

**THE MATTER OF UNDERTAKINGS  
DATED 23 DECEMBER 2005  
PROVIDED BY TELSTRA  
CORPORATION LIMITED TO THE  
AUSTRALIAN COMPETITION AND  
CONSUMER COMMISSION IN  
RESPECT OF UNCONDITIONED  
LOCAL LOOP SERVICE  
("the Access Undertakings")**

**STATEMENT OF [c-i-c]**

On 21 July 2006, I, [c-i-c] of Level 35, 242 Exhibition Street, Melbourne, in the State of Victoria, [c-i-c], state as follows:

1

**A EXPERIENCE**

2 I am [c-i-c] at Telstra. I have worked in the economics area since joining Telstra in [c-i-c]. In this role I am responsible for high level economic advice and economic input on a diverse range of issues, including economic forecasts and regulatory issues, to assist Telstra in planning and decision making.

**B PRICE INDICES USED TO REVALUE NETWORK ASSETS AND ANNUALISE CAPITAL COSTS**

3 For the purposes of calculating the network costs of the Unconditioned Local Loop Service ("ULLS") I was asked to calculate price escalators for various assets. I calculated those price escalators as follows:

<i>Asset Category</i>	<i>Price indices 3 year CAGR</i>
<i>Main cable</i>	[c-i-c]
<i>Main conduit &amp; trenching</i>	[c-i-c]
<i>Distribution cable</i>	[c-i-c]
<i>Distribution conduit &amp; trenching</i>	[c-i-c]
<i>Network land &amp; buildings</i>	[c-i-c]
<i>Indirect capital</i>	[c-i-c]

I have been asked to describe the calculation of the asset specific price escalators in the above table for main cable, main conduit & trenching, distribution cable and distribution conduit & trenching (“**the Network Assets**”).

- 4 To be useful in the total service long run incremental costs (“**TSLRIC**”) context, the asset specific price escalators presented in the table at paragraph 3 must reflect the cost trend of the underlying material inputs and labour costs associated with construction and operationalisation of the relevant assets. I based the construction of the indices on a combination of labour and materials sub-indices. I describe this combination at paragraphs 22 - 28 below. The sub-indices reflect the movement over time of each of the price of relevant labour and the price of relevant materials respectively. This is appropriate because asset valuations using a TSLRIC approach need to incorporate both the cost of acquiring the necessary equipment, components and materials as well as the costs involved in constructing and operationalising the relevant assets.

#### **Materials indices**

- 5 For the purpose of calculating the materials component of the Network Asset price indices, I used data from the Telstra Current Cost Accounts (“**CCA**”) prepared under Limb 1 of Accounting Separation. The particular group within Telstra which has responsibility for the calculation of the indices used for the CCA is the Management and Regulatory Accounting (“**MARA**”) group. I understand that Price Waterhouse Coopers was also involved in the construction and compilation of these indices.
- 6 The price indices calculated by MARA for the Network Assets for the purpose of the CCA are made up of a materials component and a labour component.
- 7 The CCA indices were calculated by MARA for those assets where more direct and specific price information was not readily available. The CCA data included materials indices up to and including 2004-05 (“**the CCA material indices**”).
- 8 I was not involved in the calculation of the CCA materials indices but I have been provided with summary sheets from MARA which outline the steps involved in the calculation of the indices. Those summary sheets identify that the calculation of the

CCA materials indices was directly based on indices compiled and provided by the Australian Bureau of Statistics (“ABS”).

- 9 I used the CCA materials indices for the materials component of the price indices for the Network Assets. The materials indices are set out in Annexure 1 to this statement.
- 10 I used the ABS price index series for prices of plastic extruded product manufacturing to calculate the CCA materials indices for “main conduit” and “distribution conduit & trenching”.
- 11 I used the ABS price index series for prices of electric cable & wire manufacturing to calculate CCA materials indices for “main cable” and “distribution cable”.
- 12 The purpose behind the compilation and development of these indices in the CCA context is to convert historical cost asset valuations into an estimate of current replacement cost. The current replacement cost of the Network Assets includes costs associated with both the purchase of the relevant equipment, materials and components as well as the labour costs involved in the construction and operationalisation of these assets. In my view this is the same purpose for the application of the escalators as in the TSLRIC of the Network Assets. In TSLRIC modelling the escalators are used to convert historical asset valuations to contemporary estimates of current replacement cost. In the TSLRIC context the contemporary asset valuations specifically need to capture the impact of all factors that influence asset valuations including materials and input costs as well as relevant labour costs. Given the similarity of purpose the CCA materials indices are in my view relevant and useful in the TSLRIC context.
- 13 In my view the materials indices applied in the CCA context are reasonable proxies for the prices of relevant equipment and materials used in the construction and operationalisation of the assets relevant in the ULLS context. I am not aware of any better indices that are likely to be more representative of the prices of ULLS Network Assets.

