Current Cost Accounting Methodology for Telstra's Subsequent Reports under the Accounting Separation Regime

Framework Document

January 2004

1 Introduction

On 24 September 2002 the Minister for Communications, Information Technology and the Arts (the Minister), detailed a range of measures aimed at increasing the level of competition and investment in the telecommunications market to benefit consumers and business.[1]

One of the key measures announced was the encouragement of a more transparent regulatory market by requiring an augmented system of Accounting Separation (AS) of Telstra's wholesale and retail operations. AS was seen as a means of addressing competition concerns arising from the level of vertical integration between Telstra's wholesale and retail services and improving the provision of costing and price information to the Australian Competition and Consumer Commission (the Commission), access seekers and the public.

On 19 December 2002 the *Telecommunications Competition Act* 2002, which made certain amendments to the *Trade Practices Act 1974* (the Act), came into force. Section 151BUAAA of the Telecommunications Competition Act allows the Minister to give a Ministerial Direction to the Commission about Telstra's wholesale and retail operations.

On 19 June 2003, the Minister released a Ministerial Direction instructing the Commission to use its existing powers under Part XIB of the *Trade Practices Act 1974* (the Act) to ensure that:

- Telstra will prepare and provide to the Commission current cost accounts, as well as existing historical cost accounts. This will allow the Commission to better understand the costs Telstra faces as an ongoing sustainable business.

- Telstra will make public current cost and historical cost key financial statements for fixed line network core interconnection services[2] that have been declared by the Commission. This will improve the quality of information available to the market regarding Telstra's internal supply of the core interconnection services.

- The Commission will publish an 'imputation' analysis, based on information provided by Telstra, which assumes that Telstra purchases the core interconnect services from itself at the price that it charges external access seekers. This will allow the Commission and the market to clearly assess whether Telstra is engaging in anti-competitive 'price squeeze' conduct.

- Telstra will publish information comparing its supply of services internally and to external access seekers in terms of key non-price terms and conditions. This report

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1 DCITA, *Government Boost to Telecommunications Competition*, media release, 24 September 2002.

2 The core interconnection services are the originating and terminating access service, the unconditioned local loop service and the local carriage service.

will provide a transparent comparison of Telstra's actual performance in supplying services internally and to others (non-price terms and conditions include matters such as faults/maintenance, ordering and provisioning.

- The Commission will prepare and publish a six monthly report on competition in the corporate segment of the market. This qualitative report will assist in identifying any emerging or long-term trends or concerns about possible systemic discrimination in this highly contested sector of the telecommunications market.

In June 2003 the Commission issued interim CCA, imputation and key performance indicator record keeping rules (RKRs) that apply to Telstra's first accounting separation reports which were due in November 2003.

In July 2003 the Commission issued a Discussion Paper titled *Accounting Separation Regime*. The Discussion Paper sought comment on issues relating to the development of the current cost accounting and imputation testing frameworks which will apply to Telstra's longer term reporting under the new accounting separation regime. Three submissions were received in response to the Discussion Paper.

The Commission has released this framework document so that interested parties can be informed of the Commission's approach to the key issues associated with the requirements of subsequent CCA reports. The framework document is also intended to provide guidance to Telstra on the principles the Commission will use in preparing the RKR for the preparation of subsequent CCA reports. This will assist Telstra in developing, in a timely manner, the internal systems and processes required to capture CCA information which will satisfy the Commission's requirements.

2 Legislative Basis

Under Section 151BU of the *Trade Practices Act 1974* (the Act), the Commission has the power to establish RKRs by written instrument and require that carriers/carriage service providers (CSPs) comply with these rules. Section 151BUAAA also states that the Minister may give a Direction to the Commission, requiring it to exercise its powers under 151BU, 151BUDA, 151BUDB or 151BUDC.

In exercising these powers, the Commission can require the keeping of records that contain information relevant to its legislative responsibilities. For the purposes of section 151BU, these responsibilities include the operation of Parts XIB and XIC of the Act, establishing if the competition rule or tariff filing directions have been complied with, Part 9 of the Telecommunications Act 1999 (which deals with retail price controls of Telstra), and division 3 of Part 20 of the *Telecommunications Act 1997* (which deals with rules of conduct relating to dealings with international telecommunications operators).

Regulatory Accounting Framework

On 14 May 2001 the Commission, under Section 151BU of the Act, notified Telstra, Optus, Primus, Vodafone and AAPT of their requirement to report under the Telecommunications Industry Regulatory Accounting Framework (the RAF).

The RAF requires notified carriers and carriage service providers to generate and report to the Commission on the retail and wholesale components of the business. This assists the Commission in a number of its responsibilities including:

- enforcement of the competition provisions in Part XIB of the Act;
- arbitration of access disputes under Part XIC of the Act; and
- potentially assisting with the assessment of whether the declaration of a particular telecommunications service, or revocation/variation of an existing service declaration, is in the long-term interests of end-users (the LTIE).

The RAF is constructed on the basis of certain regulated and unregulated services, using an agreed set of allocation rules. Three specific and defined sets of financial statements are prepared under the RAF, for each of the following three business units:

- retail business;
- internal wholesale business; and
- external wholesale business.

The RAF does not seek to represent or cover the entire operations of a reporting carrier/CSP. Financial statements produced in accordance with RAF rules do not include items such as intangible assets, domestic investments, liabilities and equity. In this regard, the RAF financial statements have a more limited scope which has a

specific regulatory purpose and are therefore not directly comparable to the statements of financial position and performance.

The Ministerial Direction

On 19 June 2003 the Minister issued a Direction entitled *Australian Competition and Consumer Commission (Accounting Separation — Telstra Corporation Limited) Direction (No. 1) 2003* (a "special Telstra Direction") to the Commission under section 151BUAAA of the Act.

