most recent release of ITST's model for access shows that the amount of overhead allocated to the access network is DKK595m and OPEX is DKK564m.[183] Hence, the ratio of overhead to OPEX, which is more comparable to the indirect expense factor used in the TEA model, is 105%.[184]

374. Consequently, contrary to the conclusion reached by Ovum, the evidence Ovum relies upon indicates that the indirect expense factor used in the TEA model is of a similar value (indeed, slightly lower) than that used in ITST's models.

Forward looking expenses should be less than their historic counterpart

375. The ACCC also agreed with Ovum that forward looking expenses should be less than their historic counterparts. As found by the ACCC:[185]

> *The ACCC also agrees with Ovum's assessment that efficient forward-looking O&M costs should fall, compared to historic costs, when new and modern equipment is installed and that this trend is not reflected in the TEA model O&M costs.*

376. As Ovum stated in their Submission:[186]

> *Currently in the TEA model the operational and maintenance factor is higher for each plant and equipment item, except for ducts and pipes alone, when compared to the historic cost factors.*

377. Ovum relies upon a faulty analysis in making this statement. Following is a copy of a portion of the factor comparison in Figure 2.4 in the Ovum Economic review.[187]

[181] Telestyrelsen (2002), *Characteristics of the Top-Down and Bottom-Up Cost Analysis*, 15 March 2002, at section A.6.5.1
[182] Post & Telestyrelsen (2004), *Hybrid Model Documentation (PTS Hybrid model v 2.1)*, 10 December 2004, at section 2.6.5
[183] See 'Overview' worksheet at cells L11 and M11. The model can be accessed at http://en.itst.dk/interconnection-and-consumer-protection/lraic/lraic-on-fixed-network/lraic-hybrid-model-2008-1
[184] PTS's model combines direct and indirect expenses so a similar comparison is not possible.
[185] Draft Decision of the ACCC, Section B6 Page 92
[186] Ovum (2008), *Review of the economic principles, capital cost and expense calculations of the Telstra Efficient Access cost model*, 6 August 2008, Section 2.4, Page 15
[187] Ibid

Figure 2.4: Comparison of factor mark-ups

Plant And Equipment Type	TEA model factors	Historic factors
Customer Access Network		
Ducts and Pipes	0.28%	0.95%
Copper Cables	8.77%	7.27%
Pair Gain Systems	4.51%	3.82%
Other	0.00%	
Switching Equipment		
Switching Equipment-Local	3.75%	3.25%

[CIC [redacted]]

378. The TEA model factors and the Historic factors were obtained or derived from the information in the factor calculation worksheets (i.e. Factor Calculation Final.xls) filed with the ACCC with versions 1.0 and 1.1 of the TEA model. In the RAF reports, indirect network assets (i.e. management systems, vehicles etc.) are combined into the telecommunications asset accounts (e.g. copper cables, pair gain systems, etc.). The investments derived in the TEA model are the direct telecommunications plant and equipment and do not contain any assignment of indirect network assets. The O&M factors in the TEA model are applied directly to the direct telecommunications plant derived by the TEA model. In order to ensure that the denominator in the factor equation is consistent with the type of plant to which the factors are to be applied (i.e. direct telecommunications plant), the indirect network assets must be removed from the telecommunications investment amounts recorded in the RAF. The assets removed from the telecommunication plant accounts are reclassified and used to develop network support asset factors.

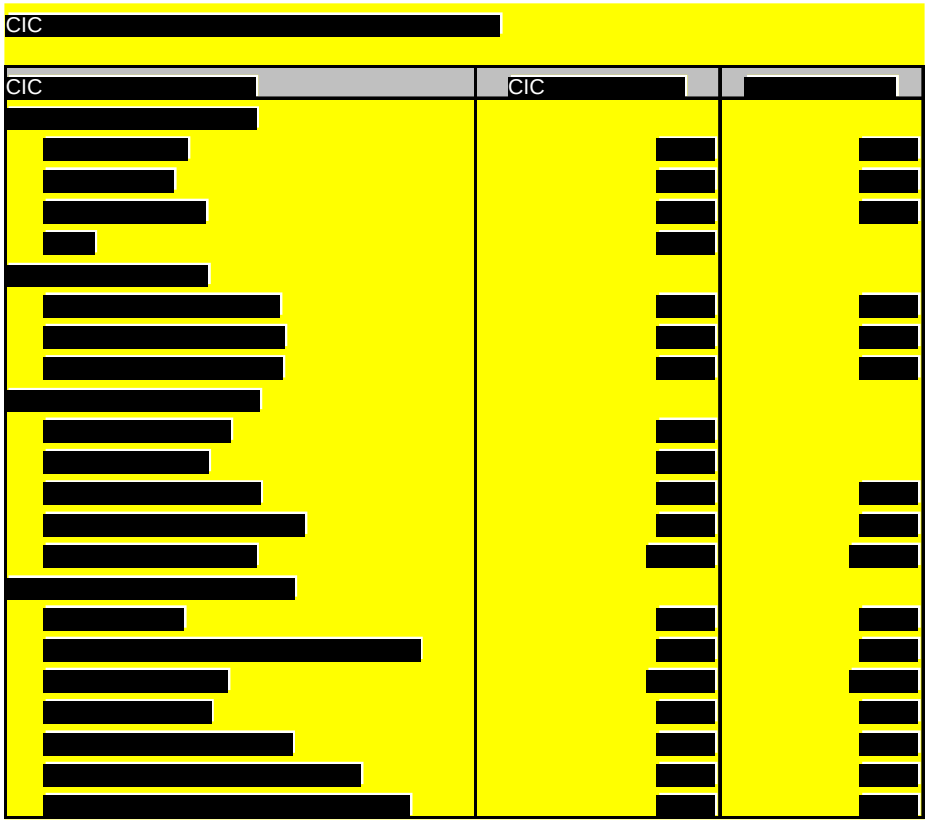
379. The book cost factors that Ovum identifies and compares to the book cost factors in the TEA model include these network support assets in the denominator of the factor calculation. By including these additional assets in the denominator of the factor calculation, Ovum derives a book cost factor that is lower than the book cost factor in the TEA model. Following is a comparison of the Ovum and TEA model factor calculation for the CAN pair systems account:

CIC [redacted]

380. As illustrated, by including the network support assets in the denominator of the factor calculation, Ovum derives a book cost factor that is less than the one derived in the TEA model. However, Ovum does not propose changing the model to apply this factor to both telecommunications plant equipment and network support assets. The Ovum historic factor calculation is inconsistent with the application of the factor in the TEA model. It is this inconsistency that leads Ovum to the erroneous conclusion that "*in the TEA model the*

operational and maintenance factor is higher for each plant and equipment item, except for ducts and pipes alone, when compared to the historic cost factors".[188]

381. The following chart revises the Ovum analysis to eliminate the inconsistency discussed above:



382. As shown above, the only two TEA model factors that vary from the historic cost factors are the two that are derived using the current costs from the TEA model in the factor calculation (i.e. copper cables and ducts and pipes). The copper cable book factor is lower than the current cost factor derived in the original factor calculation. Conversely, the current costs ducts and pipes factor is lower than its booked counterpart. It should be noted that this analysis is based on the factor calculation used in version 1.1 of the TEA model. With the update to the factor calculation being made concurrent with this response; the copper cable factor has been revised to use current book costs so it is no longer higher than the corrected historic based factor. With this change to the model, all factors in the TEA model are equal to or less than their "historic" equivalents.

383. In fact the O&M factors in the TEA model are lower than the O&M factors accepted by the ACCC in the past. Following is a chart of O&M factors adopted by the ACCC in previous proceedings:

[188] Ovum (2008), *Review of the economic principles, capital cost and expense calculations of the Telstra Efficient Access cost model*, 6 August 2008, Section 2.4, Page 15

	TEA Model	ACCC modelling of Telstra's CAN (based on Optus figures)[189]	ACCC modelling of Telstra's Transmission Network[190]	ACCC modelling of Mobile networks[191]
Ducts and Pipes	[CIC]	0.12	n/a	n/a
Copper Cables	[CIC]	0.13	n/a	n/a
Multiplexing Equipment	[CIC]	0.07-0.12	n/a	n/a
Inter-Exchange Cables	[CIC]	0.10	0.10	0.11
Switching Equipment - Local	[CIC]	0.07	n/a	n/a

384. As illustrated, Telstra's O&M factors are lower than the O&M factors adopted by the ACCC in prior decisions.

385. The only argument proffered by the ACCC or any other party to the proceeding regarding the inefficiency inherent in factors calculated using the companies current costs is "*efficient forward-looking O&M costs should fall, compared to historic costs, when new and modern equipment is installed...*[192]*".* Ovum makes a similar claim when it states (at page 16):[193]

> *It is unlikely newly laid equipment such as copper lines require as much or more maintenance costs as older copper lines.*

386. For a TSLRIC model to measure costs over the long term, it must have regard to O&M over the life of the relevant assets. Therefore, while it might be the case that O&M is lower in earlier years of an asset's life, a TSLRIC cost estimate should be representative of the O&M over the entire life of that asset. The TEA model calculates O&M using Telstra's accounts at 2006/07, which broadly reflects a midpoint in Telstra's assets' lives.

387. As explained in the Response to Optus[194], the TEA model, like all long run incremental cost models, calculates the total life cycle cost associated with a new network build. Capital costs (including depreciation) are calculated using an annuity approach that levelises the capital related costs over the total asset lives. In actuality capital costs are significantly higher in the initial years of an asset's life when assets are undepreciated. These capital

[189] ACCC (2000), *A report on the assessment of Telstra's undertaking for the Domestic PSTN Originating and Terminating Access services*, July 2000, at tables A1.6 and A2.4
[190] ACCC Transmission Cost Model, http://www.accc.gov.au/content/index.phtml/itemId/823855
[191] WIK (2007), *Mobile Terminating Cost Model of Australia*, January 2007, at table A-3
[192] Draft Decision of the ACCC, Section B6 Page 92
[193] Ovum (2008), *Review of the economic principles, capital cost and expense calculations of the Telstra Efficient Access cost model*, 6 August 2008, Section 2.4, Page 15
[194] Telstra's Ordinary Access Undertaking for the Unconditioned Local Loop Service: Response to Access Seeker Submissions 18 November 2008, Section F.5.1, Pages 62 thru 65

requirements decline as the asset is depreciated.[195] Operation and maintenance expenses need to be treated similarly. While capital costs decrease over an asset's life, maintenance costs increase as assets age. TSLRIC+, being a life cycle cost, needs to levelise both the maintenance expenses and capital costs over the asset lives. Recently incurred expenses reflect costs for assets in virtually every stage of their life cycle. Using current expenses for calculating O&M costs and the annuity method for calculating capital costs results in a TSLRIC+ that reflects costs over the total life cycle of the assets.

388. Finally, as explained in detail in Telstra's response to the access seekers submissions[196], revising the TEA model to reflect only the initial year of a new asset's life (i.e. reducing maintenance costs and replacing the annuity calculation with a capital cost based on undepreciated value of the assets) would significantly increase the costs produced by any forward looking model.

Efficient O&M and indirect factors should not be based on their accounting classification

389. The ACCC notes that the TEA model builds its factors based on the accounting classification of the underlying expenses on the Telstra books. From this observation the ACCC concludes:[197]

> *The ACCC does not consider that the inclusion of costs for calculating O&M and indirect factors simply on the basis of their accounting treatment is an adequate justification. In particular, the ACCC considers the costs incurred by an efficient forward looking operator in supplying the ULLS may differ from allocations based on the accounting framework. On this basis the ACCC considers the O&M cost factor inputs to the TEA model as inefficient.*

390. It is difficult to determine what the ACCC means by the above comments, all the more so as the ACCC does not evidence its concerns or explain why it has not previously sought changes to the RAF so as to accommodate them. Virtually all of Telstra's costs are classified by account on Telstra's books and records using the Australian Accounting Standards Board (AASB) Presentation of Financial Statement 101. Any new or existing competitor in the market, efficient or not, will be required to maintain its books in conformance with these same accounting standards. Operating results, reported to the market, using these accounting rules, provide the only means to economically evaluate a company's operations. If the ACCC is saying that all financially reported results are unreliable, then there is no means by which financial or other evaluation could be reasonably undertaken.