#### **Price indices for labour**

- 14 The labour price indices used for the purpose of calculating the CCA price indices for the Network Assets were based on various measures of average weekly ordinary

time earnings (“**AWOTE**”) published by the ABS. The particular wage indices applied in the CCA context were chosen to match as closely as possible the type of labour relevant for the particular asset involved.

- 15 The AWOTE data used to calculate CCA labour indices for “main conduit & trenching” and “distribution conduit & trenching” was AWOTE data for construction plant operators.
- 16 The AWOTE data used to calculate the CCA labour indices for “main cable” and “distribution cable” was AWOTE data for communications trade persons.
- 17 AWOTE data reflects changes to average wage levels as result of at least two factors:
  - (a) changes in underlying earnings; and
  - (b) changes in the composition of the work force.

For example, if a large number of low-income workers exit a particular workforce, the measured AWOTE will rise, even if there was no actual increase in the underlying earnings of any individual employee. For this reason economists generally regard the AWOTE measure as distorted. In my view wage movements due to compositional wage shifts such as those in the example above are not relevant in a TSLRIC context.

- 18 The ABS publishes another series of wage measures, collectively known as the wage price index (“**WPI**”), which are specifically constructed to examine wage movements in a stable cohort of employees. Therefore, the WPI is not affected by compositional shifts in employment and is consequently a less distorted measure of the underlying wage movements. It is for this reason that, for the purpose of TSLRIC, I consider the WPI published by the ABS to be a more reliable measure of the underlying wage movements in various industries.
- 19 I have therefore used the WPI for the construction sector as the wage escalator for the labour component of the “main conduit and trenching” and “distribution conduit and trenching” price indices. This is because the type of labour relevant in this context is essentially related to construction of these network assets. Thus

movements in earnings in the construction sector are a reasonable guide to earnings movements in the construction of those assets.

- 20 I have used the WPI for the communications services sector as the wage escalator for the labour component of the “main cable” and “distribution cable” price indices. This is because the involvement in this activity is essentially undertaken by employees of Telstra and therefore the relevant wages are more likely to move with those of employees in the communications services sector.
- 21 I sourced the WPI data directly from the ABS website and the data is reproduced in Annexure 1 to this statement.

### **Weighting of Labour and Materials Price Indices**

- 22 The foregoing provides the details of the labour and materials inputs used for the purpose of calculating the price indices for the Network Assets.
- 23 The separate indices for labour and materials need to be combined in a way that is consistent with their relative usage in the construction and operationalisation of each of the Network Assets. In other words, the weights that are used to combine specific materials and wage indices should reflect the mix of labour and materials employed in the construction and operationalisation of each of the Network Assets.
- 24 According to advice I received from MARA, the weights applied to the labour and materials inputs in the CCA context were constructed by monitoring relevant (ie mainly CAN-based construction) projects over a 6-month period. Information was captured on the amount of materials and labour employed across each 6-month period and was used to construct weights. In the CCA context these weights were updated annually and then applied to all historical periods to construct the asset specific index. The weights applied in the latest CCA analysis relate to the 2002-03, 2003-04 and 2004-05 financial years. The weights applied are summarised in the table below.

<b>Price indices</b>	<b>Labour</b>	<b>Material</b>
Main cable	[c-i-c]	[c-i-c]
Main conduit & trenching	[c-i-c]	[c-i-c]
Distribution cable	[c-i-c]	[c-i-c]
Distribution conduit & trenching	[c-i-c]	[c-i-c]

25 As far as I am aware there is no other method for deriving weights for the purpose of calculating price indices for the Network Assets in both the CCA and TSLRIC contexts. Consequently, I consider that the weights used in the CCA process are the best available weighting structure for application in the TSLRIC costing context.

26 I have applied the weights set out at paragraph 24 to the CCA materials indices and the ABS WPI data for labour to determine Network Asset price indices. In other words, I added the annual increase in the relevant WPI multiplied by the labour weight to the annual increase in the relevant materials price index multiplied by the materials weight. In this manner I determined a weighted price index being a growth rate on the previous year.

27 In calculating the relevant price indices to apply in the TSLRIC context, I used the compound average growth rate (“**CAGR**”) for Network Asset price indices over the last 3 years (i.e. 2002/03, 2003/04 and 2004/05). The rationale for doing this is two-fold:

- (a) first, to smooth some of the year to year volatility in the estimated annual price indices for the Network Assets; and
- (b) secondly, to reflect recent information about price movements which would be partially neutralised if a long-duration time series of annual changes were included in the CAGR process. In other words, older estimates of inflation may provide no useful information on recent rates or the expected inflation over the life of the Network Assets necessary for the calculation of annualised capital costs.