Under this provision, a "special Telstra Direction" is defined as one that:

(a) relates to Telstra's wholesale and retail operations

(b) requires the Commission to exercise its powers under section 151BU to make rules requiring Telstra to:

- keep and retain particular records
- prepare reports consisting of information contained in those records; and
- give those reports to the Commission; and

(c) requires the Commission to exercise its powers under at least one of the sections 151BUDA, 151BUDB and 151BUDC in relation to those reports.

In this paper, the special Telstra Direction is referred to as the 'Ministerial Direction'. A critical requirement of the Ministerial Direction is that the Commission is required to develop, implement and administer a system for preparation of CCA reports. More specifically, the Ministerial Direction requires the Commission to issue an RKR to ensure Telstra prepares financial statements that:

- relate to all services of Telstra to which the RAF applies;
- are consistent with the financial statements that Telstra is required to prepare and provide to the Commission under the RAF; and
- are prepared on both a historic and current cost basis in accordance with a methodology determined by the Commission and in a manner that reconciles the historic and current cost reports.

The requirement on Telstra to produce current cost statements in relation to all services to which the RAF applies, means that the CCA reports produced by Telstra will also be of similar scope. Like the historic RAF reports currently produced by Telstra, the CCA reports will not include intangible assets, domestic investments, overseas operations and investments, liabilities and equity.

The Ministerial Direction requires Telstra to provide the Commission with the initial CCA reports (the "initial" reports) by November 2003. The initial reports cover the six months ending 31 December 2002, the six months ending 30 June 2003, and the year ended 30 June 2003.

Telstra must provide the Commission with "subsequent" CCA reports (the "subsequent" reports) on a periodic six-monthly and annual basis as outlined in the Ministerial Direction. The subsequent reports cover the six months ending 31 December, the six months ending 30 June and the financial year.

In addition, the Ministerial Direction requires the Commission to publish CCA and historical cost financial reports (or extracts from those reports) in respect of "core" interconnect services. The Commission must publish the initial CCA reports for the core services by no later than 31 December 2003, and subsequent CCA reports no later than one month from when they are received by the Commission. These reports are to be accompanied by a statement from the Commission which assesses the accuracy of the reports and the extent of compliance of the reports with the RAF, other RKRs or directions of the Commission.

These initial reports for the core services were published by the Commission on 22 December 2003.

3 Current Cost Accounting Framework

Objectives of CCA

In developing the methodology for the preparation of Telstra's CCA reports the Commission has focused on ensuring that the CCA reporting regime for Telstra adequately fulfils the Government's policy objectives, and the Commission's own objectives under Parts XIB and XIC of the Act.

Government objectives

The Government has stated that proposed AS framework for Telstra (a key requirement of which is the preparation of CCA reports) is to provide the Commission, access seekers and the public with greater transparency about Telstra's wholesale and retail costs.[3] More specifically, the AS framework is intended to promote the following objectives, particularly in relation to "core" services:[4]

- to ameliorate information asymmetries so as to improve the basis for access negotiations;
- to provide a high-level of systemic confidence that there is no predatory pricing occurring;
- through transparency, to provide incentives for equitable treatment in the supply of core services;
- to ensure there is a consistent and appropriate basis to which the regulator can refer when examining any competition issue involving costs;
- over time, to improve the regulator's systemic capacity to identify, and investigate allegations of anti-competitive behaviour in the supply of "bundled" services in an increasingly convergent environment.

In designing the AS framework, the Government has also had the objectives of:

- building on work already done by the Commission and the industry with the RAF rather than "reinvent the wheel";
- not degrading genuine economies of scale and scope in the supply of retail services; and

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[3] DCITA, *Draft Direction on Telstra's accounting separation issued for public comment*, media release, 19 March 2003.

[4] Explanatory Statement to the Direction.

- avoiding undue regulatory burdens on industry.

Commission's objectives

Part XIB – Anti-competitive conduct

The Commission is responsible for administering an industry-specific regime established by Part XIB of the Act which empowers the Commission to deal with anti-competitive conduct in telecommunications markets and obtain information to assist it in monitoring competition in the telecommunications industry.

Part 151AJ of the Act states that the two circumstances in which a carrier will be said to engage in anticompetitive conduct under Part XIB are:

- Where a carrier/CSP has sustained market power and has taken advantage of that power with the effect, or likely effect, of substantially lessening competition, or

- Where a carrier/CSP engages in conduct which contravenes certain provisions in Part IV of the TPA.

The Commission has the power to issue a "competition notice" or directly seek injunctions in the Federal Court if it considers that a carrier has breached either of these conditions.

Examples of conduct that may breach Part XIB of the Act include:

- *Predatory Pricing* – This describes situations where a carrier/CSP with substantial market power in a telecommunications market takes advantage of that power to sacrifice short-term profit by setting prices below the cost of production with the effect of eliminating or reducing competition. Such pricing practices may increase long-term profit, if the carrier/CSP can price above marginal cost of production once the competition has been removed or substantially reduced.

- *Retail Margin Squeezing* – Can be considered a specific case of predatory pricing. It describes a situation where an incumbent firm sells a particular product at retail prices that are below the rates at which competing firms can gain access to the existing incumbent's underlying network facilities which are required by them to offer a similar product(s).

- *Cross subsidisation* – Describes a situation where an operator that dominates one market increases or maintains its prices above costs in that market, and use these excess returns from the dominant market to sustain lower prices in other more competitive markets. Consequently, a disproportionately large share of the costs of the operator's entire business can be recovered from the markets the operator dominates. Cross-subsidisation can be a significant barrier to effective competition since without the ability to cross-subsidise its own competitive services, an economically efficient new entrant may be unable to match the incumbent's low prices in competitive markets, and may be forced out of

business.

