



TELSTRA CORPORATION LIMITED

**Review of 1997 Guide to Telecommunications Access Pricing
Principles for Fixed Line Services**

Telstra's Response to the ACCC's Discussion Paper

26 February 2010

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Executive Summary

1. Telstra welcomes the review of the 1997 pricing principles. The 1997 pricing principles have provided industry with a useful guide as to how the ACCC would assess undertakings and arbitrate disputes. The review of those principles provides an opportunity to deal with uncertainties and address issues that have arisen in the past.
2. It is important that new pricing principles are chosen based on a thorough and transparent assessment against a comprehensive set of objective decision-making criteria. The ACCC assesses access pricing approaches against specified legislative criteria set out in Part XIC of the Trade Practices Act. In its Discussion Paper the ACCC sets out four 'broadly desirable features' of access pricing approaches that are likely to meet the legislative criteria.¹
3. These features are:
 - **Competitive neutrality:** ensuring prices are equivalent for all access seekers so that the ability to compete in downstream markets is based on the costs and quality of the access seeker's operation, so that more efficient sources of supply displace less efficient sources and suppliers provide end-users with the most highly valued services and service quality in the least cost way.
 - **Ensuring investors expect to be adequately compensated:** allowing the access provider to recover its costs, including a normal commercial return on its investments, to promote dynamic efficiency and the ongoing provision of services to consumers.
 - **Productive efficiency:** Create incentives for access providers to adopt the most appropriate technology, improve productivity and reduce costs so that output is efficiently supplied. This will encourage efficient use of infrastructure, innovation and improve the price, range and quality of services provided to consumers.
 - **Discouraging inefficient duplication or under-use of existing infrastructure.**
4. Telstra agrees that these objectives should frame consideration of alternative pricing methodologies, consistent with the statutory criteria. However, it is also important to ensure that the transition from the existing pricing principles to the future pricing principles is undertaken in a way consistent with the objectives set out above.
5. Thus, the very act of changing the pricing principles carries significant risks that the criteria above will not be achieved through transition. The following factors are important to a successful transition:
 - **Alignment of ACCC and Government policy, particularly in regard to price structure**
 - **Minimising the disruption to access seeker and investor expectations brought about by previous pricing principles**
 - **Minimising adjustment costs for firms and for the regulator**

¹ ACCC Discussion Paper, p.17.

- **Providing a smooth transition to, and taking account of market changes resulting from, the NBN**
4. Telstra suggests further desirable features of regulatory mechanisms to serve the interests of both access providers and access seekers. Mechanisms need to be:
 - **Transparent, predictable, verifiable and not overly or unnecessarily complex:** to maximise regulatory certainty as to the outcomes arising from the pricing principles and to avoid administrative complexity for industry and the ACCC
 - **Committed to:** to provide assurances to industry that their expectations will not be unwound in the future to facilitate business planning – this is especially important as the industry transitions to the new NBN environment
 - **Inexpensive and easy to administer:** minimising the costs imposed on all parties to make the new pricing principles operational
 - **Robust with error avoidance or correction properties:** minimising the number of poor or mistaken decisions, but also identifying areas where there is considerable uncertainty ('unknowns') and providing effective mechanisms for avoiding or correcting errors speedily (and not repeating mistakes).
 5. Overall, consistency with these characteristics would reduce the risk and uncertainty faced by industry, which is largely driving the calls for change, and minimise the scope for future dispute. When parties have similar expectations of future outcomes arising from a regulatory mechanism, then the scope for dispute is reduced and the probability of commercial agreement is higher.
 6. Telstra argues that a building block approach better meets the above criteria than TSLRIC pricing and is more likely to achieve the ACCC's desired outcomes, so long as it is carefully implemented and the transition is properly managed. However, the building block approach as used in energy markets is not necessarily appropriate for telecommunications markets.
 7. Telstra makes a number of detailed proposals for future pricing principles based on the building blocks approach. In summary, Telstra proposes that:
 - a. Telstra's fixed line access services be priced equal to the unit cost of supply on a basis that is consistent across these services and avoids creating inefficient arbitrage opportunities
 - b. The unit cost of supply include capital costs and operational and maintenance costs
 - c. The capital costs be based on a valuation of the depreciated optimised replacement cost (DORC) of relevant assets, rolled forward by adding capital and subtracting depreciation
 - d. DORC be equal to the present value of future tilted annuity payments over the remaining lives of assets.
 8. These principles, developed in more detail in the body of this submission, meet the ACCC's and other objective decision-making criteria set out above. They are likely to produce the most efficient outcomes, be competitively neutral and allow for appropriate compensation for investors. The mechanisms needed to implement these pricing principles would be transparent and simple, can be committed to by the ACCC, and are easy to administer.

9. Further, this approach minimises the disruption to access seeker and investor expectations as it is time consistent with the current Total Service Long Run Incremental Cost (TSLRIC) regime, and relies mostly on information already available to the ACCC.

A Objective criteria for new pricing principles

10. The ACCC's 1997 pricing principles paper was considered by Telstra as an important benchmark publication that provided strong guidance for industry participants' expectations of regulatory price determinations. The principles achieved this by communicating detailed and specific guidance to industry on how the ACCC would likely go about making a price determination.
11. Nevertheless, there is near universal support within the telecommunications industry for a change to the principles themselves, to achieve the objectives of the regulatory regime and to address the specific issues that have caused problems in the current regime. Telstra has participated in and supports calls to change the pricing principles.
12. To progress this change, Telstra encourages the ACCC to specify new pricing principles that are clear, precise and sufficiently detailed to give real guidance about, and predictability to, the access pricing process for fixed line services. The new pricing principles will be used by industry participants to build expectations of future ACCC determinations, as they did with the 1997 pricing principles. A watering down or generalisation of the 1997 pricing principles will make it more difficult to do so, creating more uncertainty for industry in an already tumultuous time.
13. To give the best guidance to industry and build confidence in the regulatory process, specific and detailed elements of the new pricing principles should be determined having regard to objective decision-making criteria. This section draws on (a) the ACCC's suggested criteria, (b) experience with the current "TSLRIC" regime, as well as (c) best-practice principles of regulatory design, to develop an objective set of criteria which the ACCC can use to determine new pricing principles for the telecommunications industry.
14. Of course, when judging any pricing approach, the ACCC must consider whether it meets the broad legislative criteria set out in Part XIC of the Trade Practices Act. Part XIC sets the following objectives to promote the long-term interests of end users:
 - promoting competition in markets for listed services;
 - achieving any-to-any connectivity in relation to carriage services that involve communication between end users; and
 - encouraging the economically efficient use of, and economically efficient investment in, the infrastructure by which listed services are supplied.²
15. While these are the very objectives that all pricing determinations must aim to meet, they are broad and do not provide the specificity required for a set of decision-making criteria. The same objectives have been applied for the past decade of regulatory pricing proceedings, resulting in a very wide range of pricing approaches and values and, ultimately, uncertainty. Recognising the need for more specific guidance, in its discussion paper, the ACCC sets out four 'broadly desirable features'³ of access pricing approaches. They are:
 - **Competitive neutrality:** ensuring prices are equivalent for all competitors so that the ability to compete in downstream markets is based on the costs and quality of the competitor's operation, so that more efficient sources of supply displace less efficient sources and suppliers provide end-users with the most highly valued services and service quality in the least cost way.

² ACCC Discussion Paper, p.15.

³ ACCC Discussion Paper, p.17.

- **Ensuring investors expect to be adequately compensated:** the ACCC states that *“The approach to access pricing should allow the access provider to recover its costs, including a normal commercial return on its investments. This means that the access provider’s legitimate business interests are met, ensuring that investment in regulated infrastructure over the long term is not discouraged, which promotes dynamic efficiency and the ongoing provision of services to consumers”*.⁴

A necessary condition for investment and innovation is that regulators ensure investors are adequately compensated by upholding a time consistent commitment to expectational capital maintenance. Simply put, no investor, firm or individual can be expected to commit wealth to an investment that is expected to be loss making. *“Not allowing an access provider to recover [investment] costs could mean that it may be unwilling to make sunk investments in the future — which would jeopardise dynamic efficiency.”*⁵ In industries where technology changes rapidly, efficient investment is the single factor exercising the greatest impact on consumer welfare. Innovation and the introduction of new and valued services are the largest source of consumer and social surplus. Investments in competitive infrastructure result in all the societal benefits of competition that policy and regulation strive to achieve.

- **Productive efficiency:** Create incentives for access providers to adopt the most appropriate technology, improve productivity and produce output at minimum cost so that output is efficiently supplied. This will encourage efficient use of infrastructure, innovation and improve the price, range and quality of services provided to consumers. Productive efficiency requires that the firm has incentives to seek and effect cost reductions, so long as those cost reductions do not reduce service quality below the efficient level.
- **Discouraging inefficient duplication** or under-use of existing infrastructure.

16. Telstra considers that generally these objectives would provide for ACCC decisions that are consistent with the relevant statutory criteria and agrees that they should be used to frame consideration of alternative pricing methodologies. However, it is also important to ensure that the transition for the existing approach to the approach used in future is undertaken in a way consistent with the statutory decision-making criteria and the objectives set out above.

17. The very act of changing the pricing principles carries significant risks that the criteria above will not be achieved through transition. The following factors are important to a successful transition:

- **Alignment of ACCC and Government policy during the transition:** It is Government policy to promote urban and rural price parity particularly for access services and local calls. This policy can be ‘undone’ if it is not consistently applied by the ACCC when making determinations with respect to underlying wholesale service prices.
- **Minimising the disruption to access seeker and investor expectations brought about by previous pricing principles:** if access seekers and investors experience significant unanticipated changes in the level and volatility of prices and returns on or of capital as a result of the transition, this risks undermining access seeker and investor confidence in the new regulatory system. A poorly designed and managed transition could unnecessarily disrupt access seekers’ business cases and raise the cost of capital for investors, leading to distortions in investment

⁴ ACCC Discussion Paper, p.17

⁵ ACCC Discussion Paper, p.25.

decisions over time - with possible deleterious consequences for service quality and consumer welfare. This risk was specifically identified by Ofcom when it moved from one asset valuation to another. Changing the basis for valuing existing assets proved too disruptive and prone to adverse consequences. Instead Ofcom transitioned to a different valuation by keeping existing assets valued as they had been and new assets were valued using the new approach. Telstra considers that maintaining a consistent approach to valuing existing assets would be consistent with the statutory criteria, since it would allow for the recovery of capital costs over the life of the assets. On the other hand, a change in the basis for valuing assets would potentially be contrary to the objective of recovery of direct costs.