28 The 3 year CAGRs calculated by me are set out at Annexure 1.

## **C PRICE TREND OF DIRECT ASSETS FOR ULLS**

29 I refer to Annexure B of Telstra’s Confidential Submission in Response to the ACCC’s Discussion Paper in respect of ULLS dated January 2006 (“**the Discussion**

**Paper Response**”). Paragraph 8(c) states that the cost trend of direct assets used by Telstra in providing ULLS is assumed to decline at the rate of 8.6% per annum in real terms.

- 30 I have been asked to set out the calculation of the -8.6% per annum real price trend.
- 31 Around May 2005 I estimated that the real annual price trend for ULLS direct assets was an annual decline of 8.6%. The steps taken by me to estimate the -8.6% real price trend are explained below.
- 32 I was informed by [c-i-c], National Manager, Strategic Cost Analysis, that:
- (a) the specific assets used by Telstra in providing the ULLS (“**the ULLS Specific Assets**”) are largely computer software used to facilitate the transfer of customers to and from these services; and
  - (b) the annualisation of the capital costs of these assets requires a real price trend for such assets to educate the degree of “tilt” in the annualised amounts.
- 33 In order to estimate the price trend of those assets I used ABS data on computer software usage by the communications services sector. The data relates to software assets (ie software capital stock) and to annual capital expenditures on software assets. I sourced that data directly from the ABS using their Ausstats service (operative at the time but no longer available given the ABS no longer charges for standard data and publications). The ABS capital expenditure and capital stock data reflects the full cost of constructing, initialising and operationalising the relevant assets. As such, the impact of labour costs are essentially capitalised into the relevant capital expenditure or capital stock estimates and therefore are captured in the calculated price index. This is in contrast to the Network Asset price indices where the labour price trend is compounded with the materials price trend to derive the Network Asset price trend. This is necessary because the materials indices applied in the network context do not capture the labour costs associated with constructing, installing and operationalising the relevant assets. Consequently, the labour costs must be specifically and separately captured to derive overall price escalators for the network assets.

34 The data on software capital stock and capital expenditure enables the calculation of implicit price trends for software assets employed by the communications services sector. A price trend based on either CapEx or capital stock would be an appropriate price trend estimate for software in a TSLRIC context. The calculation of price trends on both bases provides a useful source of comparison.

35 The ABS definition of the “*communications services sector*” includes telecommunications services, postal services and courier services. Nevertheless, given the relative size of the telecommunications sub-sector in the overall communications services sector, the price trend for computer software used by the communications services sector is a reliable indicator of the price trend for computer software used by the telecommunications sub-sector.

36 I am not aware of any other price index of computer software prices that is specifically focussed on the prices of software used by the communications services sector. Moreover, I have no information which would suggest that the price trend for the computer software used by the overall communications services sector is not a reliable estimate for the price trend for the computer software used in the provision of ULLS.

37 In order to estimate the price trend for computer software used by the communications sector, I collated the following ABS data for the period June 1983 to June 2004:

- (a) net capital stock of computer software employed in the communications services sector in both nominal and constant price terms (“**capital stock data**”); and
- (b) annual capital expenditure on computer software by the communications services sector in both nominal and constant price terms (“**capital expenditure data**”).

I attach a summary of the ABS data I used in Annexure 2 to this statement (“**ABS data**”).

38 I then calculated separate price trends from the ABS data. That is, one based on the capital stock data and another based on the annual capital expenditure data. I performed those calculations as follows:



- (a) I divided the nominal value of the capital stock of computer software employed each year in the communications services sector by the constant price (or real) value of the capital stock of computer software employed by the communications services sector in that year. Across time this provided a time series of implicit prices of computer software used by the communications services sector;
- (b) I divided the nominal value of the annual capital expenditure on computer software in the communications services sector by the constant price (or real) value of annual capital expenditure on computer software by the communications services sector in that year. Across time this provided a time series of implicit prices of computer software used by the communications services sector.

- 39 The ABS data specifically accounts for increasing software capability in compiling the constant price series of both software capital expenditures and software capital stock. The ABS facilitates this by allowing for the capability of computers/software across time in the constant price estimates of capital stock of and capital expenditures on software. Thus the constructed price deflator will also explicitly account for any increased capability of the software and capture increased capability as an effective reduction in price (assuming no actual change in price).
- 40 The resultant time series are shown in the chart at Annexure 3. They result in similar estimates of the time-path of computer software prices used by the communications services sector. The similarity is especially close from the mid-1990s and suggests that using estimates based on either the capital stock data or the capital expenditure data will yield similar conclusions about the recent trend in computer software price inflation relevant to the communications services sector.
- 41 The data shows that the nominal prices of computer software used by the communications services sector have been falling steadily by approximately 6% per annum over the last decade. As noted above, this is the case whether the estimates are based on the capital stock data or on the capital expenditure data.
- 42 At the time of undertaking these calculations I was not aware of any information which would suggest that future prices of computer software used by the

communications services sector will deviate from the current trend of a 6% reduction per annum.