- *Bundling* – Generally refers to the situation where two or more products or services are sold as a single package. The price of the bundled package is usually at a discount to that of acquiring given amounts of the products separately, and a consumer is likely to receive only one bill for all of the services provided in the bundle. The Commission recognises that bundling of telecommunication services can lead to increased efficiencies and provide many consumer benefits, such as lower prices and single bills. However there is also the risk that bundling may have anti-competitive effects. In recent times, there have been growing industry concerns about the current and future implications of bundling for telecommunications services, particularly for new and developing services, such as broadband and 3G mobile.[5]

- *Vertical Cost Shifting* – Describes behaviour whereby a vertically integrated firm shifts costs between its wholesale and/or retail businesses in order to damage competitors. In this regard, the ability to identify upstream versus downstream costs is the key to diagnosing vertical cost shifting.

The Commission believes that the requirement on Telstra to produce regulatory financial reports on a CCA basis will assist it to identify instances of the above-mentioned conduct. In particular, the CCA reports will likely enable the Commission to better identify true economic/replacement costs of particular assets owned and operated by Telstra. The Commission considers that CCA information is more likely to provide costs that underpin prices in a competitive market, and will likely enable the Commission to make a more informed assessment as to whether particular conduct can be deemed anti-competitive under Part XIB of the Act.

Part XIC – Guaranteeing Access to Network Services

Part XIC of the Act governs the way the Commission regulates access in telecommunications markets so as to promote the LTIE through lower prices, increased quality and greater diversity of goods and services. The access provisions in Part XIC of the Act are an attempt to overcome the imbalance of power between existing players and new entrants

One of the Commission's key roles is the declaration of specific telecommunications services. The purpose of declaration is to ensure that competitors can gain access to bottleneck facilities at fair and reasonable prices in order to be able to compete effectively where this would promote the long-term interests of end users (LTIE). A provider of a declared service is obliged to make the service available to requesting access seekers on reasonable terms and conditions. These terms and conditions can be determined in three different ways:

- A privately negotiated agreement between access provider and access seeker

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[5] Australian Competition and Consumer Commission, *Bundling in telecommunications markets — an ACCC Draft Information paper*, January 2003.

- An arbitration by the Commission where access seeker and provider are unable to reach a negotiated agreement

- An access undertaking submitted by the access provider and approved by the Commission

In examining the LTIE, the Commission must consider the achievement of the following objectives:

- promoting competition in markets for telecommunications 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 the economically efficient investment in, the infrastructure by which telecommunications services are supplied.

An important consideration in allowing access to declared services is that the terms and conditions of access (including the price or a method for ascertaining the price) are reasonable.

The main drawback with using historical information to determine access prices is that the current cost of a company's assets may bear little relationship to their historic purchase prices because of technological change and general inflation. This means that an access seeker, in paying an access charge, might be paying for the historic purchase costs of the incumbent's network rather than the economic costs of the service.

The requirement on Telstra to prepare CCA reports will assist to promote the objectives of Part XIC, and as a consequence the LTIE, by providing economic rather than historical financial information on which to base decisions under this provision.[6]

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[6] Note that in determining access prices for PSTN originating and terminating access and the unbundled local loop service, the Commission has used an economic costing approach based on TSLRIC which is the forward looking (optimised) economic costing approach. The costs determined under the CCA reporting regime will likely act as a "sanity test" of the economic costs determined by the Commission using the TSLRIC approach.

4. An Appropriate CCA Regime for Telstra

The Commission considers that there are two key aspects of the CCA methodology that require specification for the subsequent CCA reports.

These relate to:

- How assets should be measured under CCA; and
- The form of capital maintenance that should be used as the basis for determination of profit.

4.1 The basis for measurement of assets

Under CCA reporting, assets are valued based on what is referred to as a "current entry value" methodology. This represents the monetary amount which would be needed to obtain assets already under the command of an entity, and recognised in its financial statements.

The replacement cost (RC) of an asset is often used as a basis for estimating current entry values. RC is defined as the present day cost of acquiring an identical or substantially similar present day asset that could provide equivalent services and capacity to the existing asset.

RC is based on current market values, and therefore current technology. In telecommunications, certain classes of assets have been subject to technological change and new technologies have been developed since assets were originally installed. This means existing assets would not be replaced in an identical form. In such cases the replacement cost of a particular asset can be based on the cost of a modern equivalent asset (MEA). Essentially, the MEA is an asset with the same service potential as the existing asset, and as a result, can produce the same stream of services and at the same level of quality.

The use of MEA as a measure of replacement cost should be independent of whether or not the operator has plans to replace the existing technology.

In cases where the MEA provides additional functionality, capacity or quality, adjustments should be calculated for these differences, so that only the level of functionality which is reflected in the existing asset is taken into account. Thus, for example, assume that an operator has an installed asset which can service X number of lines. If the operator were to replace the asset today it would acquire an asset costing $C which would be able to service X+20% number of lines. In this case in order to arrive at the MEA with the same service potential for CCA purposes, the new asset would need to be adjusted so that it provided the same functionality as the installed asset.

Thus the cost of the MEA with the same service potential as the existing asset would

be $C * X / 1.2X. This would reflect the fact that the existing asset provides less capacity, in terms of lines serviced, than the new asset.

For some assets, calculating replacement costs might not be necessary. For assets with low values or short lives calculating the current cost of such assets will be time consuming and is likely to provide little additional information. In such cases historical costs, appropriately indexed, will be appropriate as a proxy for the current cost of these types of assets.