391. Even the assignment of costs to the regulated operating results of Telstra reported into the RAF is dictated by the subsidiary reporting requirements in AASB Statement 101. These regulated operations reflect the combined results for 7 of Telstra's subsidiary operations. Each of these subsidiaries maintains its books and records in conformance with AASB Statement 101. Note that the factors are derived from these total regulated operating expenses and investments.

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[195] The return and related income tax requirements for undepreciated assets are significantly greater than the return requirement for assets nearing the end of their life cycle.
[196] Telstra's Ordinary Access Undertaking for the Unconditioned Local Loop Service: Response to Access Seeker Submissions 18 November 2008, Section F.5.1, Pages 62 thru 65
[197] Draft Decision of the ACCC, Section B6 Page 92

392. The only allocations Regulatory Accounting Framework allocations that impacted the factor calculation were the assignment of costs to the Retail arm of the business. However, a vast majority of these costs are not allocated but directly incurred by Telstra's wholesale or retail customer operations. Those few allocations that were done were required to separate retail and wholesale operation were done pursuant to the Regulatory Accounting Framework (RAF) which Telstra is required to follow in reporting the results of its operations to the ACCC. If the ACCC is dissatisfied with the methods used in assigning costs in the RAF it has the authority to alter the reporting requirements. There is no reason to separate costs by entity if the regulatory body requiring the separation has no faith in the results that are obtained by following their proscribed allocation rules.

393. There are two types of O&M factor calculations:

- Top-down; and
- Bottom-up.

394. These two approaches are discussed in detail in the Telstra's Response to the access seekers.[198] In summary, the bottom-up approach would calculate factors by indentifying each function required to operate and maintain a company's operations over the life of the affected assets. Costs would then be assigned to each function. Cost for all the indirect functions (e.g. network planning, billing, human resources, legal and executive) would similarly need to be identified and costed on a function by function basis. Identifying every function each Telstra employee will perform over the next 10 to 40 years would be a monumental, if not impossible, task. Assuming someone performed the task, the number and complexity of the assumptions required to perform the task would result in endless controversy, debate and criticism. For this reason, virtually every TSLRIC+ model uses some form of top-down approach similar to that used in the TEA model in order to calculate O&M and indirect costs.

395. Under the top-down approach, the actual operating costs of the company generally serve as the starting point for developing an estimate of future costs.[199] All large competitive companies use actual costs for ongoing operations when attempting to estimate future operating costs for business planning, pricing or budgeting purposes. They do this for two reasons:

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

396. Current operating results provide the best basis for predicting future results. Current costs are comprehensive in that they reflect all efficient recently incurred costs for all the functions required to produce and bring a product to

[198] Telstra's Ordinary Access Undertaking for the Unconditioned Local Loop Service: Response to Access Seeker Submissions 18 November 2008, Section F.5.1, Pages 62 thru 65

[199] Sometimes a surrogate company or companies operating results are used, but not frequently.

market. This approach ensures all critical functions are included in the projected operating result.

397. For these reasons, regulators around the world have almost universally recognised the wisdom of basing forward-looking O&M and indirect operating costs on actually incurred and reported expense levels.[200] Following is a table identifying the basis used by international regulators for identifying operating costs in TSLRIC models.

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

398. Current actual costs are the basis for virtually all O&M and indirect expense forecasts in all forward looking or historic models that develop costs for major established network elements. Trying to estimate each function required to run a nationwide customer access network would be a prohibitive task, and regulators recognise this. Ovum recognised this fact when it stated:[201]

> *It is not unusual to calculate factors using a top-down approach, but, where this is applied, the latest information has been used.*

399. All models rely, to some extent, on costs taken from the books and records of one or more regulated companies. In virtually every instance, the book costs include some allocation of total company accounting data to the regulated operations of the company. In many instances these allocations are significantly more extensive than the minor allocations in the RAF assignment of costs to Telstra's retail operations. Accounting data is the bases by which all firms are evaluated and without these results no one could make any conclusions regarding a company's operations, economic or otherwise.

E.7 Cost of capital (ACCC section B.7)

400. The ACCC agrees with Telstra's position on three of the inputs into the calculation of the WACC. Specifically, the ACCC appear to be satisfied that Telstra's estimates of the risk free rate, debt risk premium and debt beta are reasonable. However, the ACCC does not agree with the following inputs:

- Asset beta;
- Gearing;

[200] Denmark used a bottom-up approach for determining the operating costs for network terminating points and copper cables. All other direct and indirect operating costs were based on the actual costs incurred by the telephone company.
[201] Ovum (2008), *Review of the economic principles, capital cost and expense calculations of the Telstra Efficient Access cost model*, 6 August 2008, Section 3.4, Page 44

- Market risk premium;
- Equity issuance costs;
- Debt issuance costs;
- Tax rate; and,
- Gamma.

401. Before responding to the ACCC's discussion on these inputs, it is informative to, first, review the ACCC's views on reasonable WACC inputs and, second, determine which inputs have a material impact on the monthly cost estimate.

402. Table 5 below compares Telstra's estimate of the WACC inputs and the high and low range, with the ACCC's views on WACC parameters. As can be seen, the ACCC has accepted Telstra's best estimate of an input where that input is consistent with the ACCC's inputs in its pricing principles determination (that is, the risk free rate, debt risk premium and the debt beta).

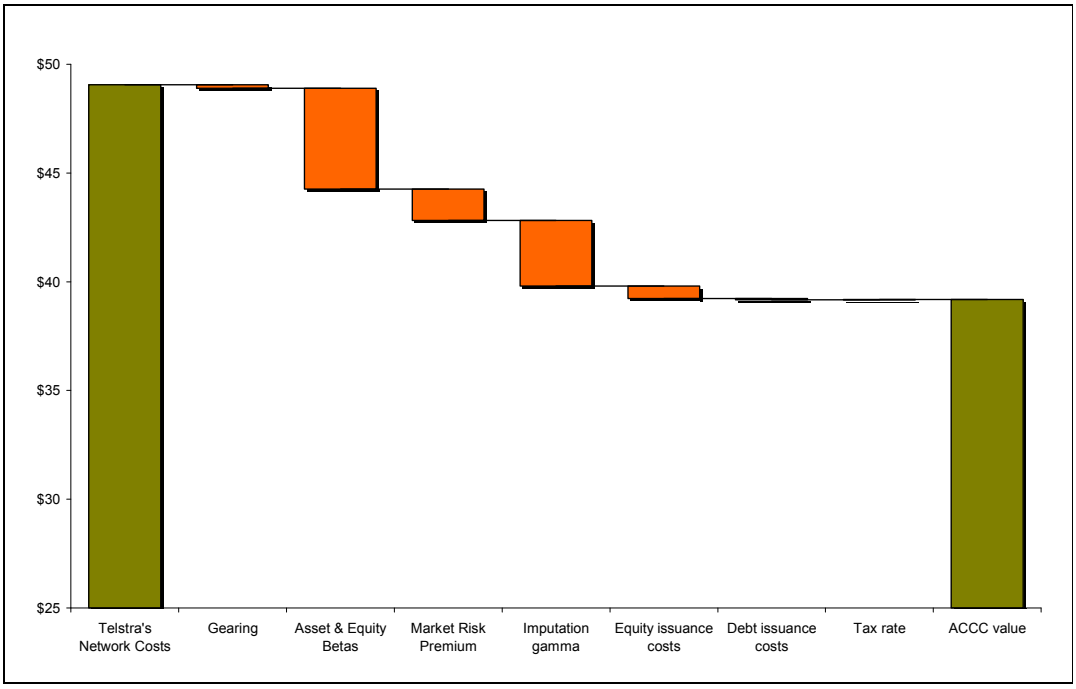
Table 5: Telstra's and the ACCC's WACC inputs

Input	Telstra's range of reasonable values	Telstra's best estimate	ACCC's ULLS Pricing Principles	ACCC's Draft Decision**
Risk Free Rate	0.0633 – 0.0633	0.0633	0.0635	Telstra's best estimate
Gearing	30%	30%	40%	40%
Debt Risk Premium	0.018 - 0.021	0.0195	0.0195	Telstra's best estimate
Debt issuance Costs	0.0007 – 0.0022	0.0015	0.00083	0.00083
Debt Beta	0	0	0	Telstra's best estimate
Tax Rate	30%	30%	30%	20%
Asset Beta	0.625 - 0.825	0.725	0.5	0.5
Equity Issuance Cost	0.0027 – 0.0047	0.004	0	0
Market Risk Premium	5.5% - 8%	7%	6%	6%
Gamma	0	0	0.5	0.5
WACC	10.49% – 13.90%	12.28%	10.15%	10.12%

**Where no specific number is provided by the ACCC in the Draft Decision, the value in the ACCC's pricing principles is adopted. In the Draft Decision the ACCC make use of Ovum's WACC of 9.22%, but do not represent this as their own value.

403. The waterfall chart illustrated in Figure 5 below shows the impact that each of the inputs have on the monthly TSLRIC+ for ULLS. Some inputs have a greater effect on the monthly charge than on the WACC since they are used for the calculation of the WACC and the TEA model separately.

Figure 5: Impact on the monthly TSLRIC+ of changing the CAPM inputs



404. This response to the ACCC's Draft Decision focuses on the following inputs:

- Asset beta/equity beta;
- Imputation credits;
- Market risk premium; and,
- Tax rate.

E.7.3 Asset Beta/Equity Beta

405. The ACCC assess the three sets of analysis that Telstra prepared in its submission on the WACC:

- The direct estimation method
- The benchmarking approach
- First principles estimation

406. In relation to the direct estimation method, there are three steps discussed by the ACCC in the Draft Decision: (i) choosing the correct raw equity beta from a

number of variations, (ii) whether or not to apply the Blume adjustment, and (iii) de-levering the equity beta to derive the asset beta.

The Raw Equity Beta

407. The ACCC states (at page 102):

> *The ACCC notes that there are some potential difficulties with using a direct estimation method to calculate equity betas, including selection biases in timeframes or data frequency. However, the ACCC considers that there is scope to conduct a direct estimation of the equity beta.*

408. The ACCC also states (at page 102):

> *The ACCC is of the view that Ovum's direct estimation of Telstra's beta sourced from Bloomberg data uses an appropriate method to directly estimating Telstra beta. When using the direct estimation method, Ovum calculated the unadjusted beta by using the previous 18-months and 5-years prices respectively, on a monthly, weekly of a direct estimate for beta completed using five years of monthly return data should give an appropriate estimate of the systematic risk of a Telstra's equity. Therefore, Ovum's estimate of Telstra's equity beta using this approach of 0.394 seems fair in this situation.*

409. Telstra and Ovum sourced the raw equity beta information from Bloomberg. The only difference between the raw equity beta estimates is that the data was sourced at different times and the Bloomberg estimates were averaged over different periods. Table 6 below summarises the estimates, showing that all measurements produce very similar results, except for the 5-year average calculated using a monthly frequency of data. The ACCC seems to have applied particular weight to this value (0.394) in the Draft Decision. The ACCC provides no justification for choosing the lowest value other than to say (at page 103) it "*seems fair in this situation*". It is clear that the ACC has chosen an outlier that is most likely to be drastically affected by some irregularity in the Bloomberg data.