- 43 The above price trend data is in nominal terms. However, I was advised that for the purposes of calculating the annual capital charge referred to in the ULLS Submission a real price trend is necessary. The formula used to calculate the annual capital charge factor is as follows:

$$\text{tilted annuity} = a / b$$

where:

$$a = (x - p + \text{beta}) * (1 + p - \text{beta}) ^ (t - 1)$$

$$b = \{1 - (1 + p - \text{beta}) ^ n \} / (1 + x) ^ n$$

where:

x = is the weighted average cost of capital;

p = is the rate of general inflation;

beta = is the asset specific rate of price change due to technological advance and other factors (in real terms);

t = is the year of operation; and

n = the economic life for the asset.

The formula includes a variable, separate to the price trend of direct assets, which captures the impact of general inflation. Accordingly, the nominal price trend above (and in the chart at Annexure 3) needs to be converted into a real price trend.

- 44 The most appropriate inflation rate over the relevant period over which capital costs are to be annualised is 2.6%. In or about March 2005 I determined this by reference to the capital markets as the difference between normal Government bond yields and index bond yields of similar maturity using data obtained from table F2 from the Reserve Bank of Australia website <http://www.rba.gov.au/statistics/Bulletin>.

- 45 The specific data used relates to trading day closing yields on government bonds of 10-year maturity and on inflation indexed bonds also issued by the Government of

similar maturity. The yields on normal Government bonds are essentially in nominal terms. The yields on inflation indexed bonds are in real terms. Financial markets will therefore trade these respective bonds such that the difference in yields reflects expectations about inflation over the remaining time to maturity.

Consequently, the difference between the yields on these 2 bonds (calculated using the Fisher relationship<sup>1</sup>) captures financial market views about expectations for general price inflation.

- 46 Therefore, in real terms, the current price trend for computer software used by the communications services sector is a reduction of 8.6% per annum. This is the annual percentage reduction in prices of computer software used in the communications services sector excluding the impact of general price inflation. Accordingly, the real price trend of direct assets used in estimating the ULLS specific costs is a downward trend of 8.6%.

#### **D THE UNIVERSAL SERVICE OBLIGATION**

- 47 I refer to paragraph 62 of Telstra's Submission in Support of the 23 December 2005 ULLS Monthly Charges Undertaking ("**ULLS Submission**") which refers to the USO scheme and the industry contribution to the Net Universal Service Cost ("**NUSC**"). As set out at paragraph 62, Telstra takes the NUSC contribution into account in the calculation of ULLS network costs.

- 48 In that context, I have been asked to comment on the practical implementation of the Universal Service Regime set out in Part 2 of the *Telecommunications (Consumer Protection and Service Standards) Act 1999* ("**the Act**").

- 49 The Universal Service Obligation ("**USO**") cost-sharing regime does not provide for full cost recovery in respect of loss making customers. The USO, to which industry participants make a contribution, was originally calculated by the Australian Communications Authority ("**ACA**" now the Australian Communications and Media Authority ("**ACMA**") as the avoidable cost associated with the USO less that revenue that would be foregone absent the USO. Hence, the USO, in principle, would only provide funding for avoidable costs rather than the

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<sup>1</sup> The estimated forward inflation rate over the life of the relevant bonds is estimated using the relationship:  $(1 + i\%) / (1 + r\%) = (1 + \text{CPI}\%)$ . Where  $i\%$  is the nominal bond yield,  $r\%$  is the indexed bond yield and  $\text{CPI}\%$  is the derived general inflation rate.

full costs and hence full cost recovery would not be achieved. Moreover, Telstra is a major contributor to the recognised USO costs.

- 50 Furthermore, although, in theory, the regime put in place by the legislation is relatively simple, the practical implementation of it is complex and has resulted in disagreements amongst Telstra, the ACA, and the participating carriers. This has resulted in a series of ad hoc adjustments to the regime, and finally the Minister determining the NUSC upon which the cost-sharing is based.
- 51 Under the current legislation there is no requirement that the amount determined by the Minister as the amount against which cost-sharing is facilitated must be commensurate with or in any way linked to the net costs incurred by Telstra in delivering the USO.
- 52 To the extent Telstra does receive payments under the scheme, they only partially reimburse Telstra for the avoidable cost it incurs in delivering the USO as Telstra itself is a contributor to the net USO costs. The contributions from other participating carriers are consistently received after a considerable delay (relative to when the USO-related costs are incurred by Telstra), with no provision for interest. This partly reflects the complexity of the regime and further undermines equitable sharing of net USO costs.
- 53 Moreover, in practice, the USO does not even provide appropriate funding for avoidable costs. This statement outlines the main components of the USO regime in broad terms and examines some of the problematic aspects and their impact on cost recovery and inter-carrier equity.
- 54 The USO is the obligation to provide reasonable access to standard telephone services, payphones, prescribed carriage services (although to date no carriage services have been prescribed) and digital data services to all people in Australia, wherever they reside or carry on business. This obligation requires Telstra to provide services in areas and to customers that are unprofitable. Those services would not be provided by a commercially focussed carrier seeking to maximise profits.
- 55 The standard telephone service (“STS”) required to be delivered under the USO must enable customers to make and receive telephone calls. In practical terms,

therefore, the USO includes basic access, local calls, STD calls, IDD calls, calls between mobile and fixed line services and calls from payphones. The remainder of this statement focuses on the obligation to provide reasonable access to the STS as the costs of pay phone and digital data services obligations are not directly relevant to the current issues.