The concept of service potential

The concept of "service potential" is fundamental to the measurement of assets. In other words, it is equally necessary to apply the concept of service potential in measuring an asset under a historical cost system and under any form of CCA. This point is explicitly stated in accepted Australian accounting standards:

> " 'Assets' are future economic benefits controlled by the entity as a result of past transactions or other past events (paragraph 14);"
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> "The definition of assets identifies three essential characteristics. Firstly, there must be future economic benefits (paragraph 15);" and
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> " 'Future economic benefits' or service potential is the essence of assets. 'Future economic benefits' is synonymous with the notion of service potential, and is used in this Statement as a reference also to service potential. Future economic benefits can be described as the scarce capacity to provide benefits to the entities that use them, and is common to all assets irrespective of their physical or other form (paragraph 18)." [7]

Telstra's view

In discussions with the Commission and in response to the Discussion Paper, Telstra has argued that it is extremely difficult, if not impossible, to apply the concept of service potential to measure Telstra's assets.

Telstra has argued that the determination of service potential in the context of telecommunications networks is made difficult if not impossible by the following factors:

- there are very substantial interdependencies in the physical network. These make it impossible to allocate service potential to individual assets or projects. Rather, the capacity of the network is determined through the interaction of the contribution of a myriad of individual assets and projects.

- the capacity of the network, or of any individual sub-network, undergoes constant change. These changes cannot be readily or unambiguously allocated back to individual assets or projects, again because they are not referable to individual assets or projects.

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[7] Statement of Accounting Concepts SAC 4, *Definition and Recognition of the Elements of Financial Statements,* issued by the Australian Accounting Standards Board.

- as a result of these first two factors, there is no sense in which 'service potential' can be attributed to individual assets or projects, so that there is no meaningful sense in which the 'service potential' of individual assets can be determined and used to assess the cost of replacement.

- at the same time, there is no sense in which future service capacity will be similar to current service capacity . . . . in telecommunication networks, it is certain that future networks will be substantially different from the current network in terms of the range of assets, services and more broadly functionalities that they provide. There is no sense in which 'maintaining current service potential' is a meaningful, much less desirable, goal.

- as a result, there is no meaningful concept of even aggregate 'current service potential' that can guide the determination of income concepts.

In Telstra's view there are significant difficulties in determining service potential for it assets, as there is no direct connection between service requirement and asset capacity. In terms of new projects, each of these projects can consist of a number of assets, and there is no need, from a planning point of view, to determine the service potential of each asset. At the same time, the interdependence between projects means that the contribution to service potential of each project is not capable of unambiguous or meaningful identification.

An additional reason advanced by Telstra to support the argument that the determination of Telstra's assets service potential is a difficult, if not impossible, task is the fact that Telstra employs a composite asset accounting approach. Accordingly, Telstra has argued that the use of composite asset accounting does not allow for a one for one physical to financial valuation of assets.

Telstra also notes that estimating service potential can be relatively straightforward in some industries such as mining, water and gas/electricity distribution, which have simple asset registers and inputs that are standardised and tradeable which usually produce a single, essentially homogeneous service.

Telstra argues, however, that telecommunications differs from these industries in that it involves the supply of a very wide range of services. Services supplied by Telstra undergo continuing and rapid change, as new technologies alter not only the manner in which existing services are supplied but also lead to the development of entirely new services. This makes it virtually impossible to estimate the service potential of each asset as its service potential is constantly changing. These changes in service potential occur not only as the result of changing the asset itself, but can, and in practice often do, also arise indirectly, for example, from upgrades to another part of the network. As a result, these changes to service potential are extremely difficult to monitor, record and properly attribute.

The Commission's view

Given the issues outlined above, a key consideration for the Commission in developing the CCA regime for Telstra's subsequent reports is how Telstra should measure its assets when undertaking CCA.

The Commission believes that, in light of its understanding of the Ministerial

Direction and the stated policy objectives, the appropriate basis for valuing assets under CCA is based on identifying the RC of the MEA with the same service potential as the existing asset. This is because the purpose of introducing CCA is to value Telstra's *existing* assets on a current cost basis. There is little point in valuing a different asset with higher service potential or functionality.

Where the MEA is essentially the same as the asset currently owned by Telstra, the Commission believes that an absolute valuation approach (i.e. obtaining current unit price data for the specific assets and multiplying this by the physical number of units currently in service) is appropriate.

This raises the issue of defining when an MEA is "essentially the same" as the existing Telstra asset. In the Commission's view, an essentially similar MEA should be defined in terms of the level of functionality that the existing asset provides compared to the MEA. The Commission considers that MEAs whose functionality measured in terms of generally accepted criteria (eg number of lines that can be serviced, speed in Mb/s, capacity in Mb, etc) is within +/- 10% of the functionality of the existing asset can be considered as essentially similar to the existing asset. Those that exceed the +/- 10% threshold are to be adjusted for the difference in functionality.

The Commission believes that the MEA method is the most appropriate for estimating the RC of a particular asset with similar service potential, for two main reasons.

Firstly, the telecommunications industry has undergone significant technological developments in recent years and it is likely that some assets currently owned by Telstra have no identical asset for replacement. The MEA method will overcome these issues since the estimated asset cost will be based on the latest technology in the market. Secondly, the MEA method is based on current market prices and as a result will likely provide a more accurate estimate of the true economic costs of acquiring particular assets. Given the Commission's previously-stated objectives to use current cost information to assist it to administer Parts XIB and XIC of the Act, valuations based on the MEA method are likely to provide cost information that reflects prices that would be found in the current market.

Further, the Commission believes that the concept of service potential is central to the planning, acquisition, development, operations, measurement or financial reporting activities currently undertaken by Telstra in relation to its operations. In addition, the Commission notes that Telstra's financial statements are prepared in accordance with the Statements of Accounting Concepts and Australian Accounting Standards which require assets to be measured and assessed in terms of their future economic benefits or service potential.

In relation to the issue of composite asset accounting, the Commission believes that the adoption of CCA does not mean that composite assets should be measured in terms of the value of individual assets. Rather, such composite assets should be measured (as much as possible) on the same basis as they are for historic cost reporting purposes under the RAF.