Table 6: Bloomberg Equity Betas

	5-year average to 13 June 2008 (Ovum Economics Report at figure 3.10)	2-year average to 11 February 2008 (Telstra WACC Report at paragraph 169)	18-month average to 13 June 2008 (Ovum Economics Report at figure 3.10)
Daily frequency	0.556	0.571	0.587
Weekly frequency	0.534	0.503	0.655
Monthly frequency	0.394	0.656	0.553

410. The Ovum Economics Report used by the ACCC relies on a Copenhagen Economics study. However, the very same Copenhagen Economics study concludes that a monthly frequency is inappropriate and, instead a weekly frequency should be used. The Copenhagen Economics study states:[202]

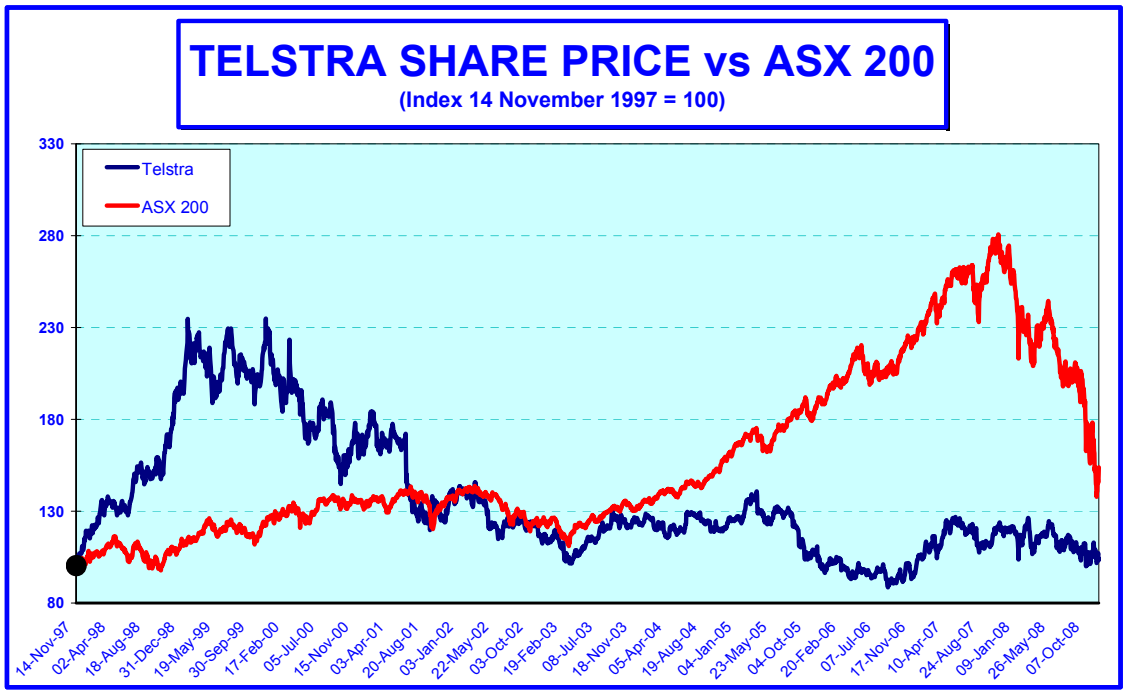
> *Monthly estimates on the other hand are sensitive to the day of the month on which the observations are made. Switching the estimation date by just a few days can lead to significant differences in the estimated beta. This is a major shortcoming, which casts serious doubt on the use of betas estimated on the basis of monthly data.*
>
> *We use weekly observation, because they give the most robust results.*

411. Recent historic equity beta data includes events that reduce equity beta and that are unlikely to continue in the future. The figure below shows the significant increase in the ASX200 index after 2004, which was strongly linked to the commodity price boom driven by the rapid industrialisation of China and the over-representation of resource equities on the ASX200 relative to other countries. The over-riding factor driving the ASX200 higher did not directly relate to other sectors and, specifically, Telstra. Consequently, the estimated equity betas of other sectors (including telecommunications and Telstra) were lower than they would have been absent the short-term resources boom. Now that the resource boom has ended, the low beta observed during the resource boom has even less effect on Telstra.

412. SFG[203] identify similarities between the "technology bubble" period (typically regarded as July 1998 to December 2001) and the "commodity boom". Both episodes were notable in that a single sector (technology, media and communications in the "technology bubble" period and resources in the "commodity boom") were largely responsible for a strong appreciation in value of the overall market. Firms not in these market driver sectors did not perform as well which ultimately reduced their correlation with the overall market and hence estimated beta.

413. This analysis suggests that recent historical equity beta estimates are likely to underestimate the forward-looking equity beta.

[202] Copenhagen Economics (2007), *WACC for the fixed Telecommunications net in Sweden*, 26 October 2007, at page 19
[203] SFG (2008), *The reliability of empirical beta estimates*, 15 September 2008, pages 30-31.

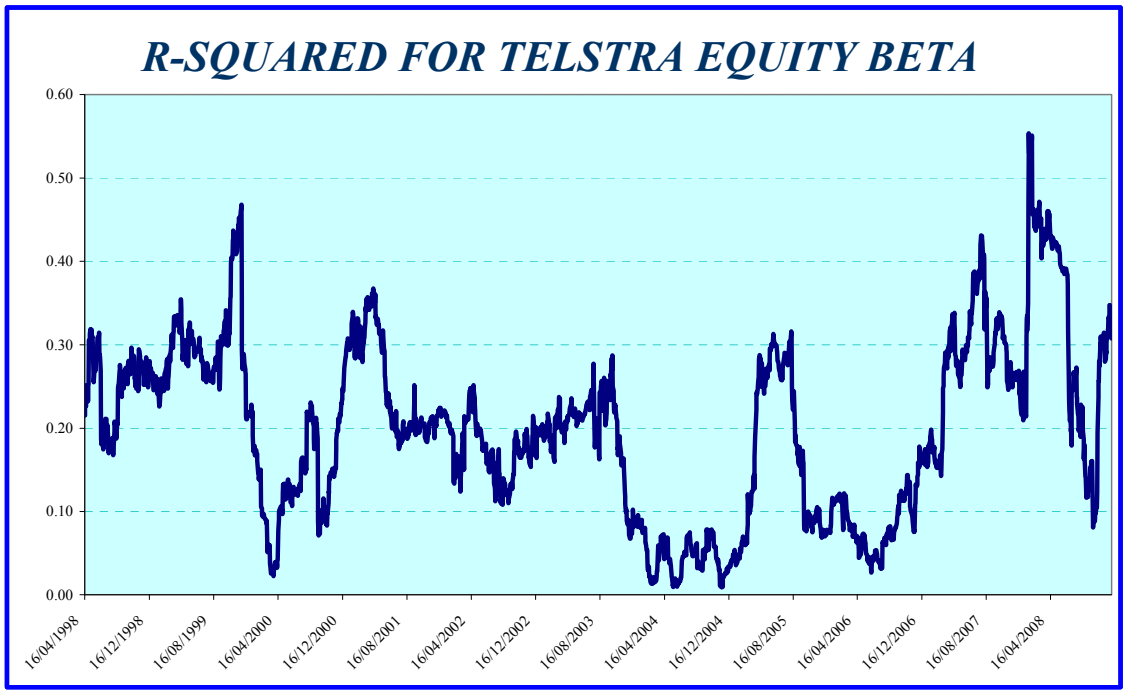


Source: Yahoo.com.au

414. Second, an equity beta measured over a 5-year timeframe covers a period when many ACCC decisions applied considerable downward pressure on Telstra's share price at a time when the market was generally increasing. Thus, the ACCC's decisions over the last five years have, themselves, resulted in a lower beta for Telstra. This is problematic for two reasons. First, the estimated historical beta will underestimate the forward-looking beta. Second, the historical estimates reflect the equity beta over a period when Telstra was becoming much more heavily regulated. If the ACCC had made those decisions before the five year period or not at all, then Telstra's stock would have changed more in line with the market generally and the estimated equity beta would be higher. Importantly, there is an obvious circularity in using the market impact of ACCC decisions *inter alia* on ULLS prices that reduced Telstra's market valuation in the past to justify continuing with artificially low ULLS prices into the future. This alone should suffice to cast doubt on whether the ACCC's approach is reasonable.

415. The chart below depicts the Bloomberg estimate of R-squared that pertain to the beta estimates for Telstra's equity beta shown in the figure above. The average R-squared estimate is 0.20 meaning that around 20% of the variation in Telstra's returns is explained by variation in overall market returns. This implies that either around 80% of the variation in Telstra's returns is explained by factors other than variation in market returns and/or much of the total risk is specific to Telstra's performance.[204]

[204] *Ibid* page 10



Source: Bloomberg

416. Fourth, the traditional CAPM approach understates the required return to equity where the normal equity beta is less than one and overstates the required return to equity when the normal equity beta is above one.[205] This reflects the generally simplifying assumptions made in devising the traditional CAPM conclusions. This tendency to understate the required return where the normal equity beta is less than one makes the ACCC's use of a 5 year/monthly frequency sourcing of raw equity beta information, the low outliner of all sourcing options, all the more egregious. CEG outline two options for addressing the bias in the traditional CAPM formula for the cost of equity.[206]

417. .These options prove that a traditional approach to quantifying the appropriate equity beta could seriously and significantly under-value the "true" beta in the ULLS context. The cyclical aspects around the commodity boom undercut the mechanical estimates of equity beta in a manner that is not typical or representative of the appropriate equity beta in a forward-looking sense. Furthermore, empirical research suggests that the traditional approach to estimating the equity beta over-estimates the sensitivity of equity returns to beta and under-recognises the return applicable to a zero beta stock. The result of this combination of "errors" is to understate the required return to equity of stocks with traditional observed betas less than 1.0 such as Telstra.

Applying the Blume Adjustment to the Raw Equity Beta

418. Bloomberg adjusts the raw equity beta using the Blume adjustment. Telstra adopts the adjusted equity beta rather than the raw equity beta. The Blume

[205] See CEG "*Estimation of, and correction for, biases inherent in the Sharpe CAPM formula, A report for the Energy Networks Association Grid Australia and APIA*" 15 September 2008 for a comprehensive outline of issues.
[206] *Ibid* pages 50-51.

adjustment is routinely applied by Bloomberg (as well as other providers of beta data such as Merrill lynch and ValueLine).[207] The Blume-adjusted equity beta is a weighted average of the raw equity beta estimate (weight 0.67) and 1 (weight of 0.33) to account for observed tendency towards mean reversion over time (i.e. the mean beta for the overall market is 1).

419. Telstra considers that the Blume adjustment is important, particularly when direct estimations on historical data likely underestimate forward-looking equity betas for the reasons discussed above.

420. The ACCC rejects the application of the Blume adjustment, stating (at page 103):

> *The ACCC does not consider that the application of the Blume adjustment is valid in this case as the 2008 Undertaking relates to a stand alone regulatory asset whose risk is not likely to change overtime [sic]. There appears to be no basis to assume that the systematic risk of the ULLS service will revert towards the mean systematic risk of the market portfolio through time.*

421. This perspective is incorrect for the following reasons.

422. First, the Blume adjustment is routinely applied by Bloomberg (as well as other providers of beta data such as Merrill lynch and ValueLine).[208] Indeed, the Blume adjustment is undertaken by Bloomberg, who supplies the equity beta estimates.

423. Second, the market average equity beta is 1. Raw equity beta estimates below the market average (i.e. below 1) are likely to be underestimated and estimates above the market average are likely to be overestimated. The Blume adjustment makes an adjustment to push the equity beta towards the more likely "market average" beta of 1.

424. Third, the ACCC's conclusion that the risk associated with the CAN will not change over time is incorrect. The ACCC ignores technological alternatives to ULLS, most notably wireless and HFC options. The CAN and ULLS in particular provides the means with which telephony calls, internet traffic and other services are provided to end users. Demand for the CAN is very much dependent on demand for these other services, which is subject to a great level of change as consumers' preferences and the competitive landscape changes. For instance:

- Many users will simply leave the CAN for facilities based substitutes such as fibre and HFC providers
- More and more users will abandon their land line phones for wireless.
- DSL services have dramatically reduced the need for second lines.