56 Pursuant to the Act, the USO can be imposed on any carrier which has been declared by the Minister to be a universal service provider (“USP”) in any service area. On 9 June 1992, the Minister for Transport and Communications declared Telstra to be the USP for all of Australia, pursuant to subsection 290(1) of the *Telecommunications Act 1991*. The USP has the responsibility to deliver the USO. To date no other carrier has been declared as a USP in relation to the STS.

57 Although Telstra has responsibility for delivery of the USO, the Act provides that the net costs associated with the USO are to be funded by all licensed carriers, including Telstra, in an equitable manner. As Telstra is a contributor towards the net USO costs, the USO regime does not fully indemnify Telstra for the losses associated with USO service delivery.

58 Other carriers are free to supply services in USO areas based purely on commercial considerations. However, if other carriers do provide services in commonly regarded USO areas (either utilising Telstra-provided USO infrastructure or their own infrastructure) they are likely to focus only on profitable customers. Provision of services to those profitable customers by other carriers increases the net cost of the USO to the USP, as it reduces the revenue earned by Telstra but does not diminish the costs involved. Moreover, to the extent that the competition from other carriers utilises the infrastructure provided under the USO, this benefit to other carriers is solely due to the USO. Currently however, this benefit to other carriers is not directly considered as part of the USO cost-sharing mechanism.

#### **Calculation of Net Universal Service Cost**

59 Conceptually, the NUSC is the net cost of providing the USO service. The legislation originally provided that the ACA may determine the NUSC by:

- (a) determining the efficient costs (both capital and operating) necessarily incurred by a USP as a direct consequence of delivering the USO. Telstra provides the USO as a normal part of its current operations and therefore

incurs the costs of USO provision. As most of these USO-related costs would not be incurred if the USO was not delivered, they are referred to as the “avoidable costs” of USO provision; and

- (b) deducting from the avoidable costs the revenues that the USP attracts as a direct consequence of delivering the USO services. These revenues are known as “revenues foregone” since, if the USP did not provide the USO, it could not earn the associated revenues.

The Act provides other methods by which the NUSC can be determined (including by Ministerial determination) but the avoidability principle remains the theoretically preferred costing approach for USO cost-sharing and the basis for considering the overlap with the USO.

- 60 The NUSC is the difference between the avoidable costs and revenues foregone if the USO services were not supplied in a particular area. Net cost areas are those areas in Australia where the provision of the USO service is loss making by reason of the fact that Telstra’s annualised avoidable costs in providing the USO services exceed the annual revenue earned by Telstra in respect of those USO services. The aggregate USO is the sum of the net costs of USO provision across all net cost areas.

#### **Calculation of Avoidable Costs**

- 61 The avoidable costs of the USO are calculated in a manner conceptually similar to the Total Service Long Run Incremental Cost (“**TSLRIC**”) approach used by both the Commission and Telstra to cost network provision in the ULLS context. This includes the costing of a notional, forward-looking network using the most efficient network technologies that are also generally available, capable of delivering the standard telephone service, and are suitable for Australian conditions. The notional network is constructed on a “scorched node” basis. That is, the exchange locations are assumed to be in accordance with the “real” Telstra network and the associated Customer Access Network (“**CAN**”) and Inter Exchange Network (“**IEN**”) are based on the appropriate technology and routing which are (notionally) optimised. The predominant costs associated with the USO delivery relate to the construction and operation of the PSTN.

- 62 Once the relevant costs are modelled, only those capital and operating costs that could have been avoided by the USP, but for its provision of the USO services in the relevant areas, are included in the calculation of NUSC. This means that some costs which are necessary to provide the service in an area are excluded from the calculation of the USO net cost.
- 63 A simple example focussed on the costs associated with line bearers demonstrates this point. These are the costs associated with the installation of optic fibre and associated materials (including the trenching). Line bearer costs would not be considered avoidable for USO costing purposes in situations where:
- (a) part of the relevant Exchange Service Area (“ESA”) was profitable and hence the bearer was necessary to service the profitable area; or
  - (b) where the bearer extended further to a non-USO area where again the bearer was necessary to service that profitable area.
- 64 In both cases the line bearer provides service to USO and non-USO areas and hence would be required even if the USO was not provided. On this basis line bearer costs are not avoidable and would not be part of the calculated USO cost used in the cost-sharing regime.
- 65 However, it is clear that the USO service could not be provided without the bearer. In that way USO costing does not account for all the costs associated with delivering the USO. The purpose of this example is not to suggest that these bearer costs should be included in the USO costing exercise. They are not avoidable without the USO and hence not relevant in the USO costing exercise. Instead, it is to show that the USO cost-sharing regime will not cover all the costs incurred by a USP in delivering the USO.
- 66 Since the avoidable costs associated with USO delivery outweigh the revenues earned in USO areas, there is no revenue left to direct towards costs that are not strictly avoidable. As a consequence, costs incurred to deliver the USO but which are not avoidable need to be recovered from non-USO customers. Given nationally averaged prices, this creates a differential between the contribution towards network costs for USO customers and non-USO customers.