The Commission notes that a number of overseas jurisdictions have used the MEA approach when estimating the RC of particular assets. The Commission's analysis of overseas approaches confirms its view that MEA is an appropriate basis for

determining true economic costs where technological change is substantial. For a more detailed outline of the approaches to asset valuation under overseas CCA regimes, refer to **Attachment A**.

Finally, the Commission notes that Telstra seems to have mistakenly confused the issue of the most appropriate basis for valuing assets with the issue of how to treat profit and capital maintenance within the CCA framework. The Commission reiterates the point that the two issues are not related. Thus the Commission strongly disagrees with Telstra's view that:

> *It is for these reasons that the FCM approach, utilising more standard forms of asset re-valuation, has been adopted internationally. For Australia to rely on an SAP 1 approach using re-valuation of service potential would be analytically indefensible and extremely costly in terms of time and resources required for implementation and ongoing compliance. Given that more standard forms of asset re-valuation have been extensively adopted overseas and are known to be capable of implementation, Australia should not adopt an alternative approach with so few advantages and so many significant disadvantages.*

To ensure that this point is clearly understood the Commission reiterates that:

- Irrespective of whether profit and capital maintenance is determined based on FCM or OCM, the valuation of assets is a separate issue and should be undertaken based on the MEA methodology using the concept of service potential as set out above.

- Internationally where CCA has been introduced in telecommunications, irrespective of whether profit and capital maintenance is determined based on OCM or FCM, assets are valued based on a MEA with the same service potential as existing assets. This is the approach adopted in the UK by Oftel and recommended by the EU.

- Telstra's argument equating MEA and service potential only with OCM and a more preferred "standard form" of asset revaluation with FCM is incorrect.

4.2 The concept of capital maintenance and the determination of profit

The concept of capital maintenance is central to the operation of any accounting system and refers to the manner in which the capital of a company is viewed when determining profit.

The choice of capital maintenance approach has important implications for the measurement of profit available for distribution in the Statement of Financial Performance, but it also affects the division between contributed capital and retained profits in the Statement of Financial Position (Balance Sheet). As such, a key issue in developing a CCA framework for Telstra is the concept of capital that will be used when determining profit.

There are two basic concepts of capital maintenance; namely, financial capital maintenance (FCM) and operating capital maintenance (OCM).

OCM is concerned with maintaining the physical output capability of the assets of the company. Capital maintenance under this approach requires the company to have as much operating capability — or productive capacity — at the end of the period as at the beginning. Under OCM, profit is therefore only measured after provision has been made for replacing the output capability of a company's physical assets.

FCM is concerned with maintaining the real financial capital of the company so that it can continue financing its functions. Capital is assumed to be maintained if shareholders' funds at the end of the period are maintained in real terms at the same level as at the beginning of the period. Under FCM, profit is therefore only measured after provision has been made to maintain the purchasing power of opening financial capital.

Under FCM, the capital to be maintained is the financial amount of the net assets. Therefore, under this concept the enterprise earns a profit only if the amount of its net assets at the end of the period exceeds the financial amount of its net assets at the beginning of the period (after adjusting for any distributions to, and contributions from, the owners of the enterprise during the period).

Under OCM, the capital to be maintained is the operating capability embodied in an enterprise's net assets. Therefore, under this concept an enterprise earns a profit only if its operating capability (or the resources or funds needed to achieve that operating capability) at the end of the period exceeds its operating capability at the beginning of the period after adjusting for any distributions to, and contributions from, the owners of the enterprise during the period.

The differences between FCM and OCM can be seen most clearly when accounting for the effects of price changes and particularly in the treatment of what are often referred to as "holding gains or losses". This is the difference between the measured value to an enterprise of an asset at any point of time and the original cost incurred by the enterprise in purchasing that asset (less accumulated depreciation where appropriate).

Under FCM, holding losses would be recognised by the enterprise as expenses (and vice versa where there are holding gains). In addition, at times of increasing inflation, the purchasing power of the money invested by the shareholders or other owners in the enterprise will decrease. This is also recognised as an expense under FCM. These holding gains or losses and inflation adjustments are posted to the profit and loss statement under FCM.

Under OCM, the effects of all price changes affecting the assets of an enterprise would be viewed as changes in the measurement of the operating capability of the enterprise and be treated as capital maintenance adjustments which would be posted to the balance sheet.

Entity and Proprietary Viewpoints

The debate over OCM v FCM can also be considered a debate on whether a firm should be looked at from an "entity" or "proprietary" perspective.

The entity viewpoint considers the enterprise that is being accounted for as being

distinct from those parties who can contribute capital to it – usually the enterprise's shareholders. The enterprise is considered to be an independent body, and the objective of accounting is to account for the interests of the enterprise.

The proprietary viewpoint perceives an enterprise as being owned by one or more parties, such as a sole proprietor, partners or shareholders. All of an enterprise's assets, liabilities, gains and losses are considered to belong to the owners, and the objective of accounting is to account for the owners' interest in the enterprise.

In the area of accounting for the effects of changing prices, the entity viewpoint is closely interrelated with the OCM concept of capital maintenance, while the proprietary viewpoint is closely interrelated with the FCM concept of capital maintenance.

These interrelationships can be seen in the different ways in which the entity viewpoint and the proprietary viewpoint would recognise an increase in the current cost of an asset. The entity viewpoint would seek to ensure that any distribution of profits to shareholders did not lead to a reduction in the enterprise's operating capability; consequently, such a rise in asset value would be seen as an increase in the current measurement of the enterprise's capital funds invested in the asset's operating capability, not as a distributable gain. In contrast, the proprietary viewpoint would view such a rise as being a gain accruing to the shareholders because the rise in value of the asset held by their enterprise has increased their wealth. A proprietary viewpoint would regard such a holding gain as being distributable to shareholders (although under this approach it may be appropriate in some cases to first reduce such a gain by an amount calculated as being required to maintain the general purchasing power of the opening balance of shareholders' equity).