[207] *Ibid* page 22
[208] *Ibid* page 22

425. As a result, the systematic risk relevant for the CAN is highly unlikely to be constant over time as the ACCC assert. Thus, the ACCC's rationale for not using the Blume adjustment is invalid.

426. After applying the Blume adjustment, Bloomberg's estimates of Telstra's equity beta are:[209]

- 0.714 with a daily frequency
- 0.669 with a weekly frequency
- 0.771 with a monthly frequency

De-Levering the Equity Beta to Determine the Asset Beta

427. These estimates are then de-levered to calculate the asset beta. While the ACCC does not criticise Telstra's method of de-levering the equity betas, the result of de-levering is dependent on the equity beta being de-levered (discussed above) and the correct gearing ratio (discussed below). Telstra's de-levered asset beta's are: [210]

- 0.615 with a daily frequency
- 0.576 with a weekly frequency
- 0.664 with a monthly frequency

428. In relation to benchmarking betas, the ACCC states (at page 103):

> *The use of benchmark betas is prevalent among regulators and finance practitioners and the ACCC considers it appropriate to include some comparisons with comparable operations. International benchmarking completed by the ACCC suggests an asset beta of 0.47 is appropriate for the total assets of a large telecommunications company such as Telstra (i.e. companies with both fixed and mobile networks). The ACCC's own estimation was completed using 5 years of monthly data which is common financial market practice.*

429. The ACCC provides no analysis to support its contention that the average asset beta is 0.47, so Telstra cannot verify this. However, Telstra does note that the ACCC has again used the 5-year average asset beta measured with a monthly frequency with the only justification being that it is "*common financial market practice*".

430. As noted above, the Copenhagen Study that Ovum relies on actually suggests using a weekly frequency and advices against using a monthly frequency. Telstra's analysis shows that the same comparison over a 5-year period using a weekly frequency shows that the average beta is 0.72.

431. The ACCC also states:

> *The ACCC is also of the view that current estimates of RBOC are likely to have a higher risk on average than Telstra. This is because American*

[209] Telstra (2008), *WACC*, 4 April 2008, at paragraph 169
[210] Telstra (2008), *WACC*, 4 April 2008, at paragraph 171

telecommunications companies operate in the liberalised US telecommunications market which has a different market structure to the more heavily regulated Australian market. Another consideration is that US telecommunications firms arguably operate under a more risky form of regulation than TSLRIC. Accordingly, the ACCC does not regard contemporary estimates of the RBOC's betas to be appropriate point estimates of the systematic risk of the ULLS service.

432. Different market structures between countries are not only a feature of comparisons between Australia and the US, the same is true for comparisons between Australia and other countries, including those relied on by the ACCC (at footnote 292). Moreover, the ACCC does not cite any evidence to support its claim with respect to US regulation. This is all the more the case as the issue with regard to the beta is not the total risk associated with a form of regulation, but rather the degree of systematic risk.

E.7.4 Imputation

433. The ACCC has rejected the argument that the marginal investors' valuation of imputation should determine the value of gamma in calculating the appropriate pre-tax WACC. The ACCC argues that investors in general clearly gain value from imputation (which essentially recognises some portion of company tax payments as a pre-payment of personal investor tax and thus reduces the investor tax burden) and that therefore it must be incorporated into WACC estimates.

434. Telstra believes the valuation of imputation depends on the perspective of the marginal investor that essentially determines the market price for the relevant share. The marginal investor for most (if not all) Australian listed entities is likely to be an international investor given their significant representation on share registers across Australia The domestic supply of capital (what domestic capital providers are prepared to provide by way of equity funds) is less than the domestic demand for capital (what domestic businesses need in terms of capital). Thus domestic listed entities need to attract overseas investors. Moreover, those overseas investors are likely to have more elastic demand for Australian equities than do Australian investors. This does not mean that dividend imputation has no value to domestic shareholders – it does mean that the marginal investor determines the share price at which the relevant market clears and also that domestic shareholders, who would have been prepared to pay a higher amount for those shares (reflecting their valuation of imputation credits), enjoy some consumer surplus (i.e. would have paid more than the market clearing price).

435. The ACCC claims that franking credits have value to investors (including via off-market share buybacks) supporting a value of gamma above zero. However, Telstra argues this is consistent with investor surplus analogous to the phenomenon of consumer surplus found in most markets.

436. The ACCC quotes a selection of empirical estimates of the utilisation rate of imputation credits attached to dividends[211]. It then combines these estimates with the estimate from Hathaway and Officer[212] of the proportion of imputation credits distributed (i.e. attached to dividends). Thus the ACCC reports that gamma is well above zero. However, surprisingly the ACCC does

[211] ACCC Draft Decision, at page 109
[212] Hathaway N. and Officer R. R. "*The Value of Imputation Tax Credits, Update 2004*" Capital Research, November 2004

not mention the actual estimate of gamma reported by Officer and Hathaway which is a combination of their estimate of utilisation (0.50) with their estimate of distribution (71%). Combined as recommended by Officer and Hathaway (similar to that applied by the ACCC) this suggests a value for gamma of 0.355.

437. The earlier estimate of the imputation effect by Hathaway influenced the ACCC's decision to apply 0.5 previously. The ACCC should now adopt the latest update by Hathaway and Officer. 0.355.

438. NERA Consulting report[213] more up-to-date estimates of the value of distributed imputation credits ranging between 0.2 and 0.4 based on analysis by SFG Consulting. Combining with a distribution rate of 71% implies a value for gamma of 0.14 to 0.28.

439. NERA also report on alternate ways of applying both the Officer and Hathaway estimates and those of SFG.[214] Both studies found that the value of a fully franked dividend was approximately equal to the original dividend cash dividend. This implies that it would be reasonable for the ACCC to ignore personal tax implications (including imputation effects) and essentially set gamma equal to zero.

E.7.5 Market Risk Premium

440. The ACCC has adhered to a long-held perspective that the Australian MRP should remain at 6% despite a wide range of empirical estimates (as distinct to regulatory applications) suggesting that a higher value is appropriate. These estimates are summarised in a paper by Gray and Officer[215] which details estimates of the simple arithmetic mean of *ex post* observed excess returns for the Australian market over the risk-free rate (proxied by 10-year government bond yields). The estimates range from a low of 6.43% (covering 1955 to 2004 inclusive) to a high of 7.70% (covering 1975 to 2004 inclusive). Gray and Officer's preferred estimate is 7.17% covering the 120 years from 1885 to 2004 inclusive. Officer and Bishop update this long-term calculation to include data up to 2007 and find that the average MRP across the period from 1883 to 2007 is now 7.5%[216]. However, recognising some deficiencies with data for the period prior to 1958 (highlighted by Brailsford et al[217]) Officer and Bishop recommend their estimate covering from 1958 (after data related problems) to 2007 (latest available at the time) which is 6.7%. Officer and Bishop highlight that both these historical estimates do not include an adjustment to include the impact of dividend imputation on the total return to investors (although they do consider such an adjustment may be necessary). This remains consistent with averaging over a long period of time to best capture the potential (likelihood) that these events are influential to varying degrees in guiding forward expectations of investors. Telstra considers that this provides significant empirical support for an estimate of the MRP around 7% and certainly that the "true" MRP is significantly above 6%.

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[213] NERA "The Value of Imputation Credits A Report for the ENA, Grid Australia and APIA" 11 September 2008,
[214] Ibid, pages 27 and 30.
[215] S. Gray and R. R. Officer, *"A Review of the Market Risk Premium and Commentary on Two Recent Papers"* A Report Prepared for the Energy Networks Association, 15 August 2005
[216] Officer, R and S. Bishop "Market Risk Premium, A Review Paper" August 2008,
[217] Brailsford T, J Handley and K Maheswaran, "Re-examination of the historical equity risk premium in Australia" Accounting and Finance, 48 (2008) pp 73-97.

441. Officer and Bishop also provide the statistical confidence around the MRP estimate over the entire period (i.e. from 1883 to 2007). The 95% confidence range is from 4.5% to 10.4%. The mid-point of this range is 7.45%. The ACCC's preferred estimate (6%) is well below this mid-point and implies that the recommended MRP is below the "true" level.

442. The ACCC supports the retention of a 6% market risk premium (MRP) for Australia relying on the findings of Dimson, Marsh and Staunton.[218] Ovum also relied on this research and argues that historical *ex post* MRP estimates need to exclude components that are unlikely to persist. Telstra's response to Ovum addresses the issues associated with relying on this analysis.[219]

443. Officer and Bishop comment about the efficacy of making judgements to exclude certain events or periods from consideration of the forward-looking MRP. In their view: [220]

> *There is no real guiding theory or model that informs us as to what drives the determination of a MRP. Consequently we have no real way of assessing what is an event that might lead to bias.*

444. Any adjustments or exclusions for unexpected events (causing potentially "outlier" outcomes) are essentially arbitrary adjustments themselves are a further distortion and potentially applied in an *ad hoc* manner going forward. Officer and Bishop go on to argue that variation in the ex post MRP results directly from unexpected events and therefore, at the extreme, exclusion of all once off unexpected events would essentially exclude all variation in the ex post MRP. This further supports the approach of long-term averaging of MRP outcomes as this reduces the weight attached to any particular event or year thus reducing the impact on the average historical MRP.

445. The estimates of Officer and Bishop have adjusted each year's estimate of the MRP included in the post-imputation period (i.e. from 1988 to 2007) and then averaged over the entire period (i.e. 1958 to 2007 and/or 1888 to 2007). Telstra considers that this then averages over a period in which imputation effectively causes a discontinuity and thus is not correct. Effectively the average is over a period which combines a sub-period where imputation was not operative (1958 to 1997) with a sub-period in which imputation was effective (1988-2007). However, this estimate (at least in a WACC context) is to be applied in a forward-looking manner and hence over a period in which imputation is (assumed to be) effective. The correct approach would be to adopt the long-term average imputation exclusive estimate of the MRP (6.7% or 7.5% from Officer and Bishop) and to augment it by the average add-on caused by imputation over the years in which imputation has been effective (1988 to 2007). This is best proxied by the second row in table 7 which covers the years over which imputation has been effective in Australia (i.e. 1988 to 2007). On this basis the add-on to the imputation exclusive MRP is between 0.9% if associated tax benefits were valued at $0.50 per dollar rising to 1.7% if associated tax benefits were valued at $1.00 per dollar.

446. Telstra's preferred treatment of the relationship between the MRP and imputation is as follows. The MRP should be based around 7% which equates closely to Officer and Bishop's average around 7% (6.7% from 1958 and 7.5%

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[218] Dimson, Elroy, Marsh' Paul and Staunton, Mike "The Worldwide Equity Premium: A Smaller Puzzle" 7 April 2006, pages 24-27.
[219] Telstra's Response to Ovum, at section C.6.5
[220] Officer, R. R. and Bishop Steven, "*Market Risk Premium, A Review Paper*" August 2008, page 38.

from 1883) on an imputation unadjusted basis. This reflects the logic of most estimates of the MRP. Imputation should be based on the marginal investor approach and set at zero. This combination of parameter values (MRP and gamma) is internally consistent.