- 67 In the early years of the costing regime the costing exercise undertaken by the ACA in respect of the USO was focussed on particular geographic areas likely to be net cost (ie where the avoidable costs were likely to exceed the revenues foregone). At the beginning of each year up to and including the 1999/00 financial year, Telstra filed a list of likely net cost areas with the ACA for its consideration and approval. Approval by the ACA meant that the area was recognised as a legitimate USO net cost area (ie would not ordinarily be serviced without the USO). These approved areas were then the focus of the USO costing exercise for the relevant year. Any areas that were not included by Telstra in the list filed at the beginning of the year could not be included as part of the NUSC, even if they were subsequently found to be loss-making in avoidable terms.
- 68 The areas filed by Telstra and approved by the ACA were generally based upon full exchange service areas (“ESAs”). However, where Telstra considered that a particular ESA had a profitable hub surrounded by an unprofitable outer area, the unprofitable outer area became the net cost area and the focus of the USO costing. This reflected the fact that absent the USO, a profit maximising firm would provide services in the profitable hub only and avoid servicing the unprofitable outer area. This would be the case even if the full ESA were profitable overall, since profits could be increased if the unprofitable outer areas were not served. On this basis, only the avoidable costs and revenues foregone of the unprofitable area were considered relevant for USO costing purposes.
- 69 This geographic focus of USO costing means that the USO costing model focuses on likely net cost areas which are predominantly located in rural and/or remote ESAs. The net cost areas constitute less than 5% of Telstra’s total services in operation.

#### **Calculation of Revenue Foregone**

- 70 Revenue foregone relates to the revenues currently earned by Telstra as a direct consequence of delivering services in USO areas but which would be foregone if Telstra discontinued provision of the USO services. These revenues are deducted from the avoidable costs of the USO to determine the net overall impact on Telstra if it ceased to provide USO services.



- 71 Although conceptually straight-forward, in practice the identification and quantification of revenues foregone is complicated. The main complication is that if the USO was not provided the USP would forego revenues from not only basic access and calls within and from that USO area but also calls originating in other areas that currently terminate in USO areas. As Telstra call records are predominantly arranged around “A” party (ie call originator) billing, the data to enable this calculation is not generally available. A further complication arises from the need to ensure that there is no double counting of revenues foregone. Double counting of revenue foregone could potentially arise where both the originating and terminating areas are separate USO areas.
- 72 The product categories which underpin the revenue foregone calculation include all components of the standard telephone service required to be delivered under the USO. In broad terms this can be considered to include basic access, local calls, STD calls, IDD calls, and calls between mobile and fixed line services, calls from payphones as well as wholesale revenues from calls to or from customers of other carriers located outside the USO areas but originating or terminating in USO areas on Telstra’s network.
- 73 This construct of revenue foregone was developed to suit a situation where the USP was an industry-wide legislated monopoly (not just in USO areas but nationally) and the costs and benefits of USO provision to the USP were the same as the costs and benefits of the USO at the industry level. This no longer applies. In a monopoly context, if the USO was not provided then the monopolist suffered the full extent of cost reduction and loss of revenue (ie revenue foregone). There was a correspondence between the effects on the USP and the effects on the industry. However, in a multi-carrier environment other carriers would be impacted and would experience reduced revenue if the USO was not provided. The multi-carrier nature of revenue foregone is not captured in the current construct of revenue foregone and introduces a significant inequity in the USO cost-sharing mechanism. The current construct clearly requires Telstra to provide the infrastructure to deliver the USO. However, it must then compete with other carriers for the associated usage revenues that result from that network provision. Other carriers are able to compete via a range of interconnection options and earn significant revenues in this manner. If Telstra secures the associated usage revenues, they are used directly to defray the costs of USO provision and reduce the recognised USO cost. However,

if other carriers secure the same contestable usage revenues they are not captured in the USO costing regime at all.

#### **Assessment of the NUSC by the ACA**

74 Under the Act, Telstra must lodge a claim with the ACA outlining its view of the NUSC for the relevant year. In the normal course of events the ACA would examine Telstra's estimated NUSC and then publish a formal assessment to all participating carriers advising of the official quantum of the NUSC and the amount each carrier is liable to contribute.