Telstra's view

In discussions with the Commission, Telstra has argued that the OCM approach to capital maintenance is inappropriate in a telecommunications context, and that FCM should be adopted as the basis for its CCA reporting. In addition, Telstra has argued that a "proprietary" rather than an "entity" approach is preferable for CCA reporting in a telecommunications context.[8]

Telstra has argued these positions for the following reasons:

- The telecommunications industry differs from industries such as water, gas and electricity distribution in that it involves the supply not of a single (essentially homogeneous) service, but rather of a very wide range of services. These services are undergoing continuing and rapid change as new technologies alter not only the manner in which existing services are supplied but also lead to the development of entirely new services.

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[8] The Commission notes that Telstra's approach to the adoption of a capital maintenance concept under CCA and the decision on whether to take an "entity" or a "proprietary" view appears to be similar to the approach adopted in the UK by Oftel; however the Oftel approach is a hybrid. For a more detailed outline of the Oftel approach to CCA see Attachment B.

- Telstra believes that it is widely accepted that the concept of OCM is not well defined when the services being supplied by the reporting entity change substantially over time. In affect there is no longer a clear meaning that can be given to the service capacity/potential of the reporting entity. In addition, there is no sense in which it can be assumed that the entity needs to reproduce tomorrow, the service capacity it has today. As a result, Telstra considers that an OCM approach cannot usefully guide decisions about whether or not capital is being maintained intact.

- Telstra believes that when the nature of the services being supplied is undergoing constant change, the fundamental issue facing regulators and the firm is to ensure that the incentives for efficient investment are preserved. For this to be addressed, a proprietary rather than an entity approach must be adopted (the entity approach implicitly adopts OCM). Telstra maintain that an FCM approach will ensure that efficient investment incentives are preserved.

- Telstra considers that there are practical problems with adopting an entity (rather than a proprietary approach) and the associated use of SAP 1 (an Australian Statement of Accounting Practice in relation to CCA which recommends the use of OCM).[9] There is very little experience available on implementing SAP 1 in contexts characterised by a wide range of rapidly changing services. The difficulties involved in full-scale implementation of SAP 1 are aggravated by the fact that Telstra does not maintain unit records of its assets, and as a result, may require a detailed and expensive exercise in unitising the asset base. In addition, compliance with SAP 1 would require Telstra to not only revalue its fixed assets, but also working capital balances, cost of goods etc. This would raise considerable complexities but would be unlikely to have significant consequences for users of the accounts. Indeed, Telstra believes that the UK telecommunications regulator Oftel came to the same conclusion when it introduced CCA.

- Telecommunications regulators overseas have considered the issues raised above and developed CCA methodologies that meet regulatory needs in both a principled and cost effective way. These methodologies appear to rely on FCM and hence are consistent with the analytical framework underpinning access pricing. Telstra maintain these methodologies have been tested by the operators themselves, auditors, regulators and users of the information, and hence have a significant degree of credibility.

The Commission's view

The Commission considers that there are two key implications arising from the choice between use of an FCM or OCM approach to capital maintenance. These are:

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[9] SAP1 refers to a Statement of Accounting Practice "Current Cost Accounting". SAP1 was released in 1984 and was developed by the Australian CCA Standards Committee (which comprised leading industry representatives, practitioners and academics) for use in an Australian context. SAP1 is the most authoritative official position on CCA in Australia. It is a complete system of accounting for the effects of changing prices. However, it has not been adopted as a formal accounting standard to date.

- The affect on investment and market entry incentives
- The affect on regulatory analysis

Each of these is discussed below.

Investment incentives

In Telstra's view the use of the FCM basis to capital maintenance leads to market participants and potential entrants receiving correct signals on whether to undertake new investment or enter the market. OCM, on the other hand, provides the wrong signals for both existing and potential market participants.

When asset values are increasing the FCM approach to capital maintenance results in higher profitability for the reporting firm whereas when asset values are decreasing, FCM results in lower profitability. This is because under FCM holding gains and losses and adjustments to maintain equity in real terms are posted to the profit and loss statement.

Increasing asset values and higher profitability signal to new entrants and existing competitors that it is possible to enter the market or undertake new investment and recover the cost of investments in the long run. Thus efficient entry and investment is encouraged. Depreciating asset values and resulting lower profitability under FCM, signal to new entrants or existing competitors that entry or increased investment is not sustainable and efficient because low profitability will make it difficult for investment costs to be recouped in the long run. Therefore, the correct investment and entry signals are again being sent to potential new entrants and existing market participants under FCM.

OCM on the other hand shows increasing profitability from depreciating asset values. This is because the only adjustment that is expensed to the profit and loss account is supplementary depreciation which works to offset the depreciation charge as asset values fall. As a result, the pricing signal being generated through OCM is that additional new investment or new entry is sustainable. This may not send correct pricing signals since at times of falling prices (which manifest themselves in depreciating asset values) it becomes more difficult to recoup investment costs thus suggesting that at these times new investment or new entry is not warranted.

Similarly, OCM, shows reducing profitability from an appreciating asset value. In this case new entrants are discouraged from competitive entry and new investment, because it appears, based on the information generated by regulatory reports relying on the OCM approach that recovery of new investment will not be possible. Thus again OCM sends the wrong pricing signals to potential and existing market participants.