- **Minimising adjustment costs for firms and for the regulator:** the transition should be carefully designed and appropriately managed so that the costs of change and adjustment are as small as possible for both firms and the regulator.
 - **Providing a smooth transition to the NBN:** The new pricing principles will apply during the transition from legacy wholesale services to NBN services. To avoid unnecessary price shocks, the new pricing principles should provide a smooth transition to the NBN.
18. Given these objectives, both for the longer term regime and for the transition to that regime, the central issue is the design of a mechanism for setting regulated access charges that is consistent with achieving them. It is Telstra's view that a pricing framework, if it is to achieve these objectives, should have a number of characteristics that will support certainty for access seekers and investors, both in the regulated services and in services that use those regulated services as inputs. Identifying these characteristics provides useful guidance as to the considerations relevant to assessing possible alternative pricing frameworks.
19. Given this, Telstra believes it is important that the mechanisms on which the pricing framework relies be:
- **Transparent:** Mechanisms should be easy to observe and straightforward to understand. They should be set out in rules that provide clear and specific guidance to the regulatory process. This lessens the likelihood of poor regulatory decision-making and reduces the possibility of disputes arising due to misunderstandings of the meaning of the rules that are in place. Transparency requires regulators to be open with stakeholders about their objectives, processes, data and decisions, which promotes intellectual rigor, well-reasoned decision-making, and coherent policy, and satisfies parties' right to know the reasoning process.
 - **Predictable:** Predictability of regulation is essential for investors to be able to plan for the future and gain confidence that unexpected changes in the regulatory environment will not threaten their investments. Regulation is more predictable when decisions are consistent and made on the basis of well-understood and clearly defined criteria. As with transparency, predictable regulation reduces the possibility of dispute arising from parties' different expectations of regulatory outcomes.
 - **Verifiable:** Both inputs to the regulatory process and outputs from the regulatory process should be verifiable to avoid undue reliance on difficult to make forecasts, increase the ease of monitoring and reduce the number and complexity of disputes. The capacity to verify helps ensure the correct diagnosis and regulatory response has been reached and increases accountability.

- **Not overly or unnecessarily complex:** Rules should be as parsimonious as possible, while meeting the objective of clearly and specifically guiding the regulatory process. This improves transparency and reduces both administrative and compliance costs. Reducing complexity also reduces uncertainty and lessens the possibility of disputes arising because of differing interpretations of the rules that are in place.
 - **Committed to:** If a regulatory decision or ruling is made at one point in time, the regulator should commit to that decision. The regulator should honour commitments about known factors and identify unknown factors and commit to a mechanism to deal with the inevitable uncertainties and forecast errors that result. This provides certainty and predictability for firms, shareholders and consumers and is an essential requirement for securing efficient investment.
 - **Inexpensive:** Rules and decisions should be easy to comply with, and should not impose burdensome costs on individual firms or the regulator, such as the paperwork needed to demonstrate compliance. The costs of complying with regulation increase with the details of the requirements, the extent to which they change behaviour and the extent to which they are inconsistent across jurisdictions, products and types of business. High administrative costs are likely to reduce the quality and timeliness of decisions
 - **Robust with error avoidance or correction properties:** The high cost of regulatory errors makes the ability to avoid or correct errors, handle surprises and adapt to changes important. The high level of technological change in the telecommunications sector puts a premium on flexible and responsive policies. A good regulatory system minimises the number of poor or mistaken decisions, but also identifies areas where there is considerable uncertainty ('unknowns') and provides effective mechanisms for avoiding the uncertainty or correcting errors resulting from uncertainty speedily (and not repeating mistakes). Errors can be avoided with less reliance on uncertain inputs (e.g. forecasts). Error correction properties need to be recognised in the risk allocation adopted, with the risk of differing types of errors being anticipated, and an appropriate response identified.
 - **Flexible in scope:** When dynamic markets such as telecommunications markets become competitive, price regulation needs to be withdrawn so that it does not distort the competitive forces that will take its place. The potential for competition between NBN, Telstra and other providers⁶ at all parts of the CAN and IEN needs to be assessed and pricing principles withdrawn from areas most likely to be subject to competition.
20. Overall, consistency with the above characteristics would minimise the scope for future dispute. When parties have similar expectations of future outcomes arising from a regulatory mechanism, then the scope for dispute is reduced and the probability of commercial agreement is higher.
21. Applying the above criteria to determine the appropriate access pricing principles, we first evaluate the current TSLRIC pricing regime and the 'building blocks' approach. The evaluation establishes the superiority of the building blocks approach. The examination identifies the relevant issues in the transition from a TSLRIC to building block approach and in setting the principles for the new pricing regime. For example, the treatment of depreciation under TSLRIC pricing determines how assets should be depreciated when bought into the regulatory asset base (RAB) to maintain access seeker and investor's expectations. That said, there are a number of issues that need to be addressed in a

⁶ For example, Optus' HFC network upgraded to DOCSIS 3 and 3G and 4G wireless networks.

building blocks regime. The approach adopted in energy markets is not simply transferable to telecommunications markets. Those issues affect what rules should be adopted to achieve the ACCC's desired outcomes. We start by reviewing the TSLRIC approach and then move on to consideration of the building blocks approach.

B The current TSLRIC pricing regime

22. For at least the past decade, the ACCC has applied TSLRIC to the pricing of fixed line services (the exception is WLR and LCS, which were priced below TSLRIC). The costs used to set the access price for services are measured using Total Service Long Run Incremental cost (TSLRIC) methodology, which estimates the cost of providing the service using the best technologies and work practices in widespread commercial use. The TSLRIC effectively values the asset base at its Optimised Replacement Cost (ORC).
23. Once the asset base is determined, the capital charge is determined by allowing a return on the asset base plus depreciation. The return is a nominal weighted average cost of capital (WACC). Operational costs and a contribution to indirect costs are added to the allowable revenue, which is divided by demand to determine a price.
24. In determining the capital charge in TSLRIC, the ACCC has applied a tilted annuity to Telstra's asset base, which distributes the capital costs of assets over the assets' lives so that the capital charge changes from year to year at a set growth rate.
25. A key characteristic of this approach is the time consistent commitment to a path of capital cost recovery, providing access seekers with expectations as to the prices they will pay for services in the future and access providers with expectations of capital maintenance. That is, no matter when the ACCC makes a new determination using TSLRIC pricing principles, the present value of the capital charges calculated using the tilted annuity should equal the cost of the asset base (although later discussion will show this is not necessarily the case). Box 1 discusses how this is achieved under strict conditions.

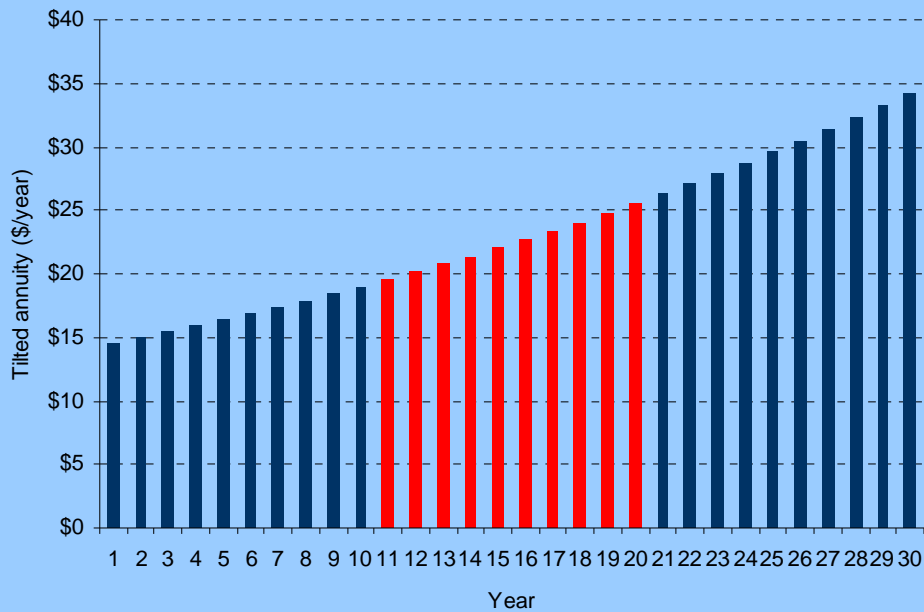
Box 1: TSLRIC and the Tilted Annuity

If the WACC is r per cent and the price of a new asset is expected to grow at rate γ per cent, then the TSLRIC capital charge in year t for an asset that cost P with a life of N years is:

$$\frac{P(1+\gamma)^{t-1}(r-\gamma)}{1-\left[\frac{(1+\gamma)}{(1+r)}\right]^N}$$

The figure below presents a profile of tilted annuity capital charges, calculated using the formula above, for three vintages of an asset with a life of 10 years and a value in the first year of \$100. The discount rate (r) is 10 per cent and the growth rate of the annuity (γ) is 3% per year.⁷

⁷ As the ACCC uses a nominal WACC, all payment are expressed in nominal terms.



Under repeated revaluation of the asset base, the tilted annuity has the following two characteristics which (under strict assumptions that turn out not to be the case) can achieve a time consistent commitment to a path of capital cost recovery.

First, the present value of the capital charges over the life of any vintage of the asset is expected to be equal to the cost of that asset (if the expected nominal growth rate of the tilted annuity is equal to the expected nominal growth rate in the asset price). For example:

(a) the capital charge for the first vintage of an asset purchased in year 1 (costing \$100) would be \$14.53 in year 1 increasing to \$18.95 in year 10 (illustrated by the leftmost blue bars in figure 1 below). As the tilted annuity grows at 3% per year, it grows by a factor of $1.03^{(10-1)} = 1.3048 = \$18.95/14.53$ over the asset's life. The present value of these payments is \$100 – the purchase cost of the asset in year 1.

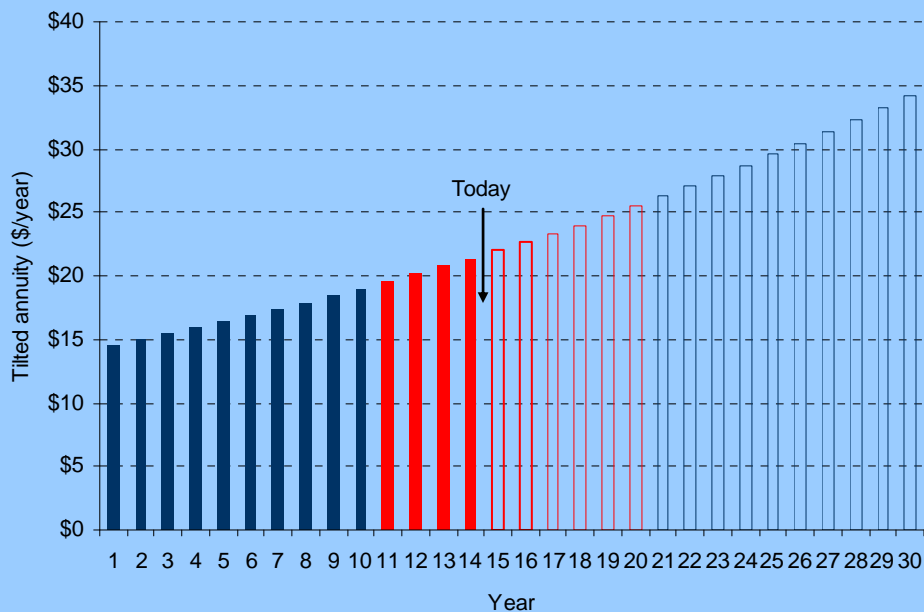
(b) the capital charge for the second vintage of an asset purchased in year 11 (costing \$134.39) would be \$19.52 in year 11 increasing to \$25.47 in year 20 (illustrated by the red bars in figure 1 below). The present value of these payments is \$134.39 – the purchase cost of the asset in year 11.

Second, a tilted annuity applied to a revalued asset provides the same path of capital charges as a tilted annuity applied to an asset that is not revalued. The figure below, which has the same profile of cash flows as the figure above, is used to illustrate this. For example, assuming that the current time is the beginning of year 15:

(a) For an asset actually purchased in year 11, the annual capital charge that would result in expectational capital maintenance is the fifth year capital charge of \$21.97.