75 Despite widespread acceptance of the principles underpinning the USO costing methodology, agreement amongst Telstra, other participating carriers and the ACA on the appropriate values for many of the input parameters. The contentious input parameters include:

- the most appropriate technology/technologies for delivering the USO;
- the appropriate asset life for estimating depreciation;
- the appropriate commercial return (proxied by the weighted average cost of capital) on the assets employed to deliver the USO and commensurate with their systematic riskiness.

76 This has led to increased uncertainty as to the "true" quantum of USO costs. To lessen the impact of this uncertainty the Minister determined the amounts of NUSC to be used as the basis for inter-carrier sharing for the years 1997/98 to 2000/01 inclusive. Apart from 1997/98, these Ministerial determinations were broadly consistent with ACA estimates of the NUSC for the relevant years. For 1997/98, the Minister effectively continued CPI escalation of earlier NUSC amounts that were based on commercial agreement rather than actual estimated costs. CPI escalation implied a net USO cost of \$253.32 million for 1997/98. The Act at that time provided for the recognised USO cost for 1997-98 to be the lower of the ACA formal assessment and that amount of \$253.32 million. The ACA estimated the USO cost for that year at \$540 million. The gap between that ACA estimate and the effective cost for sharing (ie \$253.32 million) is an indicator of the extent to which the USO cost-sharing under-compensates the USO provider.

- 77 Recognising this ongoing disagreement about the fundamental inputs to USO costing and the expense involved in further model development, the net USO costs for the years 2001/02 to 2003/04 inclusive were commercially negotiated at the suggestion of the ACA. A subset of major carriers was involved in these negotiations although Telstra only dealt directly with the ACA. The commercially agreed amounts were then formally effected by Ministerial determination. A similar round of discussions resulted in an extension of the commercial agreement to cover 2004/05, which again was subsequently formally effected by Ministerial determination. To my knowledge no evidence was presented that these agreed USO cost quanta reflected in any meaningful way the true net costs incurred by Telstra in delivering the USO services. Instead, they were negotiated outcomes based on what carriers would commercially accept.
- 78 The Department of Communications, Information Technology and the Arts (“DoCITA”) undertook a comprehensive review of the operations of the USO regime throughout much of 2003. One conclusion of this review was that detailed cost modelling of the USO remained highly problematic and was not generally supported by the key stakeholders involved in the USO cost-sharing regime. As a result, the ACA was requested to provide advice (following industry consultation) to the Minister on continuing the logic underpinning the previous series of commercially agreed USO cost quanta. DoCITA supported continued annual declines of 8% per annum and the Minister subsequently formalised this view by ministerial determination covering years out to 2007-08 inclusive.
- 79 The escalation process has been focussed on identifying and quantifying partial indicators upon which the components of the net USO cost (including revenue foregone) can be escalated. However, the ACMA has provided little empirical support for the escalators used and their compounding. As a result there is little likelihood that this escalation process moves the USO cost-sharing regime towards it being underpinned by the “true” costs of USO delivery.

### **Eligible Revenue**

- 80 The ACA assessment also advises each of the participating carriers (including Telstra) of their required contribution towards the recognised NUSC. A participating carrier’s contribution to the NUSC is based on its share of the aggregate “eligible revenues” of the participating carriers. After each financial

year, every participating carrier must lodge an eligible revenue return detailing the calculation of its eligible revenue.

81 The eligible revenue of a participating carrier is the amount arrived at in accordance with information that the carrier must include in a return designed by the ACA. According to the ACA return, eligible revenue, ignoring the complications due to related parties, is broadly defined as:

- Telecommunications sales revenue;
- Less revenue earned from services outside of Australia;
- Less revenue earned from sales of customer equipment;
- Less revenue earned from the content part of a content service (eg a message on a 0055 telephone service); and
- Less input payments to other participating carriers for interconnection.

82 The ACA must examine each carrier's eligible revenue return to ensure that the carrier has accurately reported and calculated its eligible revenue. Given the incentive for carriers to minimise reported eligible revenue and to develop commercial structures specifically to lower their contributions to the NUSC, this is an onerous task for the ACA.

83 Reflecting the complexity of the eligible revenue calculations, the cost-sharing regime has been since 2000/01 based on lagged rather than contemporary eligible revenue shares. That is, the carrier specific contributions to the NUSC for 2000/01 and subsequent years have been determined using eligible revenue shares from each previous year. Using eligible revenue from the previous year penalises Telstra because the eligible revenues of other participating carriers are growing faster than Telstra's. This means their aggregate eligible revenue share will generally be growing and their contributions based on lagged eligible revenue are thus lower than if based on contemporaneous eligible revenue shares.