When discussing the choice between FCM and OCM the European Union (EU) has also been concerned about the investment incentives resulting from each of the two approaches:

> The use of the OCM concept may systematically incorporate insufficient or excess returns into the level of allowed revenue (depending, respectively, on whether asset-specific inflation was expected to be lower than or higher than general inflation). This is not a desirable feature of any regulatory regime, as it would not provide appropriate investment incentives. Under FCM however, the returns to the providers of capital would equal the required return (as measured by the cost of capital) irrespective of whether replacement costs were rising or falling relative

to general prices. Hence, if current cost accounting information is used as the basis to determine interconnection charges, FCM is the preferred capital maintenance concept.[10]

In other words, the EU is concerned that when asset specific inflation is lower that general inflation (and as a result the value of an asset increases by less than the overall price level), OCM will not recognise this holding loss as an expense which needs to be funded. Additionally, where asset specific inflation is higher than general inflation OCM will not recognise the holding gain as an increase in revenue. In contrast, FCM will recognise these holding losses or gains as changes in revenue and thus ensure that there is no over or under funding of the enterprise's operations.

In addition, the telecommunications regulator in Denmark has outlined three reasons why FCM should be preferred to OCM when undertaking CCA adjustments.These are:

- OCM becomes of limited value in a world where the mix of assets and the mix of outputs is rapidly changing, as is the case for telecommunications.

- Accounting data can provide essential information about whether a firm should continue or discontinue an activity and whether, from a regulator's perspective, the firm is making acceptable, excessive or insufficient profits. However, one of the conditions for accounting information to perform this role is that it includes holding gains and losses. In other words any inferences drawn about the firm's performance from OCM measures of profitability, either from a shareholder's perspective or a regulator's perspective, may be incorrect.

- OCM depreciation implies that the firm will not recover the cost of its investment when asset prices are falling and will over-recover its costs when asset prices are rising.

In the Commission's view, there are many reasons why firms decide to enter particular markets or undertake investment in new infrastructure. The signals generated by regulatory accounting information are a relatively minor influence on firms' entry and investment strategies.

In addition, the Commission believes that where the CCA reports clearly set out the adjustments made either under FCM or OCM, users of the information can undertake profitability analysis with a clear understanding of the implications of the results of that analysis.

The Commission, therefore, does not wish to overstate the impact on investment and entry incentives resulting from the use of either an FCM or OCM basis to the preparation of CCA reports. Nevertheless, on balance, the Commission believes that

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[10] Andersen Business Consulting, *Study on the implementation of cost accounting methodologies and accounting separation by telecommunications operators with significant market power: Prepared for the European Commission DG Information Society*, 3 July 2002, p. 15.

the use of FCM will avoid the potential for incorrect investment and entry signals by both existing participants and potential new market entrants.

Regulatory analysis

The choice between OCM and FCM can potentially affect the results of regulatory analysis performed by the Commission using CCA data, since it has a bearing on the reported costs and level of profit presented in the profit and loss statement. The Commission has identified two key areas where the choice of OCM or FCM can potentially impact on regulatory analysis. These are:

- Where the CCA information is used for the determination of access prices when the Commission is arbitrating access price disputes, assessing the prices contained in access undertakings or establishing indicative prices. Since under FCM holding loss adjustments (when assets are depreciating) are posted to the profit and loss statement, reported costs and consequently access prices based on these costs will be higher under FCM than OCM.

- Where the CCA information is used to undertake imputation analysis of core services, imputation tests will be harder to pass if the CCA information is prepared on an FCM basis. This is because wholesale costs will be higher under FCM than under OCM for any given retail price for the core service under consideration.

As previously, the Commission does not wish to overstate the potential impact on regulatory analysis resulting for CCA information being prepared on either an FCM or OCM basis. The Commission believes that provided the adjustments under either FCM or OCM are clearly set out and presented in the CCA reports in a transparent manner, the results of regulatory analysis relying on the data can be interpreted appropriately by both the Commission and other interested parties.

Conclusion on the use of FCM or OCM

The Commission considers that the question of whether it is more appropriate to use an FCM or OCM basis for the preparation of CCA reports is of secondary importance to that of the valuation of assets based on the MEA methodology using the concept of service potential.

The Commission has decided that given that there is little practical difference between the use of FCM or OCM and that since there are international precedents and experience which can be drawn upon in implementing FCM, it will adopt FCM as the basis of capital maintenance for CCA purposes.

Attachment A International Developments

CCA issues in telecommunications have been considered in some depth in a number of countries around the world, particularly in Europe.

In some of these countries telecommunications incumbents are required to produce periodic, separate current cost reports and a demonstrated reconciliation between current and historical cost information. In other countries current cost accounting is used on a more limited scale as a cost basis for interconnection costs and unbundled local loop.

A.1 The European Union

The EU has recommended that its members should prepare separate regulatory accounts using a current cost base.

A.1.1 Relevant European Union legislation

Relevant EU Directives, which are in the process of being replaced by a new set of directives, set general principles for interconnection charges and cost accounting systems. Council Directive 97/33/EC (on interconnection in telecommunications with regard to ensuring universal service and interoperability through the application of the principles of open network provision) requires that operators notified as having significant market power (SMP) publish a detailed reference interconnection offer where charges are derived from actual costs. In conjunction with this, it also imposes the obligation of keeping separate accounts for activities related to interconnection and to make these publicly available and have them independently audited.

More specific guidelines were issued in the Commission Recommendation of 8 April 1998[11], which specified that revenues and costs should be disaggregated into: core network, local access network, retail and other activities. Furthermore, it requires the allocation of costs to be done in accordance with the principle of causality (so that at least 90% of the costs can be allocated through direct or indirect causality) and for the cost allocation system to be sufficiently detailed to allow costing of unbundled interconnection services. Although no specific costing system is identified by the Commission, in the above-mentioned Recommendation it invites National Regulatory Authorities to set deadlines for "implementation by incumbent operators of new cost accounting systems based on current costs and activity-based accounts".