(b) If the asset base is revalued under TSLRIC principles at the beginning of year 15 (to \$151.26), the year one tilted annuity capital charge is also \$21.97.

This is true for any year.



In effect, even though investors' assets are repeatedly revalued under the TSLRIC pricing principles, the tilted annuity is a commitment to investors that the PV of the tilted annuity payments will equal the actual purchase cost of the asset, no matter when actually purchased or revalued. However, in practice the returns from the tilted annuity have been undermined by certain characteristics of its application.

These theoretical relationships are undone when there is:

- (a) a considerable back loading of depreciation to a time when it is not clear that the market will bear that depreciation;
- (b) A discrepancy between the price trend assumed in the tilted annuity and the change in prices for assets from one revaluation to another; and
- (c) A change in price trend used in the tilted annuity from one determination to another.

When these things occur, as they do regularly, the equality between the present value of tilted annuity capital charges and asset purchase costs fails. It is for this reason Telstra has opposed the way in which the tilted annuity has been used, as the effect of that use is to deprive Telstra of any reasonable assurance of capital maintenance.

26. Notwithstanding the intent of a commitment to a path of capital cost recovery, the TSLRIC pricing regime has performed poorly on the objective criteria set out in section B above. These problems can (and should) be addressed in the transition to new pricing principles. Problems with the TSLRIC approach include:

- A disregard for actual operating conditions and costs;
- An emphasis on continually re-optimising the cost estimate, often with major changes in assumptions, inputs and methodology; and
- An outcome exposing investors supplying capital to the regulated industry to additional risks, including the risk of regulatory error and opportunism.

27. The costs of building an entirely new network are inherently unobservable and involve many subjective decisions. While it is difficult to undertake such a task once (as would be

required for a RAB approach based on ORC or DORC), it is almost impossible and inherently contentious to do so for every determination in a way that is consistent with the objective criteria above.

28. The TSLRIC approach incorrectly assumes a firm that instantly and costlessly reinvents itself in response to technical progress. This unrealistic view ignores many costs involved in building a new network (such as the interest cost on capital used during construction). An underestimate of costs results in prices that do not give an efficient firm the opportunity to recoup its investments.
29. These problems are aggravated by reliance on the tilted annuity. Even if the ACCC sets the tilted annuity at the expected rate of growth in capital prices, when the TSLRIC estimate of the capital base is recalculated (which can happen whenever an access dispute is being arbitrated), then if capital prices grew less than expected the capital base will be smaller than expected and the capital charge will fall: the whole path of the tilted annuity shifts down. As the initial path of capital payments was expected to just compensate for the cost of newly acquired assets, the capital charges would no longer cover the costs of these past investments and investors make a windfall loss. If capital price growth was higher than expected, then investors in assets acquired during the TSLRIC regime would receive a windfall gain. If the growth in prices was set as its expected value, the expected loss is zero, but windfall gains and losses will occur in practice. The result is to increase the riskiness of returns and variability in prices to consumers.
30. Another risk, although not limited to TSLRIC approaches, is the incorrect specification of the expected asset life. If the asset life is understated, the firm expects to receive payments with a present value above the cost of the investment and access seekers would face prices that are too high. If the expected asset life is overstated, investors would not cover their investment costs and access seekers would face prices that are too low.
31. The risks from regulatory error and from continual re-optimisation of asset base are particularly large under a tilted annuity approach because, at least for CAN services, it 'back loads' payments for capital and the company risks not recovering a significant portion of its investment.⁸ For example, the costs to the firm from the overstatement of asset life are greater with a tilted annuity with a positive price trend, since the last years that are at risk of being "missed" have the highest amount of depreciation of the asset. This risk arises from any number of potential circumstances, including the possibility of future obsolescence, and is more prevalent when the valuation of assets is dependent on arbitrary assumptions subject to change.
32. By imposing extra risks on investors, the TSLRIC approach, therefore, does poorly on the criteria of compensating investors. It also lacks predictability, transparency and simplicity.
33. Nor does it do well on competitive neutrality. The impact of the potential errors discussed above is to load cost recovery to access seekers when the error raises prices and to load cost recovery to access providers when the error lowers prices.
34. The TSLRIC approach does, however, do well at discouraging inefficient duplication and creating incentives for productive efficiency.
35. It discourages inefficient by-pass by access seekers. If they can get access for the cost of efficiently building a new service, they would not pay any more to build their own network.

⁸ The TSLRIC approach back loads depreciation compared with historic cost depreciation and compared with true economic depreciation in a competitive market, so long as the tilt is less than the discount rate.

36. On the other hand, it may discourage efficient by-pass. If prices are set below the access provider's actual costs, it discourages access seekers with lower costs (but higher than efficient costs) from by-passing the access providers' network. Moreover, the expectation that access prices will always be set at efficient cost (or perhaps even below that level) may make by-pass unattractive where it involves committing sunk costs that could be stranded by future demand and cost changes. Further, the uncertainty inherent in the TSLRIC approach may discourage investment by access seekers and the incumbent alike, while especially disadvantaging the incumbent as a competitor, by placing on it so great a stranding risk.
37. It is both a weakness and a strength of the TSLRIC approach that revenues or prices allowed are completely independent of the firm's actual costs. This is (as noted above) a weakness, as it introduces substantial regulatory risk, including the risk that charges may be insufficient to provide incentives for the service to be provided. It is a strength to the extent that the approach gives strong incentives for the access provider to control costs. As allowed revenues and actual costs are independent, any reduction in the firm's costs increases profits (or reduces losses), giving strong incentives for cost efficiency. In practice, however, the heightened uncertainty associated with the TSLRIC approach will militate against embodied technological change (i.e. innovations that require an increase in investment).
38. Further, the TSLRIC approach provides funding that allows the access provider to purchase the best technologies and work practices in widespread commercial use (provided the appropriate benchmark is used and its costs correctly estimated).

C The building blocks approach

39. This section examines the costs and benefits of the building block approach. Applying the criteria for judging access pricing mechanisms, it concludes that a building block approach is superior to the TSLRIC pricing. But it identifies weaknesses with the building block approach, which affect how it should be implemented.

C.1 General pricing approach

40. Telstra supports the move to using a RAB (or building block) framework to determine regulated wholesale prices. Telstra's support reflects the assessment of costs and benefits of that framework set out below.
41. The main benefit from the building block approach is that it is a well established, understandable, known and largely predictable process that is applied in other sectors and has been adapted and refined over time. While the building block approach used in energy markets cannot be simply transferred into telecommunications (there are substantial and important market and structural differences between energy and telecommunications), adopting it would bring telecommunications more in line with other utilities. As well as directly providing greater certainty, this would allow telecommunications regulation to benefit from the learning and ongoing improvements in the regulation of other industries.

C.2 Benefits of the building block approach

42. As part of its ongoing review of the potential use of total factor productivity in the determination of prices and revenues in the energy sector, the Australian Energy Market Commission (AEMC) has examined the costs and benefits of the building block approach. The AEMC's conclusions were based on a survey of various stakeholders, including service providers, regulatory authorities, industry bodies and user groups across Australia.⁹

⁹ See AEMC (2009b)

43. The AEMC found:

The majority of responses stated that the main benefit of the building block approach is that it is a relatively straight-forward, stable, and predictable process that is easily understood.¹⁰

44. The respondents to the AEMC's survey identified the following benefits of the building block approach:

- comprehensive assessment of costs so that service providers are guaranteed that they would recover their costs;
- ex-ante framework provides certainty for service providers and can be readily aligned with a service provider's internal planning and investment decisions;
- the assessment of costs is tailored to the circumstances of individual service providers;
- the assessment of costs is in a propose-respond framework allowing the regulator to rigorously test costs submitted to it from a service provider;
- it has the ability to consider both current and future network development needs when determining a price path;
- service providers were able to meet the costs of regulatory and legal obligations;
- the building block approach has flexibility to cater for a range of incentive schemes;
- it provides clarity on the extent of regulatory discretion in the revenue determination process; and
- in electricity transmission, it was noted that the building block approach catered for the 'lumpy' nature of transmission investment.¹¹

45. The AEMC states that:

The objective of the building block approach is to estimate the total revenue that the service provider will require each year over the forthcoming regulatory period to provide its investors with a reasonable rate of return and to allow the service provider to meet efficiently incurred costs relevant to providing the regulated services.¹²

46. The building blocks approach avoids many of the drawbacks of the TSLRIC approach, creating a more stable and certain environment for investment. The building block approach focuses on actual operating conditions and costs (which are verifiable, at least *ex post*), does not 'back load' depreciation deductions and does not continually re-optimize, instead offering a period of regulatory certainty (usually the price path is set for five years). The building block approach is less risky for investors than the TSLRIC approach – eliminating the risk of revisions in the path of prices for the regulatory period and reducing the risk of regulatory error and opportunism. Once the capital base is set, outlays are included in the capital base as incurred, which again provides more certainty for investors. It may also be that given the very different characteristics of the telecommunications market, information and forecasting processes are significantly

¹⁰ AEMC (2009b) p. 5

¹¹ AEMC (2009b) p. 5

¹² AEMC (2009b) p.2.

different from those which are used in energy markets to support established building block processes.

47. Additionally, because the capital base is set, rather than determined afresh at each iteration (as is the case in the current approach), and the current network (rather than a completely new network) is taken as the base for assessing the efficiency of capex and opex decisions, fewer variables are in contention at each reset. Moreover, those that are should be capable of being more readily determined, as it is actual conditions – that are observable, even if not costlessly so – that are the benchmark for evaluation, rather than conditions under a completely unobservable anti-world in which there is an *ex novo* network. This has the potential to reduce the extent of dispute, and make it easier to resolve disputes in a way that is not arbitrary.
48. The building blocks approach therefore outperforms the TSLRIC approach on the criteria (discussed in section A) of providing investment incentives, good regulatory practice that reduces avoidable risks, and on the costs of regulation. It is also superior to TSLRIC on the criteria of efficient outcomes. The greater certainty and predictability for investors encourages greater dynamic efficiency.
49. The building block approach also promotes competitive neutrality better than TSLRIC because access prices are based on the access provider's actual costs, so that both the provider and access seekers pay the same cost.

C.3 Costs of a building blocks approach

50. Although the stakeholders surveyed by the AEMC thought the building block approach “yields sufficient incentives for service providers to seek cost efficiencies”¹³ they thought that:

The major drawbacks of the building block approach appear to be that it fails to cater adequately for innovation, there is a risk that the regulator may set the level of efficient prices too low leading to insufficient returns and that the regulator is exposed to information asymmetry.

51. Under the building block approach, higher forecast costs typically result in higher revenue. Increased investment is added to the RAB and increases revenue in the following regulatory period. Prices or revenue are fixed for the duration of the price control period (usually 5 years). Any cost savings during this period directly increase profits, giving some incentive for cost efficiency.
52. The incentive is limited, however, because the firm knows that the regulator uses information about actual costs in period 1 when determining prices in period 2 (a phenomenon referred to in the literature as ‘the ratchet effect’). Any cost reductions will lower the price received in the following price control period, depending on how the regulator uses information on past costs when updating its expectations of future costs in setting allowed future revenue. The threat of that occurring especially reduces incentives to cut costs near the end of the price control period (as the present value of the increased profits is reduced by the nearness in time of the cost updating).
53. A cost saving made in year one of a price control period will yield benefits to the regulated firm in all the years of the price control. If the same saving were made at the end of the price control period, the firm might see the benefit only for one year.
54. In order to address this issue, the Australian Energy Regulator (AER) has developed two types of incentive mechanism, which operate in conjunction with the basic building blocks model: and efficiency benefit sharing scheme (EBSS) and a service target

¹³ AEMC (2009b) p.3.

performance incentive scheme (STPIS). Both of these schemes are designed to share cost savings between the firm and customers by increasing the incentive for firms to cut costs if they increase the present value to the firm of cost savings (or equivalently, of quality improvements).