84 The ACA combines the formal estimate of the NUSC with each carrier's share of aggregate eligible revenue to determine each carrier's contribution to the NUSC.

Carriers are directly notified by the ACA individually and the assessment is Gazetted.

- 85 Participating carriers then have 28 days after the ACA posts its assessment to pay their contributions into the Universal Service Reserve. The Universal Service Reserve is administered by DoCITA. Telstra does not need to make a payment into the Universal Service Reserve since it is credited for its contribution in delivering the USO.
- 86 When all of the carriers have made their required contributions, the universal service levy is distributed to USPs with a levy credit balance (ie carriers whose cost of the USO delivery was greater than their eligible revenue share of the total NUSC). Currently Telstra is the sole USP in relation to the STS and hence the only carrier whose costs in delivering the USO exceed its eligible revenue share of the total NUSC. Telstra is therefore the only recipient of funds from the Universal Service Reserve in respect of the STS. In the general course of events, the levy cannot be released to Telstra until all carriers have paid their contribution into the Universal Service Reserve. However, there is scope in the legislation for the available funds in the Universal Service Reserve to be released to USPs in circumstances where all participating carriers will not or have not paid.
- 87 Telstra essentially incurs USO costs on a continuous basis. This can be viewed as incurring the costs from 1 July each financial year. However, the cost-sharing regime provides contributions to Telstra with some considerable lag. There are three components to this lag. First, the ACA assessment is released well after the end of the relevant financial year. Secondly, there is a lag between the assessment date and the payment by contributing carriers into the Universal Service Reserve administered by DoCITA. Thirdly, there is a further time lag before the release of funds to Telstra as the USP.
- 88 These payment delays reduce the equity with which the total USO net cost burden is ultimately shared across all carriers.
- 89 Over the years there have been a number of defaults on payment of levy contributions into the Universal Service Reserve. An example of a carrier defaulting on payment of its levy contribution is One.Tel. Without remedy the default of particular carriers would mean that Telstra receives less than it should of USO

contributions from other carriers and thus would bear more than its equitable share of the USO net costs. Recognising this inequity, the Minister introduced a default mechanism effective from the 2001/02 USO year which essentially shares any USO contribution default (including of any participating carriers who are reasonably expected to default) across all remaining participating carriers rather than falling uniquely on the USP. Nevertheless, this default mechanism works with some lag adding to the general payment lag discussed above. Despite the legislative intent that costs associated with USO delivery are to be shared equitably amongst all participating carriers, Telstra, as the main USP, has been the carrier most negatively affected by these defaults.

**DATED:** 21 July 2006

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**Annexure 1**

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## ABS DATA & CALCULATION OF PRICE TREND

	Jun.1994	Jun.1995	Jun.1996	Jun.1997	Jun.1998	Jun.1999	Jun.2000	Jun.2001	Jun.2002	Jun.2003	Jun.2004
<b>Net capital stock software nominal (table 88)</b>											
Computer software	761	867	1076	1179	1215	1365	1817	2494	2739	2731	2553
<b>Net capital stock software real (table 89)</b>											
Computer software	447	541	711	826	902	1077	1523	2218	2592	2749	2733
<b>Implicit price deflator for soI</b>	<b>170.2</b>	<b>160.3</b>	<b>151.3</b>	<b>142.7</b>	<b>134.7</b>	<b>126.7</b>	<b>119.3</b>	<b>112.4</b>	<b>105.7</b>	<b>99.3</b>	<b>93.4</b>
<b>Annual inflation rate</b>	<b>-3.9%</b>	<b>-5.9%</b>	<b>-5.6%</b>	<b>-5.7%</b>	<b>-5.6%</b>	<b>-5.9%</b>	<b>-5.9%</b>	<b>-5.8%</b>	<b>-6.0%</b>	<b>-6.0%</b>	<b>-6.0%</b>
<b>Gross Fixed Capital Expenditure nominal (table 90)</b>											
Computer software	332	340	484	443	409	549	914	1281	1032	845	693
<b>Gross Fixed Capital Expenditure nominal (table 91)</b>											
Computer software	194	210	317	308	301	429	759	1132	970	845	738
<b>Implicit price deflator for soI</b>	<b>171.1</b>	<b>161.9</b>	<b>152.7</b>	<b>143.8</b>	<b>135.9</b>	<b>128.0</b>	<b>120.4</b>	<b>113.2</b>	<b>106.4</b>	<b>100.0</b>	<b>93.9</b>
<b>Annual inflation rate</b>	<b>-1.4%</b>	<b>-5.4%</b>	<b>-5.7%</b>	<b>-5.8%</b>	<b>-5.5%</b>	<b>-5.8%</b>	<b>-5.9%</b>	<b>-6.0%</b>	<b>-6.0%</b>	<b>-6.0%</b>	<b>-6.1%</b>



## NOMINAL PRICE INFLATION OF COMPUTER SOFTWARE USED IN COMMS SECTOR