447. In contrast, the ACCC approach is internally inconsistent, as it does not adjust the MRP to reflect its estimate of gamma. Unless the apparent inconsistency between gamma and the MRP is resolved, there is a significant risk that Telstra will not be able to recoup prudently incurred efficient costs, which would undermine incentives toward future prudent investment

E.7.6 Corporate Tax Rate

448. The ACCC states (at page 108):

> *The effective tax rate can fall below the statutory tax rate if firms can defer the payment of tax. Firms have commonly been able to do this through the use of accelerated depreciation. Primarily for this reason, in Australia the average effective tax rate of large corporations is estimated to be around 20 per cent even though the statutory tax rate is 30 per cent.*

449. The ACCC also cites (at page 108) an economy-wide estimate from Budget Papers that date prior to 2004/05.

450. The corporate tax rate relevant for WACC calculations is that which is likely to reflect the tax burden over the entire useful life of the relevant asset. This correlates with the perspective of capital providers who are interested in likely returns over the assets' entire useful lives. If accelerated depreciation (of any form) is allowed as the ACCC suggests, that would result in an effective tax rate that is lower than the statutory tax rate in the early years of the assets' lives. The firm claims a higher amount of depreciation as a tax deduction than would be the case if depreciation was not back-loaded. However, in later periods towards the end of the assets' lives, the effective tax rate is higher than the statutory rate as the depreciation that can be claimed as a deduction against taxable income falls. Consequently, if a single tax rate is to be used over the entire life of an asset, it must be 30%. Conversely, if the ACCC wishes to account for a lower effective tax rate (less than 30%) in the early years of an assets life it must account for a higher effective tax rate (greater than 30%)in the later years.

451. It is reasonable to use 30% tax rate for three other reasons.

452. First, there is an inconsistency between the approach to depreciation the ACCC is advocating in the context of the calculation of the WACC (either accelerated or diminishing value) and the actual depreciation profile that results from application of the ACCC's (tilted) annuity costing approach. Under a (tilted) annuity approach the implicit depreciation profile is normally back-loaded (that is, depreciation increases across the life of the asset) and the effective tax rate would likely be higher than the statutory tax rate.

453. Second, the ACCC approach seems to shift, without explanation, from being based on the costs of a hypothetical new network to consideration of Telstra's

actual network. Even had accelerated depreciation been available previously, it is of no relevance to current conditions.

454. Third, Telstra believes that its approach to the corporate tax rate is consistent with the view of IRG cited by Ovum.[221] The IRG view is that any adjustment to the statutory corporate tax rate in a WACC-related context should only reflect factors that cause a permanent difference between the statutory and effective rates. Whilst accelerated depreciation results in a timing difference it does not generate a permanent difference and hence the statutory tax rate does not need adjustment.

455. The ACCC relies on an estimate of the national average effective tax rate cited from the 2006-07 budget papers.[222] Telstra does not consider that the average national effective rate of corporate tax provides any meaningful guide to the average tax rate relevant to a single asset over its useful life.

E.8 Depreciation (ACCC section B.8)

E.8.7 Tilted annuity

456. The TEA Model calculates the return of capital for the relevant assets using a straight-line (accounting) depreciation approach, and applies Telstra's cost of capital to calculate the return on capital. The sum of these two capital charges is determined for each year of the asset's useful life, and converted into a 'standard' annuity payment. The effect of this conversion is that the total capital charge remains constant over the life of the relevant asset.

457. Notwithstanding significant differences over some of the detailed assumptions behind the capital cost calculations, the ACCC's preferred approach differs from that proposed in Telstra's Undertaking in one fundamental respect. Rather than converting the sum of depreciation and the return on capital into a charge that is constant over the life of the asset, that is, a standard, 'flat' annuity, the ACCC would convert these costs into a 'tilted' annuity. Although the net present value of the payment stream implied by a tilted annuity is the same as that of a standard annuity, the application of a tilted annuity calculation to capital costs implies that the resulting charge is first lower, but soon significantly higher than the (constant) charge implied by a standard annuity. The one and crucial difference between Telstra's and the ACCC's approach is therefore that Telstra proposes to recover the cost of the capital it has invested to provide ULLS using a charge that remains constant over the life of the asset, while the ACCC favours a charging profile that increases very significantly over the life of the asset.

The tilted annuity approach leads to unacceptable price paths for consumers

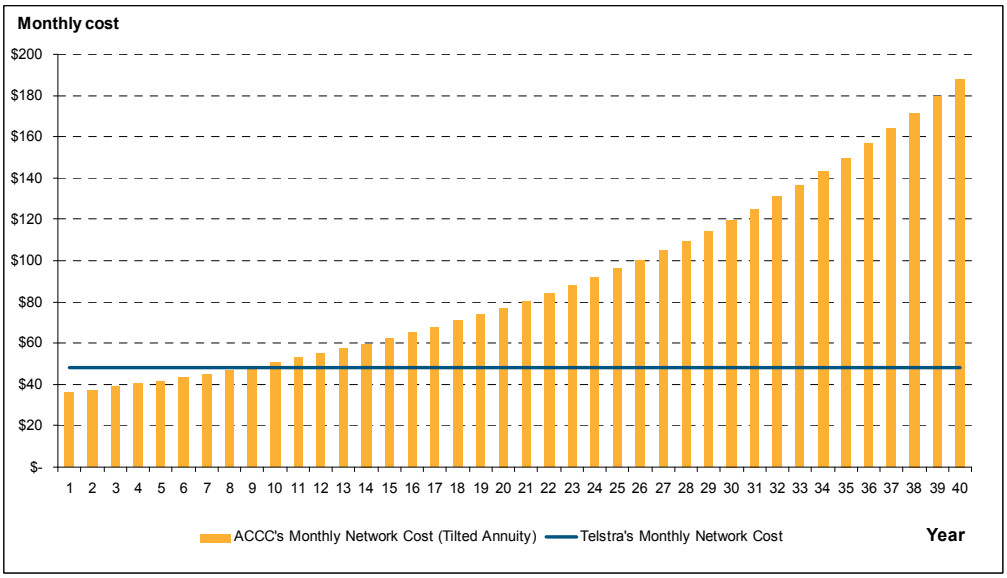
458. Figure 6, below, highlights the projected rise in monthly ULLS charges under the ACCC's approach. In Figure 6, the monthly ULLS cost has been calculated for Telstra's standard annuity approach and for the tilted annuity approach that the ACCC advocates, using the TEA model with Telstra's default input parameters, and for project life of 40 years. It is readily apparent that:

[221] Ovum (2008), *Review of the economic principles, capital cost and expense calculations of the Telstra Efficient Access cost model*, 6 August 2008, page 34.
[222] House of representatives, "Budget Paper No 1, Budget Strategy and Outlook 2006-07, Statement 5: Revenue" Box 5.2

- The tilted annuity approach results in a monthly ULLS charge *below* Telstra's flat charge for a limited number of years at the beginning of the useful life of the asset;

- However, the tilted annuity approach implies a very significant increase in prices – substantially in excess of Telstra's flat charge – in the latter years of the asset's useful life. More specifically, while the ACCC's monthly charge is below Telstra's estimated $47.86 monthly cost up to and including Year 8, it exceeds Telstra's cost from Year 9 onwards, increasing to a monthly charge of $50.77 by Year 10, $77.15 by Year 20, and $187.87 by Year 40.

Figure 6: Monthly ULLS unit charge



459. The observed steep rise of charges under the ACCC's approach is inherent in the tilted annuity calculation. That is to say, the sharp increase shown in the Figure arises from the back-loading that the 'tilt' in the ACCC's annuity causes. The figure does *not* depend on any 'special' assumptions that may have been made. Transforming the capital costs of an asset (that is, the sum of the return on capital and depreciation) into a tilted annuity essentially implies that there is a shortfall in the recovery of capital costs during the first years of an asset's life. If the full capital cost of the asset is to be recovered (including foregone return on capital during the years where the tilted annuity charge under-recovers capital costs), given the time value of money, this can only be achieved if charges increase very substantially later on, and in a manner that (given a positive cost of capital) is significantly greater than the initial shortfall.

460. No matter what the technical explanation is for the charging profile derived from the ACCC's approach to calculating capital costs, the broader implications for end-users are clear. The tilted annuity approach trades off a few early years of low prices against the prospect of sharp price rises later on in the life of the relevant asset. This raises a significant question of

generational fairness, since current ratepayers are substantially subsidised by future ratepayers for no apparent reason. That is to say no overarching efficiency societal benefit accrues from this generational shift in the burden of cost recovery.

461. This pattern is especially striking given that the ACCC expresses concern about the impact of moving from current ULL charges – which are $16 – to Telstra's proposed $30 charge and considers that such an increase would harm access seekers, and through that effect, competition and end-users. However, that increase is slight relative to the very substantial increase the ACCC's proposed approach to depreciation would imply.

462. The ACCC's rationale for delaying capital recovery is also disingenuous. Assuming it was prudent public policy to under-recover the capital cost of ULLS for the first 8 years of the underlying assets' lives, it is now time for the prudent policy maker to increase recovery. ULLS has been a declared service since 2000. The first 8 years of under-recovery have expired. To suggest it is equitable policy to begin another 8 years of under-recovery of capital cost is unreasonable.

The ACCC's charging approach would not be observed in a competitive market

463. In its Draft Decision the ACCC refers to 'the competitive market' or 'the competitive process' as the standard that it ultimately seeks to achieve, and which it therefore applies in its assessment of Telstra's Undertaking.[223] Yet the steeply rising charging profile implied by the ACCC's tilted annuity is fundamentally at odds with pricing outcomes that would be observed in a competitive market.

464. As a generally matter, it does not appear reasonable to believe that a new entrant in a competitive ULLS and downstream markets would invest billions of dollars constructing a customer access network and then immediately defer recovery of its investment to the distant future. Rather, absent special circumstances (such as unusually low initial demand), cost recovery would be expected to coincide with use of the assets. The risk of demand and technology changing in future in ways that undermined the scope for cost recovery makes it all the more likely that this would be the case.

465. In effect, in a competitive market, the price that can be charged for a particular product or service cannot be (significantly) more than the price charged by competitors for the same or a similar (substitute) product. Businesses that ignore this rule will quite simply be undercut and lose sales. The potential loss in sales is a particularly serious matter for capital intensive businesses like Telstra that must recover very significant invested capital costs before the business can post a profit.

466. Given that the ACCC says that it is seeking to achieve an outcome akin to what would be observed in a competitive market, the fact that charges calculated under its tilted annuity approach are rising steeply over time would then imply that competition for ULLS in Band 2 areas is expected to weaken

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[223] For instance, in setting out the rationale for the TSLRIC asset valuation approach, the ACCC says (P.36):
" In general, the forward-looking approach is more compatible with the competitive standard of efficiency, since in a competitive market, prices would be set on the basis of the prevailing technology."
In describing the interests of persons who have rights to use the service, the ACCC says (P.53):
" Terms and conditions that favour one or more service providers over others and thereby distort the competitive process may prevent this from occurring and consequently harm those interests."

significantly. To be precise, the ACCC's calculation suggests that competition is expected to fall away so much over the life of the asset that, by the time the asset is at the end of its useful life, Telstra is able to set the network cost component of ULLS prices to over five times the value it can initially charge. The ACCC's view further implies that consumer demand for products delivered over ULLS is very highly inelastic.

467. In fact, the notion that Telstra does not and a new entrant would not face competition for its ULLS is demonstrably wrong. The risk of competitive bypass to Telstra comes from a number of sources:

- Parts of Telstra's copper loops and local network may become effectively obsolete as a result of the decision to build a National Broadband Network incorporating Fibre to the Node (FTTN) architecture;

- Optus' hybrid fibre coaxial (HFC) cable network, which already covers 3 million homes, is a competitive threat to ULLS in major metropolitan areas;

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

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

468. In short, given the extent of existing and potential competition that Telstra will face for its ULLS in Band 2 areas, the charging profile that the ACCC's tilted annuity implies would never be observed in a competitive market. Any attempt to implement such a charging pattern would accelerate competitive by-pass, so that total costs could never be recovered. This is all the more so as many of the alternative technologies have costs that are falling over time, most notably for wireless.