55. The EBSS is designed to provide a continuous incentive for regulated firms to reduce their operating and maintenance costs by allowing service providers to retain the benefits of efficiency savings (for both capital and operating expenditures) for a fixed period of time, regardless of when the saving is made. The STPIS is designed to ensure that the regulated firms do not reduce costs by cutting service standards. Financial rewards/penalties apply where performance is above/below prescribed service standards. A difficulty with STPIS is that the rewards/penalties need to be carefully calibrated to reflect the marginal benefit to users of changes in reliability. Otherwise investment in meeting quality targets may be inefficiently high or low.
56. Incentives for productive efficiency under the building blocks approach, that they rely on what is referred to as “regulatory lag”, i.e. on the fact that there is a lengthy period (typically five years) between redeterminations. They also rely on the use of expected values for key parameters (notably capex and opex) for determining a price path for that period. Too lengthy a period may be problematic in telecommunications, where uncertainty about future developments would mean that five year forecasts were likely to have a high degree of inaccuracy.
57. The introduction of efficiency schemes is particularly important for providing consistent incentives for productive efficiency in energy transmission and distribution markets where there are few if any competitive alternatives to supply. For telecommunications services, faced with both intra-modal and inter-modal supply alternatives, ongoing incentives for efficiency are already provided by competition. As such, efficiency schemes are less important in applying the building block framework in a telecommunications context. A shorter forecasting and pricing period in telecommunications may reduce the need for such schemes, since there will be less scope for gaps to emerge between forecast and actual expenditure.
58. Although the building block approach does not involve continual re-assessments, it may still carry high compliance costs and the risk of regulatory opportunism. Firms have an incentive to provide exaggerated cost forecasts to the regulator and so forecasts are thoroughly scrutinised, which often involves regulators seeking to second-guess the commercial management of the regulated firm. As the surveyed stakeholders noted “the building block approach may be adversarial at times”.¹⁴ Additionally, in energy, the local franchise-based nature of service provision means that there are a larger number of comparators for regulators to draw on. Moreover, the cost allocation issues tend to be considerably simpler in the energy utilities than they are in telecommunications. And last but not least, it may be far more difficult for telecommunications than for energy to accurately forecast demand, especially over a five year period, with those difficulties being accentuated by the parallel roll-out of the NBN.
59. The AEMC reports that the major drawback of the building block approach from the perspective of service providers is the difficulty for the regulator to determine a particular service provider’s efficient costs.¹⁵ Specific problems included:
 - the process was very information or data intensive and that regulators sometimes issued onerous requests for information. It was claimed that the information intensiveness could lead to a situation where service providers were effectively ‘micro-managed’ by a regulator;

¹⁴ AEMC (2009b) p.4.

¹⁵ AEMC 2009, p. 7

- there was a perception that the process has become more heavy-handed over time. It was suggested that more recent reviews have been conducted in a more detailed, forensic and intrusive manner that is counter to the tenor of light-handed regulation;
 - the lengthy duration of reviews;
 - a perception that there are significant costs incurred in the regulatory process; and
 - a concern that any cost efficiencies that service providers have achieved were subsequently lost when prices were reset to efficient costs at the beginning of each regulatory period.¹⁶
60. The building block approach can be information intensive, depending on the mechanisms used to estimate costs. For example, TSLRIC models usually use specified ratios to determine operating costs and indirect costs. In building block models applied in energy markets, operating costs tend to be carefully specified and justified and subject to regulator scrutiny and approval. While O&M costs have been contentious in the TSLRIC context, it could be that the difficulties and differences become sharper in the move to a building blocks approach. That said, there is no reason why existing methods for estimating operating and indirect costs could not be carried over to a building block model – this may reduce the degree of contention around these elements.
61. The energy sector has a number of safeguards to limit the scope for regulatory opportunism. For example, the rule making function (the role of the AEMC) is separated from rule enforcement (the AER's responsibility). The National Electricity Rules set out the principles and processes the AER must apply in assessing each service provider's proposal.¹⁷ The rules essentially prevent the AER from:
- substituting a value, parameter or forecast proposed by a business without proving that the proposed value is inconsistent with the rules;¹⁸
 - conducting ex post reviews of actual capital expenditure;¹⁹
 - failing to give reasons for decisions;²⁰ and
 - making a decision that does not let the service provider cover the forecast efficient costs.²¹
62. In addition, the National Electricity Law includes provisions for merits review of regulatory decisions. Grounds for review include, for example, that the AER exercised its discretion incorrectly and that the AER's decision was unreasonable under the circumstances.²² Moreover, the fact that the rules built into the regime are explicit and detailed provides firmer grounds for review of AER decisions on the basis of ADJR, even when merits review is not available.
63. Each of these safeguards is aimed at dealing with issues that arose over the ACCC's period of regulating energy transmission. To the extent that such rule-based safeguards are not

¹⁶ AEMC (2009b) p.7.

¹⁷ National Electricity Rules, chapter 6, part E for distribution and chapter 6A, part E for transmission.

¹⁸ National Electricity Rules clause 6.12.3 sets out the extent of the AER's discretion

¹⁹ National Electricity Rules, schedule 6.2 requires that all actual expenditure in the previous regulatory period is included in the roll forward of the RAB.

²⁰ National Electricity Rules, clause 6.12.2 requires the AER to set out the reasons for its decisions.

²¹ National Electricity Rules, clauses 6.5.6 and 6.5.7 set out the cost criteria and objectives the AER must address in making its decision.

²² National Electricity Law, section 71C.

provided for in telecommunications, the mere use of a building-blocks approach will not provide investors in telecommunications with a degree of certainty equivalent to that available for investment in energy.

64. In relation to dynamic efficiency, the AEMC points out that:

The most significant disincentive identified by respondents was that the building block approach failed to provide for innovation or dynamic efficiency. These comments were raised in light of emerging regulatory challenges, such as the impact of climate change and introduction of new technologies. It was suggested that the building block approach simply allowed for a 'business as usual' approach because it does not require or encourage service providers to compete or deliver better or new services. It was suggested that service providers were not incentivized to invest or provide better services beyond the level endorsed by the regulator.²³

65. Compared with electricity and gas, the cost of poor incentives for innovation is likely to be significantly greater in the more dynamic telecommunications sector.

66. In addition to the issues identified in the energy sector, a number of additional issues with the building block approach may arise in the telecommunications context, including:

- a. the need for more complex cost allocation mechanisms, including between regulated and non-regulated services, and among regulated services;
- b. more rapid technological change, which impacts on the reliability of forecasts and may potentially necessitate a shorter forecasting and pricing period; and
- c. the need for a smooth transition to the NBN.

67. The issues of allocation and NBN transition would apply equally in a TSLRIC framework and hence do not go to the appropriateness of a building block framework. However the issue of technological change is important to keep in mind when considering how the building block framework should be applied. In this respect, it may not be appropriate to directly apply the energy sector framework and various changes may need to be made. In particular, shorter pricing periods and different efficiency mechanisms may need to be considered for telecommunications.

68. In subsequent sections of this Submission, Telstra discusses how the building block regime can be applied in a manner which maximises its net benefits.

C.4 Conclusion

69. The building block approach is by no means perfect, and needs to be implemented carefully if it is to yield benefits. On balance, however, Telstra considers that the building block approach can, depending on the choices made in respect of each variable, achieve all the criteria developed in Section B for the transition and the period during which the new pricing principles will apply. The correct choices for each variable that achieve this are discussed in the following sections.

D Applying these objective criteria in the transition to new pricing principles

70. As we have already noted, it is important that the ACCC have regard to the criteria outlined and discussed above, not only once the new principles have been implemented,

²³ AEMC (2009B) P.8.

but also in the transition from the old set of pricing principles to the new. The good that might arise from application of the new, can be undone by the harm done while moving from the old.

71. Subsequent sections consider how this might best be done.

D.1 The transition to a new regime

72. The transition to a building block approach involves valuing Telstra's capital for the regulatory asset base (RAB), on which payments to capital are based. The size of the RAB, together with the rate of return, determine the payments made to existing capital in the industry. The key objective of setting payments to capital is to encourage long-term efficient investment by ensuring that investors expect the return on capital they supply to compensate them for the opportunity cost of investment. As the ACCC points out:

"the RAB is the value attributed to the sunk network assets used by the access provider in providing the regulated services, and is a mechanism for ensuring there is no over or under compensation to the access provider in the long run."²⁴

73. The approach which best satisfies the ACCC's desirable features criteria for access pricing is to calculate the depreciated optimised replacement cost (DORC) of relevant assets using the present value of the future TSLRIC tilted annuity payments over the assets' remaining lives. Importantly, this approach allows for recovery of previously unrecovered capital costs, consistent with the statutory criteria. This approach also satisfies the above factors needed for a successful transition and integrates with the new building blocks approach.

74. In terms of minimising adjustment costs for firms and for the regulator, a transition to a regime that is anything like that applied in energy markets would require a considerable investment in reporting systems and process change. Further, the telecommunications industry is considerably more complex than energy markets, in terms of technological progress, so the processes that are adopted in energy markets will not necessarily be transportable to telecommunications markets.

75. Attention needs to be given to ensuring that onerous administrative costs are avoided both during the transition to and in the application of new principles.

76. In general, Telstra considers that the ACCC should adopt the following pricing principles to achieve the criteria above and the legislative criteria more generally:

²⁴ ACCC Discussion Paper, p.20.

- (1) Telstra's fixed line access services be priced equal to the unit cost of supply on a basis that is consistent across these services and avoids creating inefficient arbitrage opportunities**
- (2) The unit cost of supply by calculated by dividing the total annual cost by demand**
- (3) The total annual cost in any year should comprise:**
- (a) Direct and indirect operating and maintenance costs;**
 - (b) Regulatory Depreciation of the Asset Base; and**
 - (c) A risk adjusted return on the value of the Asset Base.**
- (3) The value of the Asset Base at the start of any year after the Commencement Date comprises:**
- (a) The Initial Asset Base at the Commencement Date; plus**
 - (b) The actual capital costs incurred, or reasonably forecast to be incurred, after the Commencement Date; less**
 - (c) Regulatory Depreciation after the Commencement Date.**

D.2 Valuation of the Initial Asset Base

77. The ACCC identifies several alternative approaches to valuing existing assets.²⁵ These approaches can be divided into the following three categories, each of which contains a number of alternative valuation methodologies (these alternatives are discussed further below):

- (1) The present value of assets' purchase costs (e.g. ORC, MEA, inflation adjusted historic cost)
- (2) The nominal value of assets (e.g. nominal accounting costs)
- (3) The present value of assets' service potential (i.e. as above but depreciated values rather than purchase costs)

79. The problem with using an asset valuation based on the assets' purchase costs (category 1) is that the entire asset base is valued as if it were new, which means that additional capex that might be required in reality, is already assumed to be accounted for in the asset base. When the asset base is rolled forward from year to year, there remain questions as to what additional capex should be added into the asset base.

80. A nominal accounting valuation of assets (category 2), which involves, in essence, adding a dollar spent in 1978 to a dollar spent in 2008 to arrive at a valuation of \$2, is inappropriate, for the following reasons:

- It does not account for the effect that inflation has on monetary values over time

²⁵ This section considers general approaches to asset valuation. It is important to note that the question of asset valuation is being considered as part of a wider process for reviewing pricing principles and that the asset valuation methodology must be consistent with that used as the basis for setting prices in the past and with the approaches to other elements of price-setting. This issue is discussed in more detail in section E.3

- For assets for which there is an active secondary market (e.g. land and buildings), the approach attributes a value that can be drastically different to the market value. For instance, consider a piece of land that was purchased in 1978 for \$10,000. The market value for that land in 2008 might be \$500,000. A firm would be better off selling that land on the open market rather than using it to provide services where it is only permitted to recover \$10,000 of the asset's value.
 - More generally, assets that have declined in value over time will be over-valued and assets that have increased in value over time will be under-valued relative to their market value.
81. An asset valuation on the basis of the assets' service potential (category 3) is the most suitable to integrate into a RAB framework. This approach has the following benefits:
- The asset valuation will be consistent with the additional capex that is added to the asset base as it is rolled forward from one year to the next. That is, the capex is required to replace old assets or to add additional service potential. The amounts of capex can be implicitly linked to the depreciated value of existing assets.²⁶
 - The ultimate prices arising from the framework over time will be consistent with the service potential of the assets used to provide services.
82. As noted above there are alternative valuation methodologies to apply within category 3, for example:
- Depreciated Optimised replacement cost
 - Depreciated MEA
 - Inflation adjusted value of depreciated historic cost
83. A valuation based on optimised replacement cost involves optimising the quantity of assets, the type of assets used to deliver the relevant services and the value of those assets to present values. This is typically achieved by building a bottom-up engineering model to determine what assets are required and measuring their value with respect to costs of purchasing and installing those assets ready for use.
84. The MEA approach is similar to optimised replacement cost, but typically involves identifying what assets currently exist and assuming they can be replaced with a modern equivalent. MEA is the approach Telstra adopts to value switching and transmission value assets in the CCA produced in accordance with the accounting separation record keeping rules. This approach is generally not as precise as a valuation on the basis of optimised replacement cost and, for this reason, should not be preferred over optimised replacement cost.
85. A valuation based on inflation-adjusted depreciated historic cost involves indexing the depreciated value of historic capital expenses to adjust for inflation. The quantity of assets is not adjusted to account for assets that might have been purchased efficiently in the past, but would not be needed if all assets were replaced today. Conversely, the quantity of assets is affected by past accounting practices that would be inappropriate to

²⁶ This can be compared to the approach of valuing assets at their undepreciated values (category 1). In this case it is assumed assets are new, and do not need replacing. Hence, from year to year, any additional capex added in the roll-forward of the asset base to replace existing assets would be inconsistent with the underlying value of the existing asset base.

carry through into a pricing framework. For instance, assets might have been written off in the accounts, but still have an efficient and productive, even essential, use today.

86. Depreciated optimised replacement cost should be preferred over a valuation based on the present value of depreciated historic costs. This is because with the present value of depreciated historic costs:
- Changing the valuation approach from optimised replacement cost (which is the basis for TSLRIC) to one based on historic costs would result in a windfall loss or gain and disruption to access seeker and investor expectations, as discussed in Section D.3 below.
 - The present value of each asset is determined by an index, rather than the present cost of that asset if it were purchased today as it would be under depreciated optimised replacement cost. The determination of an index is subjective and necessarily inaccurate, whereas the cost of purchasing an asset today can be directly and accurately measured from vendor's price schedules.
 - The quantity of assets might include assets that were once efficiently incurred, but would not be replicated today if given the opportunity to replace the entire asset base.
 - The quantity of assets might not include all assets that are efficiently included in the asset base, due to accounting decisions made in the past. This will mean that the asset base will not necessarily reflect that required to deliver the service potential available today.
 - There are considerable complexities that would need to be overcome when working with accounting costs.
87. Indeed, the ACCC usually endorses a Depreciated Optimised Replacement Cost (DORC) methodology to determine the RAB in other industries, where a building block approach is applied. That involves estimating the Optimised Replacement Cost (ORC) of the current capital stock and then depreciating it because the remaining economic life of the actual capital stock is less than that of a brand new replacement and so its service potential is less.
88. Regardless of the valuation methodology adopted, it is an important principle that the assets used to deliver end user services are consistently valued. For instance, the assets used to deliver calling services to end users include CAN assets to connect the customer to its ESA, transmission assets to carry the customer's calls from one ESA to another, and switching assets to connect the CAN to transmission assets and from one set of transmission assets to another. It would be inappropriate to value some assets used to deliver a call using one methodology and other assets used to deliver the same call using another.
89. Further, some assets are shared by different services. For instance, calling services are provided using some of the same trenches and conduit assets that are also used to provide access services. This is demonstrated through the use of IEN and CAN sharing ratios. It would be inconsistent to have a valuation of an asset for one service, but a different valuation of the same asset for another service.
90. In essence, using such inconsistent valuation bases would distort efficient investment and use. It would distort efficient investment, as an aggregate of (say) historical and current costs will not sum to total costs as calculated under either cost standard. At the same time, it will distort use decisions as demand may shift between services and assets solely on the basis of the valuation methodology adopted.

91. Finally, the asset value as at the starting date of the RAB should be fixed.
92. Telstra considers that the ACCC should adopt the following pricing principles to best promote the legislative criteria:

(4) When determining the value of the Initial Asset Base at the commencement date:

- (a) Assets used to deliver fixed line services should be valued using the same valuation principles**
- (b) Assets should be valued at their depreciated optimised replacement cost (DORC) at the Commencement Date.**
- (c) The decided value of the Asset Base at the Commencement Date should be fixed.**

D.3 Calculating the depreciated optimised replacement cost (DORC)

93. The ACCC has identified several means of measuring the initial asset base determined on the basis of DORC:
- (a) By applying accounting (straight-line) depreciation of assets from the date of investment to the present²⁷
 - (b) The NPV DORC approach, which involves calculating the present value of future annuity payments over the remaining lives of assets, as defined in the ACCC's submission to the Government's Expert Panel²⁸
 - (c) The NPV Cost approach as defined in the ACCC Discussion Paper²⁹
94. The accounting depreciation option has been considered and dismissed by the Australian Competition Tribunal in the context of the gas pipeline pricing.³⁰ The same criticisms that were raised by the Tribunal apply here. Using accounting depreciation to determine accumulated depreciation is simplistic and is very unlikely to reflect the reduction in the service potential of assets over time. It consequently bears no relation to economic valuation, and hence will not promote the statutory objectives. Accounting depreciation is a simple nominally equal allocation of the purchase costs of an asset to the time periods in which it is in use. Such an allocation has the virtue of simplicity and predictability but it inevitably involves arbitrary decisions made with respect to historical accounting practices, and hence will not guide efficient investment or efficient use. While there are conditions under which accounting depreciation can be useful in determining economic income, there is no reason to believe those conditions would hold in this context.
95. Moreover and most important, adopting accounting depreciation would involve a change in the entire basis of valuation. As a result, it would both yield results that differed from

²⁷ ACCC Discussion Paper, pg 36

²⁸ ACCC (2009), *Assessment of Proposals NBN Process: Report to Expert Panel*, Appendix B.5.1, pg 55 and ACCC Discussion Paper, pg 37.

²⁹ ACCC Discussion Paper, pg 37-38.

³⁰ *Re East Australian Pipeline Limited* [2004] ACompT 8

the best expectations market participants could have had on the basis of previous ACCC decisions, and signal a willingness by the ACCC to dramatically change its approach to cost determination. This would depart from the expectations of access seekers and investors and increase regulatory risk with all the costs that involves.

96. As the ACCC points out in its Discussion Paper, the straight line depreciation approach “assumes the asset was previously depreciated on a straight line basis”.³¹ But Telstra’s access pricing has been determined under a TSLRIC approach which back loads depreciation compared with historic cost depreciation. Using historic or economic depreciation of the actual asset would penalise investors, possibly substantially. Additionally, to the extent that expectations had been set by the prior approach, such a move would involve a considerable disruption to expectations.
97. Changing the basis for asset valuation in this way would ultimately lead to regulatory decisions that are inconsistent with the relevant statutory criteria. Previous regulatory decisions using a tilted annuity which backloads depreciation have left a significant portion of Telstra’s capital costs unrecovered. If future changes in asset valuation methodologies mean that this unrecovered portion of capital costs remains unrecovered, regulatory decisions applying this new methodology would ultimately be at odds with the statutory criteria. Decisions applying any new methodology which does not take into account previously unrecovered capital costs would risk preventing recovery of direct costs and would potentially ignore the legitimate business interests of the access provider.
98. In contrast, an approach based on valuing the asset through the stream of revenues remaining under the annuity formula would have a degree of consistency with access seeker and investor expectations.³² Importantly, this approach would allow for recovery of the previously unrecovered portion of capital costs, consistent with the statutory criteria.
99. The ACCC states that “To ensure the access provider is not over- or under-compensated in the long run, the regulator would choose an amount of depreciation each regulatory period in such a way that the total depreciation over the life of asset is equal to the total capital expenditure on the asset”³³ Using historic cost depreciation to value assets that have been rewarded under a TSLRIC pricing approach would under-compensate investors.
100. The NPV DORC approach involves, as been explained by Agility Management:
- To be consistent with the statements of principle in the ORG and ACCC Decisions, and in the Draft Statement of Principles, the DORC for existing assets must be constructed as the net present value of the future income from those assets, where the income is consistent with the prices that would be charged by an efficient new entrant, but recognising that the income stream for the DORC valuation will have a life equal to the remaining life of the existing assets. That life is less than the life of the new entrant’s assets.*
- By definition, the value of the new entrant’s assets is ORC, and the price charged by the new entrant must be such as to ensure that the NPV of the future income stream over the life of those assets is equal to the ORC. Having determined the income stream for the new entrant’s assets, the DORC value for the existing assets is then determined as the NPV of the first L years of that stream, where L is the remaining life of the existing asset.*
101. TSLRIC is the mechanism that the ACCC has used to determine Telstra’s access prices, which in turn determines the value of Telstra’s regulated assets: the present value of the

³¹ ACCC Discussion Paper, p.36.

³² There would, of course, be some disruption to expectations, as the path of revenues pre- and post the shift to a building blocks approach would differ.

³³ ACCC Discussion Paper, pp.38-39.

TSLRIC stream of payments over their remaining life. Any other way of valuing the asset results in windfall losses and gains to the asset owner and too low or high prices for access seekers, respectively.