469. Additionally, the ACCC ignores the fact that the number of CAN fixed lines has been shrinking in recent years and projections are the number of lines will continue to shrink, when it comes to the conclusion that it is in the long term interests of end users to defer capital recovery well into the future. The ACCC's approach will result in future prices that will be even higher than those in Figure 6, since the cost deferred until later must be recovered from fewer subscribers than are on the network today.

The ACCC's charging approach exposes Telstra to significant financial risks

470. The time profile of charges implied by the ACCC's tilted annuity approach is not just at odds with competitive pressures affecting demand for ULLS, but also creates a significant financial risk for Telstra that it will never recover the efficient costs of the capital in which it has invested. As discussed above, the ACCC is deferring cost recovery for decades. This long time horizon increases risk exponentially.

471. The tilted annuity approach requires a high degree of 'backloading' of depreciation and the return on capital, because it:

- Guarantees that Telstra will not be able to recover anything like its actual capital costs (that is, the sum of depreciation and the return on capital) for the first few years of the asset's life; and

- Significantly postpones the point in time when the cash flow from this capital charge is sufficient to recover at least an average proportion of the capital costs Telstra has incurred.

472. In order to convey any semblance of capital recovery, the application of a tilted annuity to calculate capital charges assumes that all shortfalls in the recovery of capital costs can be made up at a later point in time, by simply raising ULLS charges.

473. There are no reasons to believe that this is indeed the case:

- As discussed above, ULLS Band 2 services already do and will continue to compete with FTTN services, Optus' HFC cable network, and wireless services from a number of sources. There is therefore no basis in fact for any expectation that Telstra would be able to dramatically raise charges for ULLS Band 2 services at some point in the future.

- As noted above, the ACCC, in its decision with respect to Telstra's application for an exemption from the requirement to provide ULLS to SingTel Optus in areas where SingTel Optus has deployed its HFC, argues that it is unable to bind its own future decisions, reducing the credibility of any promise of future cost recovery, especially one so far deferred. Moreover, the pattern of past ACCC decisions is hardly such as to imply that deferred depreciation will indeed be brought to account, as ULLS charges were more than halved before rising marginally.

474. As a consequence of the tilted annuity approach, these two factors imply that Telstra will not be able to recover the full costs of the capital assets required to provide ULLS. The ACCC Draft Decision is silent on how Telstra will be compensated for this financial risk.

The tilted annuity approach is only required to address a problem of the ACCC's own making

475. In its Draft Decision, the ACCC provides only one justification for its tilted annuity approach (P.123):

> *The ACCC considers that the application of a tilt to regulated cash flows under the TSLRIC regime is appropriate for fair compensation because assets are re-valued periodically by the regulator to reflect a current hypothetically efficient network in each regulatory period. The ACCC considers that if a zero tilt is applied then Telstra may receive an abnormal return when its assets are re-valued upwards in future regulatory periods in response to price trends.*

476. The 'price trends' referred to by the ACCC relate primarily to trends the prices of copper and of labour, respectively. In recent years, these prices have increased as a result of a world-wide increase in commodities prices and a buoyant Australian economy. However, all indications are these trends have now been reversed:

- ABARE's most recent (September 2008) forecast of copper prices suggests that the average world copper price is forecast to decline by 8 per cent in 2009, and that the growth in world copper supply is forecast to exceed the growth in demand;[224]

- ABARE's forecast appears to have begun to eventuate, as shown by the London Metals Exchange spot prices for copper (see Figure 7), which have fallen to early 2004 levels;

Figure 7: Copper Prices (USD/tonne)[225]

- The World Bank estimates that metals prices show long term mean reversion, implying that periods of high prices are followed by offsetting periods of low prices;[226]

- There is a widely held expectation that unemployment in Australia will increase significantly, in part because of the slump in commodities prices and because of the global economic environment. A step increase in unemployment would almost certainly have a depressing effect on wages growth.

477. These recent changes in what had been perceived to be 'long-term' price trends illustrate the contradictions and complexity that are inherent in an approach that implies the revaluation of long-lived assets in response to short-term price movements. That is, under the ACCC's 'forward-looking' cost approach, the value of the relevant assets is increased in response to short-term increases in input costs, which thus requires the application of a tilted annuity to prevent Telstra from making what is purely a 'paper profit'. If this approach were applied consistently by the ACCC, it would imply that in a time of falling input prices, Telstra would need to write down the value of its assets, but then be compensated for the revaluation through an annuity with a 'reverse tilt' (that is, a charging profile that decreases significantly over the life of the asset, and whereby Telstra recovers the majority of its costs early on). ULLS customers would go from being charged an unreasonably low price today, increasing to a seemingly absurdly high price in the future, to being charged a seemingly absurdly high price today, decreasing to a very low price in future.

478. Overall, and beyond the adverse effects described in the previous sections, the broader approach taken by the ACCC – to arbitrarily revalue some parts of

[224] http://www.abareconomics.com/interactive/08ac_Sept/htm/copper.htm
[225] London Metals Exchange, Copper Grade A Price Graph, http://www.lme.co.uk/copper_graphs.asp
[226] Daniel Lederman and William Maloney Natural Resources, World Bank Publications, 2007.

the regulatory asset base, but to offset this by an equally arbitrary manipulation of the corresponding capital charge – is neither economically correct, nor consistent with economic or real world outcomes:

- In economic terms, the value of an asset is determined not by what was (or might have been) spent on its creation, but by the income stream that the asset generates. In other words, as a matter of economics, the value of Telstra's ULLS assets would only increase if there was an expectation of a sustained increase in ULLS charges and therefore income streams.

- In practical terms, companies also do not restate their asset values in response to input price trends. With the exception of telecommunications, the regulatory asset base of regulated businesses in every other sector in Australia is determined on the basis of efficiently incurred expenditure, which is then 'rolled forward' over time. Private sector businesses who own long-lived assets similarly do not revalue their asset base in response to short term cost trends.

The ACCC's tilted annuity approach highlights numerous contradictions

479. Beyond the serious shortcomings described in earlier sections of this paper, the tilted annuity approach is inconsistent with a number of other statements made by ACCC in its Draft Decision.

480. In its discussion of the TSLRIC concept the ACCC notes that, although this implied an application of the concept outside its original focus for PSTN assets, the ACCC's final 2007 ULLS Pricing Principles concluded that TSLRIC should be applied to ULLS (P.34f.). The application of TSLRIC would therefore imply a revaluation of ULLS network assets in each regulatory period. These statements highlight the fundamental inconsistency in the ACCC's approach whereby:

- The ACCC claims that it is not in a position to alter its approach of frequent asset revaluations, which in turn creates the need to apply a tilted annuity to capital charges; while

- The ACCC implies that it is nonetheless in a position to credibly commit to implementing a very substantial increase in charges in future periods – the only way in which the costs of ULLS can be recouped. This is despite the fact that the ACCC has never implemented such large-scale increases in allowed access prices.

481. A more realistic assessment is that through the tilted annuity, the ACCC is making a commitment to future recovery that merely by its quantum and its duration lacks all credibility, and is designed to avoid 'biting the bullet' today without any real intention of doing so tomorrow.

482. Finally, the ACCC uses plainly contradictory approaches in deriving different components of ULLS costs. While the ACCC relies on a tilted annuity with a steep backwards loading for the depreciation charge, it claims, for the purposes of assessing the WACC, that Telstra can secure the benefits of accelerated depreciation provisions (P.107). The result of the ACCC's approach is that the claimed benefits of accelerated depreciation are used to reduce the WACC but are then entirely negated through the tilting of the annuity.

Conclusions

483. In its Draft Decision the ACCC proposes an approach whereby the capital costs of providing ULLS – the sum of depreciation and the return on capital – would be recovered via a back-loaded charging profile. That is, the ACCC's tilted annuity approach implies that charges for ULLS start out low, but increase very significantly over the life of the asset, so that the costs of ULLS cannot be recovered until late in the useful life of the relevant assets.

484. The tilted annuity approach raises a number of serious problems for end-users and Telstra alike:

- The steep rise in charges leads to unacceptable price paths for consumers – the tilted annuity approach implies that ULLS charges must increase more than five-fold if Telstra is to recover its costs and creates issues of generational equity; while

- At the same time, such a rise in ULLS charges is entirely at odds with the risk of competitive bypass to ULLS from FTTN, HFC, and wireless networks technologies.

485. These factors imply that the time when Telstra can recover the capital cost of ULLS assets is postponed far into the future, and that the most likely outcome is that Telstra will never be able to recover a substantial portion of its investments. The tilted annuity approach therefore exposes Telstra to significant financial risks that are not addressed in the ACCC's Draft Determination.

E.8.8 Asset lives

486. Neither the access seekers nor their consultants criticise any specific asset lives used in the TEA model, with the exception of copper cables. In fact, Network Strategies is of the view that the other "*equipment* [asset] *lives look reasonable*".[227]

487. The majority of the asset lives[228] adopted in the TEA model are those previously accepted by the ACCC[229]. In respect of the network management asset life, Telstra has used 11 years. This understates costs given that the ACCC has previously endorsed an asset life for this category of assets of 10 years.[230]

488. In respect of the remaining asset categories[231], the TEA model adopts asset lives determined by Telstra because the ACCC did not consider and therefore did not set asset lives for these asset categories. The following matters are those which Telstra takes into account in determining asset lives each year:

- future technology which Telstra may adopt for strategic purposes;

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[227] Network Strategies, *Report for Optus: Review of Telstra TEA Model Version 1.1, ULLS Undertaking*, dated 5 September 2008.
[228] This applies to the following asset lives: main ducts and pipe, distribution ducts and pipes, lead-ins, optical fibre, multiplexing systems, local switching, software, and copper distribution cable.
[229] In the PowerTel Final Determination Statement of Reasons, the ACCC noted (at page 98) that in its consultation paper to the draft final determination, it proposed to accept the asset lives proposed by Telstra.
[230] In the PowerTel Final Determination Statement of Reasons, the ACCC noted (at page 98) that in its consultation paper to the draft final determination, the ACCC proposed to accept the asset lives proposed by Telstra.
[231] This applies to the following categories of assets: power systems, network buildings, other indirect information technology and buildings.

- any major plans or programs which may impact on asset service lives;
- Telstra's future business plans;
- product obsolescence/emergence;
- infrastructure obsolescence;
- replacement due to maintenance costs;
- international trends and benchmarks in the telecommunications market, including the trends of Telstra's equipment suppliers;
- regulatory requirements and trends;
- mortality of assets;
- supportability of assets; and
- contract life.

489. Those are the very criteria which determine economic asset lives, the use of which the ACCC has endorsed.[232]

Asset lives of copper cable

490. Telstra has already comprehensively addressed Optus' criticisms in relation to the main cable asset life set out in the *Optus Public Submission to the Australian Competition and Consumer Commission on Telstra's Access Undertaking for the Unconditioned Local Loop Service: Response to Discussion Paper*, dated August 2008.

491. In relation to distribution cable, the ACCC set an asset life of 20 years in its final determinations of previous access disputes.[233] Accordingly, Telstra has adopted that asset life.

492. Network Strategies "*expect*[s] [that] *the lifetimes of main cables to be no shorter than the lifetimes of the distribution cables"*[234]. However, Network Strategies provides no justification for this assertion, and clearly has not taken into account the impact that the FTTN roll-out would have on the asset of life of main - in distinction to - distribution cable.

493. Finally Ovum states that "*the asset lives used in the TEA model do not match the asset lives as reported in* Telstra's *annual reports".*[235] However, it does not advocate the use of those asset lives in the TEA model, other than noting that their use leads to lower costs. No doubt the use of much longer asset lives

[232] In the PowerTel Final Determination Statement of Reasons, that ACCC considered that asset lives "*should reflect the economic lives of the assets"* (at page 91).
[233] See, for example, the publicly available final determinations of the ACCC in access disputes between Telstra and the following access seekers: PowerTel,, Chime, Primus and Optus.
[234] Network Strategies, *Report for Optus: Review of Telstra TEA Model Version 1.1, ULLS Undertaking*, dated 5 September 2008, p vi.
[235] Ovum (2008), *Review of the economic principles, capital cost and expense calculations of the Telstra Efficient Access cost model*, 6 August 2008, section 3.2.

generally will lead to lower cost, but that does not mean that the use of such asset lives is reasonable.