102. Under the TSLRIC methodology, investors are given the expectation of a future stream of revenue given by the tilted annuity (subject to future adjustments in the annuity if capital prices do not evolve as expected). The tilted annuity can be used to determine the proportion of actual assets' value that is yet to be recovered through previous regulatory pricing. As the ACCC points out, estimating the DORC requires estimating the amount of depreciation actually recovered in the past:

“Although the asset may be 50 per cent through its life, less than 50 per cent of the costs of the asset may have been depreciated (e.g. under a flat or back loaded annuity). This would mean that more of the asset cost would need to be recovered in the second half of the asset’s life than the first. Subsequently, if a flat or back loaded annuity has been applied to depreciate the assets in the past, the DORC valuation would be higher than that derived had a straight line depreciation schedule been used in the past.”³⁴

103. The capital costs from the tilted annuity combined with information on the remaining life of the asset can be used to determine the expected value of remaining capital charges and so the value of the asset. That is, the value of the asset is the present value of the future tilted annuity payments for the remaining life of the asset.
104. Only such an approach would minimise over- or under-recovery of investment costs in a situation where investors reasonably expected to receive the TSLRIC stream of payments.
105. As the ACCC points out, any price mechanism can be tilted to avoid dramatic changes in revenue and shocks to the consumer price, but “What is important is that past, current and future prices allow the access provider to recover its costs.”³⁵
106. A further advantage of using the current TSLRIC tilted annuity to determine future payments is that it automatically ensures continuity with past price settings and investor and consumer expectations, which were based on TSLRIC pricing. It would also be consistent with the prices that would be charged by an efficient new entrant and so could assist the objective of discouraging inefficient by-pass.
107. This recommended transition satisfies the objectives set out above and would provide for regulatory decisions that are consistent with the relevant statutory criteria (including the ‘direct costs’ and ‘legitimate business interests’ criteria). By using the expected payments under the current system, it minimises the disruption to investor and consumer expectations and the adjustment costs for firms and the regulator. By using the information already collected under the current TSLRIC approach, such as estimates of the replacement cost of Telstra’s assets from existing models, it satisfies the desirable properties of the pricing mechanism, such as minimising the resources required to arrive at the estimate, being readily measured, verified and administered, and honouring past commitments.
108. Perhaps most importantly, this approach ensures consistency with previous regulatory decisions, in terms of capital costs and the portion of these costs that need to be recovered through future pricing. Under alternative approaches (including the straight-line approach above) the Commission would need to incorporate a separate mechanism for ensuring that these unrecovered costs are reflected in future prices.
109. The third approach is the NPV cost approach, which the ACCC describes as follows:

³⁴ ACCC Discussion Paper, p.37.

³⁵ ACCC Discussion Paper, p.58.

This method of constructing DORC uses the conceptual basis of a hypothetical new entrant [sic] to estimate what a firm with a given service output would pay to avoid being deprived of, and subsequently having to replace, its existing assets. In this context, DORC may be viewed as the maximum amount that a firm would be prepared to pay to retain the use of its existing assets (which have a lower remaining life, higher operating costs and lower service potential due to being an older technology) given the alternative of installing new assets (which have a longer remaining life, generally lower operating costs and higher service potential as they are constructed using the latest technology).³⁶

110. The ACCC states that DORC under this approach is equal to:

A. present value of the difference in capital expenditure incurred by the optimised replacement asset relative to the existing infrastructure; plus

B. present value of the difference in operating and maintenance expenditure incurred by the optimised replacement asset relative to the existing infrastructure.

111. In essence, this equates to the present value of the cash savings associated with ownership of the asset (sometimes referred to as 'Baxter depreciation').³⁷

112. While this approach has conceptual merit, it is extremely difficult to apply in telecommunications. In effect, it requires estimating the long term cash outlays associated with the existing network, apportioning those cash outlays to the regulated assets and then comparing those outlays to those associated with complete replacement. While Telstra naturally does project cash outlays, it would be impossible to do so with any accuracy for a period of 15 years or more from the present. Additional difficulties would arise in determining how those outlays should be allocated, given that the composition of output as between regulated and unregulated services is likely to change substantially over that period.

113. Overall, this approach creates the risk of making two sets of errors: in estimating the long term outlays for the existing network, and in estimating those associated with replacement. As a result, Telstra believes it should not be adopted by the ACCC.

114. Telstra considers that the ACCC should adopt the following pricing principle to best promote the legislative criteria:

(5) The depreciated optimised replacement cost should be measured by the present value of expected future annuity payments over the remaining lives of assets.

D.4 Ongoing depreciation

115. The primary consideration for ongoing depreciation should be ensuring the future recovery of the DORC and any additional capital that is introduced into the asset base over time. This condition would typically be met if the remaining assets lives are set to reflect the date at which the relevant assets are no longer used to earn revenue.

116. However, if recovery of capital costs is substantially backloaded, then there is a risk that market demand will not be sufficient to allow those costs to be recovered when they fall due. This risk has arisen in the application of tilted annuity depreciation profiles over

³⁶ ACCC Discussion Paper, pg 37.

³⁷ The approach was introduced in Baxter, William T. 1971 *Depreciation*, Sweet and Maxwell, London,

the past decade, as these have delayed depreciation for assets that are thought to increase in value. This has substantially increased the risk to Telstra of under-recovery of the regulated asset base, since at the same time as depreciation was being backloaded, demand for PSTN services has been in decline. Thus, costs were shifted to a time when there would be fewer customers from whom to recover those costs.

117. This is not merely inconsistent with Telstra's legitimate interests but is also likely to be allocatively inefficient, as it shifts the burden of common cost recovery to periods when demand is likely to be more elastic.

118. This would require not using the tilted annuity for ongoing depreciation, hence the ACCC's rationale for using the tilted annuity in the TSLRIC regime of the past would no longer apply in a RAB framework. The ACCC argued that the tilted annuity was needed in the TSLRIC regime because the asset base was revalued periodically. Since assets are no longer revalued from year to year in a RAB framework, the rationale for using the tilted annuity no longer applies.

119. Telstra considers that the approach adopted by the ACCC in energy markets is, at a basic level, appropriate and practical to implement. That approach involves determining regulatory depreciation, which includes:

- (a) depreciation of the asset using a straight line depreciation schedule; and,
- (b) inflation of the asset base from year to year to prevent the asset base from being eroded by inflation.

120. Telstra considers a third element should be added, that allows for the impairment of assets. Asset impairment is off-schedule depreciation of an asset. Asset impairments are usually used to effect write-offs of assets prior to their end of life. They are necessary in a RAB framework applied in telecommunications markets given the rapid rate of technological change and the difficulty in determining asset lives based on predictions of future technological change. An example, although not relevant to the valuation of CAN, would be the replacement of the current generation of exchanges prior to their forecast end of life due to an upgrade in technology.

121. Such an asset impairment charge is reasonable as the locked-in character of the RAB valuation could otherwise result in an asymmetric risk. Assets whose lives proved longer than anticipated would earn no additional reward; but assets whose lives proved shorter than anticipated would recover less than their expected value. Given the far-reaching changes underway in telecommunications, this could have material adverse consequences.

122. Telstra would expect that future impairments of the regulatory asset base would first be claimed and substantiated by Telstra and subject to ACCC approval.

123. The benefits of this approach are as follows:

- Results in cost recovery
- Results in a relatively stable set of prices over time
- Results in predictable prices that are not subject to arbitrary changes to inputs

124. Telstra considers that the ACCC should adopt the following pricing principle to best promote the legislative criteria:

- (6) Ongoing Regulatory Depreciation should be the sum of:**
- (i) Straight line depreciation of the asset**
 - (ii) The change in value of the asset from one year to the next**
 - (iii) Asset impairments made throughout the year**

D.5 Capex/opex

125. In the energy sector, regulated companies are required to provide forecasts of both capex and opex for the length of the regulatory control period. This enables the regulator to determine a price path for that period and variations between actuals and forecasts can be dealt with either as they occur (through a re-opener mechanism) or at the end of the regulatory control period, when prices are being determined for the following period. However, it is undesirable for there to be significant variations between actuals and forecasts because this increases the risk of step changes in price points at subsequent regulatory reviews as well as increasing the risk borne by investors that not all variations will be taken into account by the regulator. For exactly the same reasons, allowing such variations can cause unnecessary uncertainty for access seekers and final consumers.
126. While Telstra does forecast capex and opex, it may be difficult to do so with an acceptable level of accuracy over the periods typically used in the energy sector given the uncertainties in the telecommunications industry. The quantum of demand for CAN and IEN services is uncertain, making capacity planning difficult. Further, the NBN has added another dimension of uncertainty in terms of future requirements for duct, pit and cable infrastructure.
127. The NBN, combined with the already dynamic nature of the industry, leads to the need for a different approach to forecasting capex and opex in a telecommunications context.
128. To reduce the impact of uncertainty, it would be preferable for a shorter time period to be adopted for capex and opex forecasts, say one or two years. This would enable forecasts to be updated more frequently as actual expenditure becomes known and the impact of exogenous factors becomes clearer.
129. In principle, Telstra considers that an access provider should receive an incentive for pursuing and achieving capex efficiencies. However, the key difference between capex and opex from the perspective of designing appropriate incentives for cost efficiency is that opex is to a large extent recurrent while capex is variously often more cyclical, program based or lumpy in nature. Following the now standard practice in energy network regulation, Telstra supports ex-ante regulatory approval of a forecast capex program rather than any arrangement that involves an ex-post prudency review (because of the asymmetric risk that it involves for the network owner). Under the ex-ante approach the network owner would have an incentive to deliver its capex program as efficiently as possible, and would be rewarded by being able to keep the return on and of capital in respect of its capex saving over the period of the control, with only the actual amount of the capex (as depreciated) being added to the RAB at the start of the next control period.
130. With regard to operating expenditure, again, Telstra considers that an access provider should receive an incentive for pursuing, achieving and maintaining ongoing efficiencies. In the energy sector, the regime allows network owners to retain the benefits of opex efficiencies for 5 years, given a forecasting period of 5 years. However, in the context of the telecommunications industry, the forecasting period should be significantly shorter given the uncertainties discussed above.

131. Furthermore, Telstra considers that the service standards and incentives to meet or exceed those standards already exist in other regulatory instruments. Telstra is already subject to the Customer Service Guarantee, Priority Assistance, and Network Reliability Framework, and has obligations under its operational separation plan and under the Part XIC Standard Access Obligations. In relation to ULLS, Telstra is also subject to the ULLS Ordering and Provisioning Code. Some of these schemes already contain financial incentives to meet particular targets. There is no need for any additional schemes to be put in place by the ACCC in the pricing principles process. Any additional layer would risk distorting the policy intent of the schemes already in place, creating distorted price signals for quality of service decisions.

D.6 Indirect costs

132. Indirect costs include capital and expenses associated with overheads and other costs not directly related to the network.

133. There are substantial practical difficulties associated with measuring indirect costs using an engineering study. Consequently, the common approach is to apply a top down study of accounting records (for example, the RAF). Given that cost allocation rules are in place under the regulatory accounting framework, the data collected under that framework could be used as the basis for determining the relevant costs.

(7) O&M and capital costs should include a contribution to indirect costs

(8) Indirect costs should be determined from a top-down study

D.7 WACC

134. While there has been broad disagreement as to the value of the WACC to apply in regulatory pricing determinations, the general approach is typically common ground. Telstra proposes that a standard CAPM implementation of the WACC should be adopted.

135. A nominal (vanilla) WACC should be used, since the effect of inflation on the asset base is netted off through the depreciation expense.

136. The WACC should be updated each year to reflect the changing cost of capital from year to year, and the propensity for longer term forecasts of WACC variables to be incorrect. The following WACC parameters should be updated annually:

- Risk free rate
- Debt risk premium

137. Additionally, all other parameters should be updated every 5 years, to reflect any changes in other variables less likely to change over short timeframes.

138. Telstra considers that the ACCC should adopt the following pricing principles to best promote the legislative criteria:

(9) The WACC should be determined according to the following formula:

$$\text{WACC} = k_e \cdot (E/V) + k_d \cdot (D/V)$$

(a) k_e is the return on equity, determined by the Capital Asset Pricing Model and calculated as:

$$r_f + \beta \cdot \text{MRP} + \text{EIC}$$

where:

- r_f is the nominal risk free rate for the regulatory period
- β is the equity beta;
- MRP is the market risk premium; and
- EIC is the amount of equity issuance costs.

(b) k_d is the return on debt and is calculated as:

$$r_f + \text{DRP} + \text{DIC}$$

where:

- DRP is the debt risk premium; and
- DIC is the amount of debt issuance costs

(c) E/V is the value of equity as a proportion of the value of equity and debt and D/V is the value of debt as a proportion of the value of equity and debt.

(10) The following WACC parameters should be updated each year:

- (i) Risk free rate (r_f)**
- (ii) Debt risk premium (DRP)**

D.8 Cost allocation

139. The ACCC questions whether a separate RAB can be constructed for each service. Such an approach would be unworkable. It would require not only the asset base to be divided into services that ultimately use the same assets, but also any additional capex would also need to be divided. Further, a mechanism would be needed to shift assets from one RAB to another in the event that the original allocation were found to be incorrect or changed over time. Any such approach would create a risk of inconsistent costing approaches being applied to substitutable services, encouraging inefficient arbitrage.

140. Instead, a much more workable solution would be to include all relevant assets in one RAB, calculate annual costs for that RAB, then allocate those annual costs to the relevant services.

141. Telstra considers that it would be important to fix the allocation methodology and update the allocators from one year to the next. For instance, duct assets are shared between ULLS and WLR services. Under this solution, the annualised cost of the RAB

would be calculated for all applicable duct assets. A fixed principle might be determined to allocate duct assets between services on the basis of SIOs. Each year the number of SIOs for each service would be reported and inputted to the allocation methodology.

142. Telstra considers that the ACCC should adopt the following pricing principles to best promote the legislative criteria:

(11) Method of allocating annual costs to regulated services should be fixed

(12) The allocators should be updated each year to reflect changes in circumstances

D.9 Pricing mechanism

143. Over the past implementation of Part XIC of the TPA, the ACCC has consistently made price determinations that nominate a specific price to charge for regulated wholesale services. The ACCC has not applied to wholesale services a CPI-X price cap, revenue cap or other instrument.

144. Telstra considers that the ACCC should continue to make specific price determinations for ULLS and OTA rather than adopt some type of price or revenue cap. A specific price determination:

- Provides Telstra and Telstra's customers with certainty regarding the price of each regulated service
- Provides appropriate incentives for Telstra to manage opex and capex efficiently and to counteract falling demand for fixed services.
- Ensures ex ante cost recovery, subject to appropriate forecasts of volumes being used (no more, no less)

145. While price caps could theoretically achieve the same outcomes as a price determination, they are unlikely to be the best way of doing so. Attempts to make price caps account for factors that lead to changes in price through time can result in an extremely complex cap that is difficult to implement. For instance, if the average price required to recover expected costs is \$4 in year one and \$4.50 in year two, a price cap could be designed to achieve the same outcome as a price determination. However, where, for instance, the price path required to recover costs is not straight forward, then the price cap formula will need to be much more complex to ensure prices follow the necessary path over time. If they do not, then there is a risk of under or over cost recovery.

146. A revenue cap would likely to be unworkable in the telecommunications industry. The complex of products supplied over shared network (and non-network) infrastructure at multiple vertical layers in the market would make a revenue cap almost impossible to administer, as it would require imputing wholesale revenues to Telstra's own downstream operations.

147. Further, there is the potential for a revenue cap to give an incentive to reduce output in the market, as the effect of imposing such a cap (assuming it is binding) is to drive the marginal revenue associated with increased output to zero, while marginal costs remain greater than zero.

D.10 Service scope

148. Telstra believes the RAB approach should be applied to the regulated ULLS, WLR, OTA and LCS fixed line services. What services are regulated is a matter for consideration in the light of the declaration criteria. However, those criteria require the ACCC to take account, inter alia, of the promotion of competition and of efficient investment. As the choice of pricing methodology affects these, it is relevant to consider how the valuation base affects those criteria.
149. Telstra has stressed above the advantages of a RAB based approach – advantages it believes to be considerable. At the same time, it is important to recognise that if this approach is applied in areas where there is substantial competition, it could discourage otherwise efficient investment by access seekers or conversely, lead to inefficient bypass. This risk is especially acute where the approach will give rise to charges that are quite different from the costs that would be borne by an efficient entrant. In that event, the effect may be to chill competition or alternatively, lead to investment which would not occur under first-best pricing.
150. In these cases, there is a greater chance that the prices set through an application of RAB pricing principles do not allow the recovery of costs of other existing providers or new investors.³⁸ The incentives to invest in alternative infrastructure would be at best distorted, at worst eliminated. This would be an outcome inconsistent with the statutory criterion of promoting competition, as well as with the broader legislative criteria. In other words, if access pricing is on the basis of the RAB (and Telstra believes it should), the costs of regulating services that are in fact competitive could be magnified.
151. As a result, in considering the range of access services that could potentially be regulated using a RAB approach, it is useful to consider the extent of the risk that otherwise efficient competition will be deterred. Each category of Telstra's regulated services (and the assets over which they are provided) is examined below, to assess whether it would be prudent to apply RAB based pricing principles to them.

D.10.1 Telstra's CAN services (ULLS and WLR)

152. Telstra's CAN has been competitively overbuilt by Optus' and Neighbourhood Cables HFC networks, TransACT's FTTC network, fixed wireless networks and mobile networks. Further investment in these networks is planned³⁹, as is investment in a FTTH network by NBN Co. Additionally, Telstra's ULLS services are purchased by access seekers to replicate the supply of WLR and retail equivalent services.
153. Each of these alternative network owners presumably seeks to recover the economic costs and an economic return on their assets, and allowing them to do so is consistent with the legislative criteria. However, their ability to recover such costs will be affected by the prices for Telstra's CAN services that would be derived by RAB based pricing principles.
154. The impact of Telstra's CAN based services on incentives for alternative infrastructure owners has been the subject of debate in previous proceedings. For instance, in

³⁸ For instance, Telstra's depreciation, cost of capital and operational and maintenance costs determined through a RAB approach that reflects the vintage and service potential of Telstra's assets, might lead to prices that would be below the level required for existing and new alternative operators to effectively compete.

³⁹ For example, "Optus issued a brief statement confirming 'that it is already upgrading its HFC network in Sydney, Melbourne and Brisbane to DOCSIS 3,' adding that further details would be announced shortly. 'Optus is committed to offering innovative plans and pricing across all its competitive networks,' it said." Reported in Communications Day, 20 November 2009, Issue 3643.

Telstra's view, evidence prepared in those proceedings demonstrates that low ULLS prices (\$12-\$16) applied from 2004/05 have reduced the incentives for Optus to expand the footprint or add new customers to its HFC network.⁴⁰ This has been to the detriment of competition.

155. Thus, while Telstra supports the use of the RAB based pricing principles for ULLS and WLR services supplied using Telstra's CAN, it encourages the ACCC to give attention to the effect that WLR prices might have on competitive suppliers (including those using ULSL to supply line rental services).

D.10.2 Telstra's IEN services (LCS, OA, TA, and transmission)

156. Telstra's IEN is used to provide a large number of services only some of which (LCS, OTA, and transmission) are declared. IEN services not subject to declaration are competitively supplied. Even IEN services that have been declared are increasingly subject to competition as demonstrated by the ACCC granting exemptions for LCS, OA⁴¹ and transmission services in particular geographic areas.⁴² Even in areas not subject to exemption at this time, there are competitors to Telstra.⁴³ Based on an analysis of publicly available information as at 11 February 2010, and subject to some assumptions, Market Clarity has estimated there are approximately 500 exchange service areas (ESAs) outside the capital cities (Sydney, Melbourne, Brisbane, Adelaide, Perth, Hobart, Darwin and Canberra) that have at least Telstra plus one other fibre owner within a 1 km radius of a Telstra exchange. This increases to approximately 550 ESAs if a 5 km radius is used. Including the capital cities, the number of ESAs with contested backhaul is approximately 900 for a 1 km radius and 1000 for a 5 km radius.
157. There is further potential for more competition in IEN services, particularly for transmission, where demand was forecast by the ACCC to increase by 271% over five years from 2007 to 2012.⁴⁴
158. Further aggregation of traffic by NBN Co to a very limited number of POIs would also increase transmission competition beyond those POIs but would harm competition by reducing or even eliminating it in areas up to those POIs.
159. In relation to OA and LCS services, the greatest risk of adverse consequences arising from application of RAB pricing principles is present in areas not exempt but still subject to competition (exempt areas will presumably not be subject to regulated pricing, although Telstra notes that the exemptions will only apply from 1 January 2011). Since OA prices are currently deaveraged, and if this were to continue, then the RAB need not include costs in exempt areas as there is no need to set regulated access prices in those areas. If LCS continues to be averaged, then there is a risk that the adverse consequences of RAB pricing would occur in exempt areas.
160. Notwithstanding, for practical reasons, Telstra considers that it would be appropriate to apply RAB pricing principles to OTA and LCS, acknowledging the risk that LCS prices, if averaged, could reduce incentives for investment in competitive infrastructure particularly in exempt areas.
161. In relation to transmission services, there are a substantial number of routes still subject to declaration where there are multiple suppliers or where alternative suppliers currently have incentives to invest in the future.

⁴⁰ Telstra (2009), Competing Infrastructure in Band 2 Areas: The Implications for SingTel Optus' HFC Network for ULLS <http://www.accc.gov.au/content/item.phtml?itemId=869043&nodeId=514ecbd3d5eefcbbb63404d929e9c8d6&fn=Optus%20HFC%20investment.PDF>

⁴¹ <http://www.accc.gov.au/content/index.phtml/itemId/897222>

⁴² <http://www.accc.gov.au/content/index.phtml/itemId/850600>

⁴³ This is because the trigger for exemption is greater than the existence of one alternative supplier to Telstra. In the case of transmission, two alternative providers must exist before exemption will be considered.

⁴⁴ Calculated from Analysys cost model, Cost.xls, Inputs.Demand, D217:I219.

162. Further, the pricing of transmission services is complex. Telstra's transmission network is a system of interconnected loops, each servicing multiple towns and cities, with many towns and cities being served by multiple loops. The cost structure and, importantly, the appropriate allocation of costs to different routes is extremely difficult and any error is subject to a large risk of adverse consequence.
163. However, allocation between routes that is not the only complexity. Transmission services use many of the same assets as other regulated and unregulated IEN services (for example, inter-exchange trench and fibre cable). Thus, the allocation of shared costs to transmission services is complex with any error, again subject to risk of adverse consequences.
164. Consequently, setting prices for transmission services could undermine existing competition or prevent new competition from developing.
165. In conclusion, Telstra believes that there is a strong case for applying RAB pricing to all declared fixed network services. However, where services are competitive, RAB pricing could be detrimental to competition, making it all the more important for careful consideration to be given to the question of whether those services should in fact be regulated.