E.9 International benchmarking

494. In the Draft Decision the ACCC uses international benchmarks to assess the reasonableness of Telstra's proposed monthly charge and concludes that "*the ULLS charge averaged for all international countries is significantly below the Proposed Monthly Charge*".[236]

495. If the ACCC has no access to detailed, Australia specific information on the costs of supplying ULLS, international benchmarks could be relied upon to assess prices in an undertaking, provided that the benchmarks in question are appropriate comparators.

496. In this Undertaking, the ACCC has access to detailed, Australia specific cost information, namely the TEA model. Accordingly, the ACCC should rely on this information. In fact, the ACCC has previously endorsed using a bottom-up cost model rather than merely "*adjusting cost estimates from other jurisdictions*".[237] However, rather than using the best available information, the ACCC is instead using the worst available information (being international benchmarking). The ACCC's reliance on international benchmarking is surprising given that previously, it has argued against its use by both Optus and Telstra (see section C.3). In fact, the ACCC is now relying upon international benchmarking without making the adjustments that both it and the Tribunal previously considered important in order for an international comparator to be appropriate. The ACCC has not provided any justification for why its use of international benchmarking should not be subject to the same standards as Optus' and Telstra's, nor has it shown that the comparators it uses are appropriate.

E.9.1 Telstra has provided very detailed, Australia specific data

497. The TEA model, unlike any international comparator, takes into account the topographical and demographic constraints of connecting customers to the CAN in Band 2 in Australia. In addition, the TEA model includes very detailed inputs which are Australia specific, including labour costs and WACC. Each of these inputs is able to be assessed by the ACCC to determine whether or not they are reasonable. If the ACCC is concerned about the reasonableness of an input chosen by Telstra, it is open to the ACCC to choose another input within what is considers to be a reasonable range, in order to determine how that input impacts upon the costs determined by the TEA model.

498. Given that the ACCC has available to it such an opportunity for a rigorous assessment of the ULLS costs in Band 2 in Australia, international benchmarking is neither necessary, nor appropriate.

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[236] ACCC, Draft Decision, p 42. In doing so, the ACCC refers to Ovum's *Europe & Americas additional benchmarks tables and charges - benchmarking period Q2 2008*, July 2008.

[237] The ACCC said that, were all necessary adjustments made to comparators, "possession of such information sufficient to make a comprehensive adjustment is tantamount to that necessary to construct a bottom-up model, and use of that information for that purpose would be superior to using it for adjusting cost estimates from other jurisdictions" ("Optus Final Decision", p 124).

E.9.2 The comparators relied upon by the ACCC have not been shown to be appropriate

499. The ACCC has acknowledged that it had previously "*generally placed less weight on the use of international benchmarks when comparing ULLS prices due to the difficulty of finding an appropriate comparator for the low population density area in Band 4.*"[238] However, this is an understatement of the ACCC's previous position. The ACCC has previously submitted to the Tribunal that "*before international benchmarks could be resorted to,* [the Australian Competition Tribunal] *must be satisfied that, notwithstanding the difference between Australia and the relevant international jurisdictions, those benchmarks were reasonable comparators. It submitted that relevant differences might include matters such as the definition of the regulated service, the applicable regulatory framework, the geographical price structure, the cost of capital, the prescribed cost standard (if any) and population concentration (as opposed to population density).*"[239]

500. The Tribunal accepted the ACCC's submission.[240]

501. Clearly, the ACCC has not held the international benchmarks it relies upon to the same standard it set for access providers. The ACCC has not shown that the 14 comparators on which it has relied are appropriate. Indeed, no justification is given as to why these 14 countries were selected as appropriate comparators in the first place, or why other countries were not selected. Given that any benchmarking exercise inevitably hinges on the choice of comparator countries used, it is difficult to understand why the ACCC would offer no explanation. For example, why was Norway considered to be an appropriate comparator country? Is its regulatory regime the same as Australia's? Is TSLRIC used to set the regulated prices in Norway? It its urban population density the same as Australia's? The answer to the last question, for example, is no. These questions have not been posed, let alone answered, by the ACCC.

502. Further, the adjustments which the ACCC and the Tribunal considered must be made to a comparator in order for it to be "appropriate", have not been made. Ingenious Consulting Network, in a report for Telstra (see Attachment 3), has identified a number of considerations which should have been, but were not, taken into account, including timing considerations for various comparators (some of which were set up to four years ago).[241] The one adjustment that has been made - exchange rates - is also problematic, as neither the methodology for determining the prices in Australian dollars nor the timing of the conversion to Australian dollars are set out.

503. Accordingly, the ACCC should not be relying on international benchmarking, but rather on the detailed, Australia specific information on costs derived using the TEA model.

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[238] ACCC Draft Decision, at page 42
[239] *Telstra Corporation Limited (No 3)* [2007] ACompT 3, at [383]-[385].
[240] *Telstra Corporation Limited (No 3)* [2007] ACompT 3, at [383]-[385].
[241] Ingenious Network Consulting, *Commentary on the use of international benchmarking in setting interconnection rates*, December 2008, p 7.

Attachment 1 Access seeker profitability analysis

504. An analysis of profitability based on publicly available information indicates that, at current ULLS prices, an efficient supplier of broadband services could earn significant margins by supplying bundled broadband and fixed voice services using ULLS. Moreover, an efficient supplier would still earn significant margins at the $30 price for Band 2 set out in Telstra's Undertaking.

505. EBITDA (Earnings before interest, taxes, depreciation and amortisation) and EBIT (Earnings before interest and taxes), which are commonly employed measures of financial profitability, have been estimated for both iiNet and Optus.[242] The estimates have been derived by calculating bundled broadband and fixed voice revenues, and then subtracting from these:

- The costs associated with ULLS charges;
- Other costs of goods sold (COGS); and
- Other operating expenses;[243]

506. Estimates of EBIT (Earnings before interest and taxes) have been derived by subtracting estimates of depreciation from EBITDA.[244]

507. Table 6 and Table 7 present estimates of iiNet and Optus profitability, at the ULLS price determined by the ACCC for 2007/08 in Band 2 areas of $14.30. The tables show that iiNet and Optus likely earn significant EBITDA and EBIT margins supplying bundled broadband and fixed voice services using ULLS at this price. As noted in the tables below, the iiNet amounts represent estimates for the 2007 and 2008 financial years, whereas the Optus amounts represent estimates for the June Quarters of 2007 and 2008.

508. Table 8 and Table 9 present estimates of iiNet and Optus profitability using Telstra's Undertaking ULLS Band 2 price of $30. The tables show that iiNet and Optus would likely continue earning significant EBITDA and EBIT margins supplying bundled broadband and fixed voice services, at such a price.

[242] The analysis focuses on iiNet and Optus because, for these firms, data and information relevant to estimating ULLS profitability is publicly available. Moreover, amongst competitors to Telstra, iiNet and Optus are likely to be relatively more efficient competitors.
[243] For iiNet, publicly available data also enables the calculation of the Gross Margin for the services at issue, this being calculated as Revenues minus COGS. Data limitations mean that the Gross Margin cannot be separately calculated for Optus.
[244] For Optus, because of data limitations, depreciation has been approximated by a capital expenditure charge.

Table 6: iiNet Bundled ADSL and Voice Profitability – ULLS price of $14.30 (FY2007 and FY2008)

Financial Year	2007	2008
Revenues	$154,790,957	$183,375,203
ULLS Monthly Rental Charges	$20,741,292	$24,343,348
Other COGS	$13,039,456	$12,954,747
Total COGS	$33,780,748	$37,298,094
Gross Margin	$121,010,209	$146,077,109
Gross Margin (%)	78.18%	79.66%
Marketing expenses	$4,425,814	$6,074,058
Office costs	$7,137,134	$7,990,419
Administrative expenses	$6,885,291	$11,932,969
Total Opex	$18,448,238	$25,997,447
EBITDA	$102,561,971	$120,079,662
EBITDA (%)	66%	65%
Depreciation	$16,779,322	$18,857,209
EBIT	$85,782,649	$101,222,453
EBIT (%)	55.42%	55.20%

Source: iiNet, 2008 Annual Report, and other publicly available iiNet presentations.

Table 7: Optus Bundled ADSL and Voice Profitability – ULLS price of $14.30 (June Qtr 2007 and June Qtr 2008)

	June Quarter 2007	June Quarter 2008
Revenues	$47,250,000	$84,099,000
ULLS Monthly Rental Charges	$6,756,750	$12,398,100
Other COGS & Expenses (estimate)	$6,142,500	$11,271,000
Total COGS and Operating Expenses	$12,899,250	$23,669,100
EBITDA	$34,350,750	$60,429,900
EBITDA (%)	72.70%	71.86%
CAPEX charge	$4,087,370	$7,500,000
EBIT	$30,263,380	$52,929,900
EBIT (%)	64.05%	62.94%

Source: Publicly available Optus management reports, and SingTel Optus, Regulatory Update, SingTel Investor Day 2006, 29 June 2006 –Singapore, Paul Fletcher, Director, Corporate & Regulatory Affairs.

Table 8: iiNet Bundled ADSL and Voice Profitability – ULLS price of $30 (FY2007 and FY2008)

Financial Year	2007	2008
Revenues	$154,790,957	$183,375,203
ULLS Monthly Rental Charges	$43,513,200	$51,069,960
Other COGS	$13,039,456	$12,954,747
Total COGS	$56,552,656	$64,024,707
Gross Margin	$98,238,301	$119,350,497
Gross Margin (%)	63.47%	65.09%
Marketing expenses	$4,425,814	$6,074,058
Office costs	$7,137,134	$7,990,419
Administrative expenses	$6,885,291	$11,932,969
Total Opex	$18,448,238	$25,997,447
EBITDA	$79,790,063	$93,353,050
EBITDA (%)	52%	51%
Depreciation	$16,779,322	$18,857,209
EBIT	$63,010,741	$74,495,841
EBIT (%)	40.71%	40.62%

Source: iiNet, 2008 Annual Report, and other publicly available iiNet presentations.

Table 9: Optus Bundled ADSL and Voice Profitability – ULLS price of $30 (June Qtr 2007 and June Qtr 2008)

	June Quarter 2007	June Quarter 2008
Revenues	$47,250,000	$84,099,000
ULLS Monthly Rental Charges	$14,175,000	$26,010,000
Other COGS & Expenses (estimate)	$6,142,500	$11,271,000
Total COGS and Operating Expenses	$20,317,500	$37,281,000
EBITDA	$26,932,500	$46,818,000
EBITDA (%)	57.00%	55.67%
CAPEX charge	$4,087,370	$7,500,000
EBIT	$22,845,130	$39,318,000
EBIT (%)	48.35%	46.75%

Source: Publicly available Optus management reports, and SingTel Optus, Regulatory Update, SingTel Investor Day 2006, 29 June 2006 –Singapore, Paul Fletcher, Director, Corporate & Regulatory Affairs.