D.11 Efficiency incentives and pass through mechanisms

166. Telstra considers that the efficiency incentive mechanisms in the energy market pricing regime are highly complex and not necessarily transportable to telecommunications price setting.
167. Moreover, while the assets regulated under the energy regime are genuine natural monopolies, and face no competition, large parts of Telstra's telecommunications assets face some competition. This makes the need for such mechanisms less pressing. To the extent there is such a need, it is in any event met through a range of existing instruments, such as the CSGs and the NRF.
168. There is therefore merit in adopting a simpler approach to ensuring efficiency in capex and opex that does not impose administratively expensive processes and reporting obligations.

D.12 Regulatory period

169. There are a number of variables that are used to calculate the cost for any year. Many of these variables are difficult to accurately forecast beyond the next financial year. Requiring longer term forecasts for a RAB framework would result in increased risk of error in future pricing, which would turn into increased volatility if errors are later rectified by adjusting future prices.
170. These problems can be addressed, and complex mechanisms avoided, by adopting a mechanism that requires the forecasting of variables over only a period for which those forecasts would be accurate.

E Responses to specific ACCC questions

Q.1. whether locking in a value for the RAB, rather than the current approach of continually re-valuing the RAB, would create more certainty for access providers and access seekers, and in turn assist them in making efficient decisions regarding their future investment patterns and general business plans? Why/why not?

171. Yes. The regular revaluation of Telstra's asset base under TSLRIC has resulted in a great deal of uncertainty. This uncertainty can be avoided by fixing the value of the asset base and key components of the methodology used to convert the asset base into annualised costs and ultimately prices.

Q.2. whether the value of the RAB should be locked in or whether it should continue to be re-valued?

172. The revised pricing principles should specifically state that the value of the RAB should be locked in. If it is allowed to vary, then there will be very little improvement relative to the TSLRIC pricing principles that have resulted in a considerable amount of uncertainty.

Q.3. whether there are any services for which a pricing approach that locks-in and rolls forward the RAB would not be appropriate? If so, what approach should be taken to pricing these services?

173. Services that are competitively supplied, and where there is an especially acute risk of discouraging otherwise efficient bypass, should not be subject to RAB based pricing. This would exclude transmission services. It would also exclude WLR, OA and LCS services in competitive areas. However, the need to have a RAB for those three services in other areas, and the complexity of splitting geographic areas means that it is practically simpler to have a RAB for WLR, OA and LCS services.

Q.4. whether a single RAB should be adopted for pricing the ULLS, WLR, PSTN OTA, LSS and LCS services? Why/why not? Which assets should be included in the RAB? Consider the layered nature of telecommunications service provision in your response.

174. All assets included in the supply of the relevant services should be included in the RAB. However, the RAB should be divided into separate asset categories to ensure the correct treatment of depreciation for each different type of asset.

Q.5. whether there should be different RABs for different fixed line services? Why/why not? If so, which assets should and should not be included in the different RABs for each service? Consider the layered nature of telecommunications service provision in your response.

175. Having different RABs, and allocating ongoing costs between the RABs would be complex and unnecessary. A single RAB would be administratively easier to implement and would minimise the risk of pricing inconsistencies.

Q.6. how should past compensation to the access provider (i.e. past depreciation) be taken into account in setting an opening RAB?

176. Generally, historical payments and prices are not relevant to setting a forward-looking price. Hence, past prices should not be considered.

177. However, as discussed in section D.3, the initial asset base should be valued on the basis of the remaining annuity payments that are due after the past decade of

application of the tilted annuity. This ensures that there is no windfall gain or loss during the transition to the new regime and is relatively simple to implement. It is also consistent with access seeker and investor expectations and hence minimises the disruption to those expectations.

Q.7. which approach to valuing sunk assets should be used in setting an opening RAB?

178. See question 6.

Q.8. whether the same approach should be applied to all asset categories, or whether different approaches should be applied to different asset categories (e.g. ducts and pipes versus electronics)?

179. A single approach should be applied to all asset categories. Doing otherwise would create risks of inconsistencies and of encouraging inefficient arbitrage

Q.9. if a DORC valuation were to be adopted, which approach to constructing DORC should be used?

180. See question 6.

Q.10. the path of access prices over time that should be adopted — interested parties should consider whether cost-recovery should be front loaded (suggesting that the path of access prices over time will fall), back loaded (suggesting the path of access prices over time will rise) or in equal amounts in each regulatory period.

181. Telstra submits that any determination of price structure and movement (either in terms of transitional glide paths to new pricing or of pricing itself over time) should not be determined by the ACCC until after it has reached a concluded view on other relevant issues.

182. As the ACCC is aware, under both the current and proposed legislative schemes, any decision about price paths must satisfy the LTIE criteria. In the current and uncertain environment, before considering price structure or path, the ACCC therefore needs to form a view of what impact a number of important developments are likely to have on cost recovery and the LTIE, including:

- a. RAB structure (including approach to depreciation, cost allocation issues etc);
- b. Potential impact of the NBN (including both rollout issues and pricing); and
- c. Declining PSTN volumes and other demand side issues.

183. Telstra submits that it would be unreasonable for the ACCC to seek to reach any concluded view about price structures or paths before these significant issues (and their implication for the cost recovery and the LTIE) have been considered and addressed. This ensures that questions of price structure and path are not pre-judged or considered in isolation, but rather form part of a coherent methodology that properly takes into account the LTIE.

Q.11. which approach to depreciation should subsequently be adopted?

184. See section D.4.

Q.12.whether rate shocks are likely to be a concern in the telecommunications context? If so, what approach should be taken to reducing the size of the rate shock?

185. The approach Telstra has proposed would avoid price shocks and, particularly for RAB-regulated services, lead to greater predictability in the path of prices.

Q.13.whether the approach to depreciation should be the same for all classes of assets in the RAB? Why/why not?

186. The general approach to depreciation should be the same across the assets, however, different assets will have different asset lives and remaining lives, meaning the depreciation payment will differ.

Q.14.what is the appropriate period over which to recover these costs — i.e. appropriate asset lives?

187. The scope of assets to be included in the RAB needs to be resolved before determining asset lives. Remaining asset lives are also important for the calculation of annual costs when a DORC valuation is used.

Q.15.whether mechanisms are required in order to encourage access providers to incur costs efficiently?

188. See sections C.3 and D.5.

Q.16.in the context of a pricing approach which locks-in and rolls-forward the RAB, the mechanisms that should be adopted to create incentives to incur efficient capital expenditure?

189. See sections C.3 and D.5.

Q.17.in the context of a pricing approach which locks-in and rolls-forward the RAB, the mechanisms that should be adopted to create incentives to incur efficient operational expenditure?

190. See sections C.3 and D.5.

Q.18.whether if the RAB is locked in or re-valued impacts upon which efficiency mechanisms will encourage efficiencies in capital and operations expenditure?

191. Telstra considers that the RAB should not be re-optimised for RAB-regulated services.

Q.19.what the appropriate length of time between reviewing regulated prices (i.e. an appropriate length for the regulatory period) is, and why?

192. Prices should be updated regularly to reflect changes in costs. This might involve resetting prices annually to reflect changes in, for example, the cost of debt and new capex.

Q.20.whether there should be the opportunity for regulated prices to be reviewed in the middle of a regulatory period, in response to particular events? If so, what events should be considered?

193. Pass through mechanisms should be available to deal with unanticipated outcomes relating to the NBN. The NBN might have unforeseeable effects on variables such as asset lives, demand etc, that will need to be passed through to prices in the middle of a

Q.21.whether the current model non-price terms and conditions and relevant industry codes would provide a sufficient balance for the strength of the incentives created by the mechanism to minimise costs recommended by the interested party in their response to questions 16 and 17?

194. Telstra refers the ACCC to its 9 October 2008 response to the Commission's draft determination on Model non-price terms and conditions. In that submission Telstra advised the Commission that there has been very little disputation in relation to the matters addressed in sections A to F and section H, which were largely unchanged from the 2003 Determination, and there is no benefit from providing continuing guidance. Telstra also advised the Commission that sections J and K were unnecessary (variously seeking to provide guidance on matters that are unlikely to be contentious moving forward and/or are well handled already by other means).

Q.22.if additional schemes to maintain services standards are recommended, whether a financial incentive scheme or a non-financial incentive scheme should be adopted? What should the schemes look like?

195. There already exist financial and non-financial schemes to provide incentives for Telstra to maintain service standards. Telstra considers that requiring additional constraints on Telstra risks undermining or circumventing these mechanisms.

Q.23.the degree to which the ACCC or the access provider should allocate the costs of service provision to — and therefore set the individual prices of — different fixed line services? Consider the implications of vertical and horizontal structure in your response.

196. The appropriate approach to allocating costs is discussed in section D.8. Were a RAB approach adopted, Telstra would recommend undertaking a review of the allocation issues, subject to the allocation principles set out at section D.8.

Q.24.if the ACCC continues to allocate costs to individual services, as occurs today, what approach it should use to allocate these costs — for example, the approach adopted in the Analysys cost model, the RAF accounts, etc?

197. See Q 23.

Q.25.if the access provider is to be allowed a degree of pricing flexibility, how should this be implemented — should a revenue cap be regulated? Or should a weighted average price cap be regulated?

198. See section D.9.

Q.26.if regulating weighted average price caps, which services should be included in which baskets? On what basis should the prices be weighted?

199. See section D.9.

Q.27.should the same approach be adopted for all services, or should flexibility be allowed in the pricing of some services but not others?

200. See section D.9 and D.10.

Q.28.whether access prices should be averaged or de-averaged across regions? For which services?

201. The approach to determining whether prices are averaged or deaveraged first and foremost needs to reflect Government policy. Otherwise, the approach be based on sound economic principles having regard to cost recovery in rural areas, competition in urban areas and exemptions that are and will in the future be in place.

Q.29.whether there should be separate RABs for different regions or a single national RAB?

202. It is administratively simpler to have a single national RAB. Multiple RABs increases the risk of inconsistency and increases the costs of ensuring that inconsistencies don't occur. Where deaveraging is sought, the annual costs can be split into difference geographic areas having regard to the geographic cost structure.

Q.30.if separate RABs for different regions are recommended, on what basis should these separate RABs be defined — e.g. the four band structure used for the ULLS? The Analysys model's Zones A and B? Some other basis?

203. See Q 28 and 29.

Q.31.could uniform prices for services for which a uniform price is appropriate be accommodated if regional RABs are adopted?

204. See Q 28 and 29

Q.32.whether, if there are changes to elements of the current approach to access pricing, access prices should be maintained at their current levels for a period of time, or alternatively, whether the current trend in access prices should be maintained for a period of time?

205. Prices should be determined through the implementation of the economic principles for pricing. If there is a variation between the price as determined by the ACCC and the price arising from implementation of the economic principles, then the benefits of the economic principles will not be achieved.

206. While there may be demands to soften the impact of price changes, as the ACCC proposed in the draft indicative pricing process, the requirement to do this can only be determined once the size of any potential shock is known. That said, the approach Telstra has proposed is designed to be consistent with the expectations created by the current pricing arrangements, thus minimising any differences with the price paths industry and consumers would reasonably have anticipated.

Q.33.if it is desirable to maintain current prices, or the trend in current access prices for a period of time, what period of time would be appropriate?

207. See Q 32.