Attachment 2 Access seeker profitability analysis (Spreadsheets)

[Attachment 2 - iiNet and Optus business cases.xls]

Attachment 3 International Benchmarking Report

[ICN Report on International Benchmarking.pdf]

Attachment 4 State of infrastructure-based competition

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[245] http://www.ncable.net.au/_site/ (Accessed 25 November 2008). Note, Neighbourhood Cable was acquired by TransAct 1 January 2008

[246] Telstra (2007), Media release: Telstra super-charges Next G™ network, 15 February 2007

[247] Zdnet (2007), Media release: Hutch 3G speed upgrade goes nationwide, 27 March 2007

[248] Optus (2008), Media Release: Optus sets new milestone with the expansion of mobile network coverage to 98 per cent, 7 May 2008

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[249] Optus results to 30 September 2008
[250] Optus results to 30 September 2008
[251] http://www.vodafone.com.au/personal/services/coverage/maps/index.htm (Accessed 9th December 2008)
[252] ACMA (2008), Communications Infrastructure and Services Availability in Australia 2008, page 10

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[253] ACMA (2008), Communications Infrastructure and Services Availability in Australia 2008, page 13

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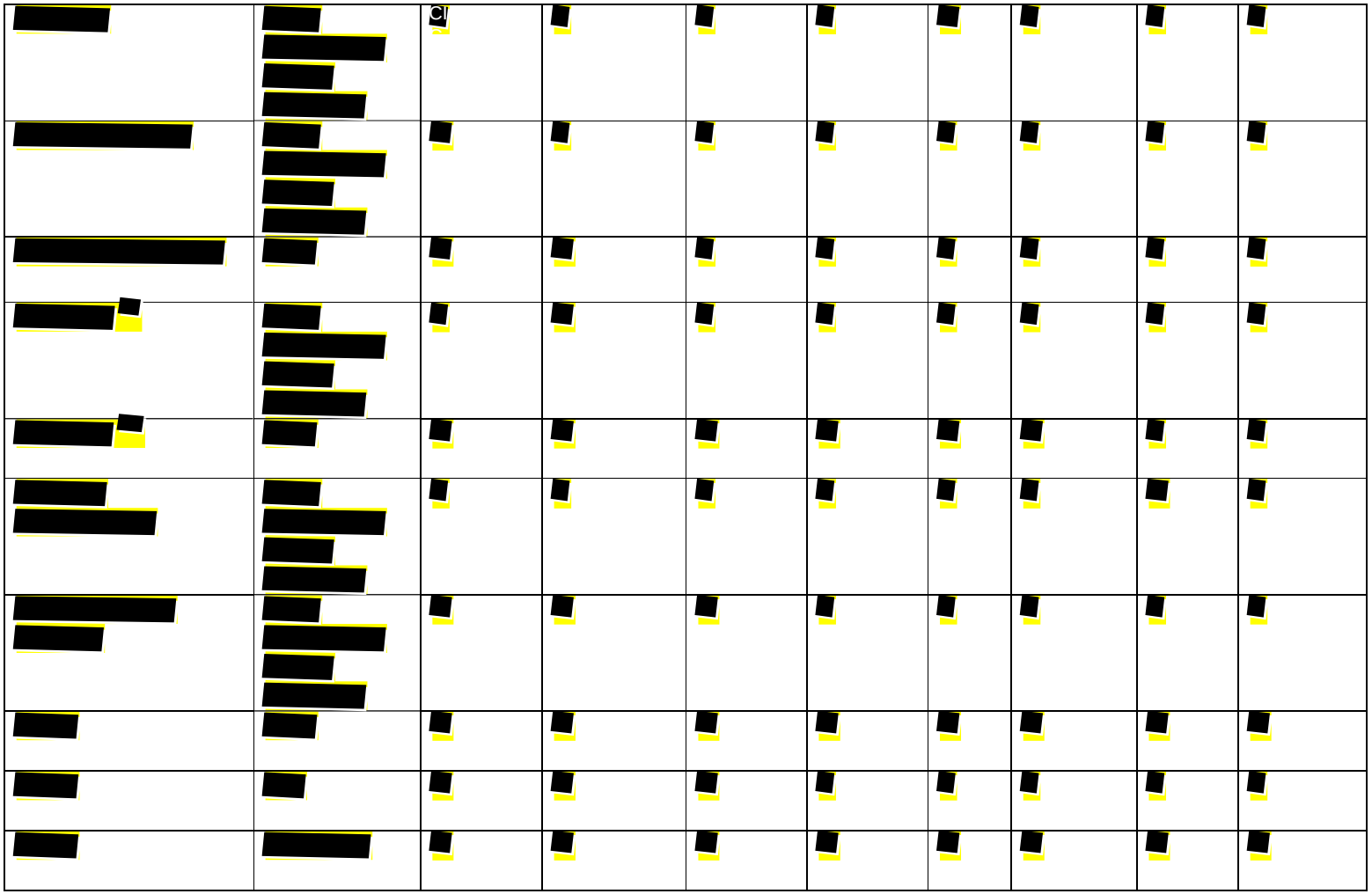

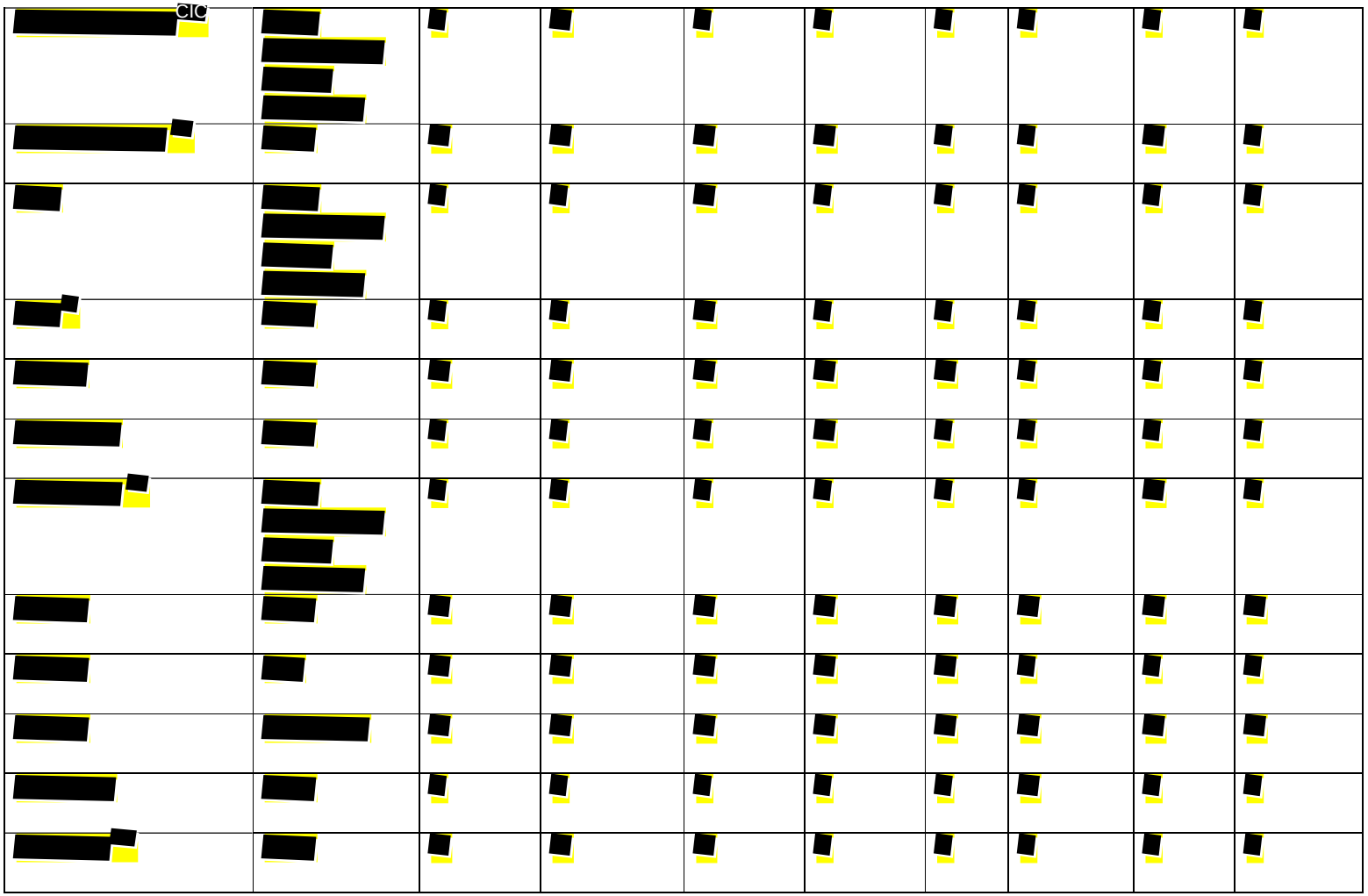

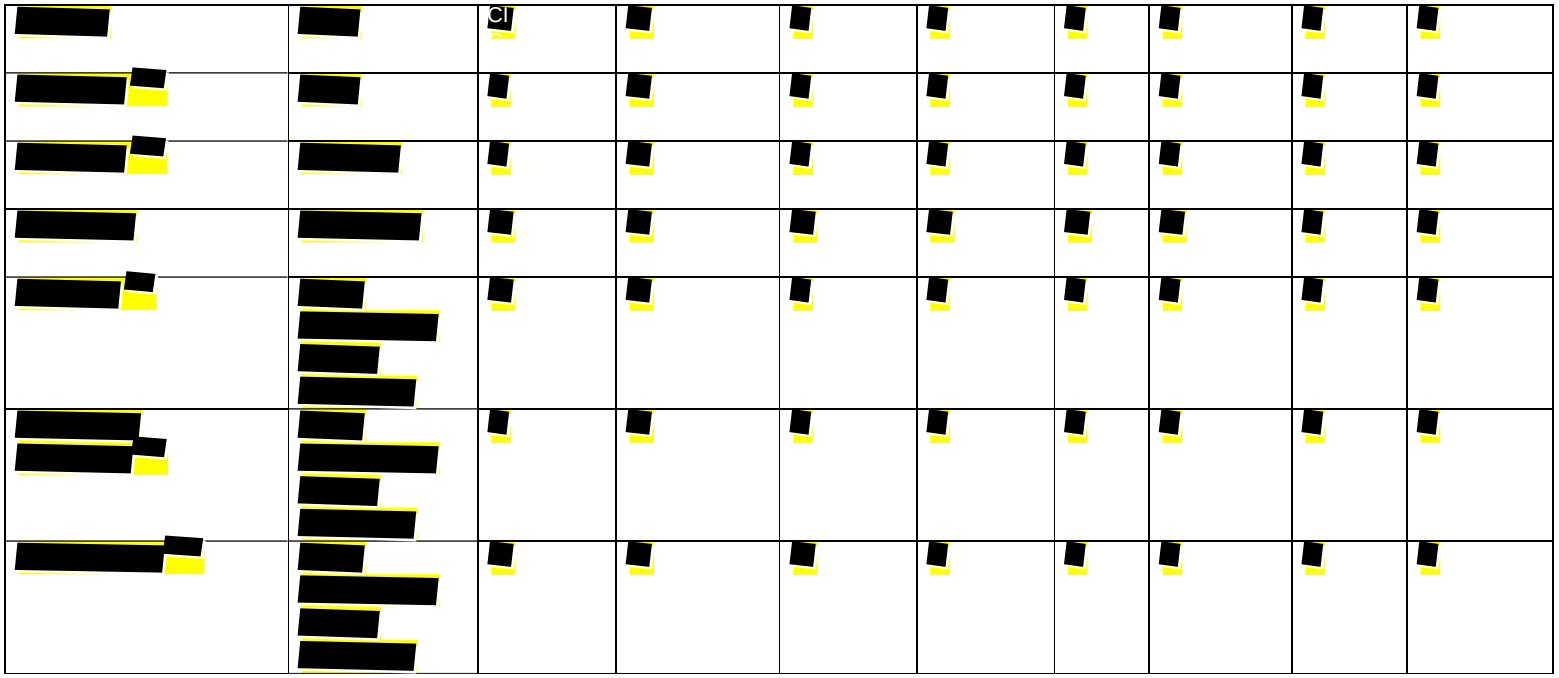

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