In July 2002, Andersen Business Consulting, on behalf of the European Union (EU), released a Study on the implementation of cost accounting methodologies and accounting separation by telecommunications operators with SMP.

The study noted that although European Recommendations mention that separate regulatory accounts should be prepared using a current cost base, only three Member

[11] Interconnection in a liberalised telecommunications market – Part 2 Accounting separation and Cost accounting

States comply. The EU also noted that five member states still use only a full HCA base, whereas only one (Finland) sees some SMP operators reassessing the capital expenditures at their current value using the Modern Equivalent Asset (MEA) approach. In the Netherlands and Greece a different cost basis is used to prepare separated accounts for each business. Finally, in Ireland three sets of accounts are prepared using in the first set of historical costs, in the second set current costs with the FDC standard and in the third set current costs applied to the LRAIC standard.

A.1.2 Recommended current cost method

The EU states that FCM is the superior capital maintenance concept noting that:

> The use of the OCM concept may systematically incorporate insufficient or excess returns into the level of allowed revenue (depending, respectively, on whether asset-specific inflation was expected to be lower than or higher than general inflation). This is not a desirable feature of any regulatory regime, as it would not provide appropriate investment incentives. Under FCM however, the returns to the providers of capital would equal the required return (as measured by the cost of capital) irrespective of whether replacement costs were rising or falling relative to general prices. Hence, if current cost accounting information is used as the basis to determine interconnection charges, FCM is the preferred capital maintenance concept.[12]

Hence, the EU recommends that if current cost accounting information is to be used as the basis to determine interconnection charges, FCM is the preferred capital maintenance concept.

A.1.3 Progress of implementation

The 8th Report from the European Commission on the Implementation of the Telecommunications Regulatory Package (December 2002) noted that:

As regards current cost accounting obligations for the enforcement of EU tariff principles, Member States are moving towards costing methodologies which are in line with EU recommendations. However, there is still considerable work to be done with regard to the verification and certification of accounts by NRAs, with resulting uncertainty in the market as regards compliance by incumbents with transparency and cost orientation.

Further, the EU notes that the implementation of cost accounting and accounting separation in the United Kingdom and Ireland can be regarded as best practice in the EU as regards the approach and methodology used, the detail of the verification carried out by the regulators and the availability of information to third parties.

A.2 United Kingdom

British Telecommunications' plc (BT) has been required, under Condition 78 of its License, to prepare annual financial statements on a current cost basis since 1984.

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[12] Andersen Business Consulting, above n. 10, p. 15.

The purpose of Condition 78 is to ensure that BT does not unfairly engage in subsidy or cross-subsidy, nor show undue preference or exercise undue discrimination, and that charges for interconnection and other standard services (including Access Network Facilities) are reasonably and transparently derived from costs.

Oftel has indicated that the implementation of AS and current cost accounting was aimed at establishing a regulatory accounting framework in which cost-orientation could be demonstrated and anti-competitive practices eliminated. In Oftel's view, CCA provides the best cost-base on which to make these judgements, because it is based on the premise that (in a competitive market) prices will approach economic costs (including the cost of capital) and such current prices should inform a service provider's build/buy decisions. In this sense, Oftel views CCA as an important improvement on historic data.

The current cost financial statements are prepared in respect of each Business, as defined within the License, and insofar as a Business has been disaggregated in terms of activities of the Business, each activity of that Business. These financial statements are reconciled with the annual statutory (historic cost) financial statements, and that reconciliation must be demonstrated and explained.

The current cost financial statements are prepared in accordance with the "Accounting Documents" (ADs), which were initially agreed between BT and Oftel on 31 March 1995 and modified with Oftel's agreement, as required by the License. The ADs set out the framework under which the financial statements are to be prepared. They comprise the following and if there is any inconsistency between them, have the following order of priority:

- Regulatory Accounting Principles
- Attribution Methods
- Transfer Charges
- Accounting Policies

BT also produces the "Detailed Valuation Methodology", a reference manual to facilitate the understanding of the current cost financial statements prepared by BT.

A.2.1 Concept of capital

BT purportedly uses the Financial Capital Maintenance (FCM) convention in accordance with the principles set out in the handbook "Accounting for the effects of changing prices" published in 1986 by the Accounting Standards Committee. Under this convention current cost profit is normally arrived at by adjusting the historical cost profit to take account of changes in asset values and the erosion in the purchasing power of shareholders equity during the year due to general inflation. BT explains that the inflation adjustment in respect of shareholders' equity is not relevant to Businesses and activities.

The Commission understands that the approach to FCM, as implemented in the UK context, can produce hybrid accounting systems, in which enterprises could combine a looser capital maintenance concept with one of a number of asset measurement bases (irrespective of the degree of conceptual and practical compatibility). The ability to adopt such combinations allows greater flexibility in the process by which the profit of the enterprise is determined.

A.2.2 Principles of Valuation of Tangible Fixed Assets

Assets are stated in the Balance as their value to the business, usually equivalent to their NRC. This is generally derived from the asset's Gross replacement cost and is the current purchase price of an identical new asset or the cost of a modern equivalent asset (MEA) with the same service potential.

Changes in asset values are referred to as unrealised holding gains or losses. These include other movements, which are taken directly to reserves in historical cost accounting. The effect of the asset revaluation on the Profit and Loss Statement (P+L) is to increase the historical cost profit by any unrealised holding gains arising in the year and to decrease it by unrealised holding losses. In the Financial Statements, unrealised holding gains for the various categories of fixed assets are treated in the same way as depreciation, so that losses increase costs and gains reduce them. Current cost adjustments to the P+L and Balance Sheet (B/S) values are allocated to Businesses using the same principles and processes as the HCA values for the assets to which they relate.

A.2.3 Choice of valuation method

The valuation methods used for the various asset categories are reviewed each time valuations are prepared to ensure that they are still appropriate in the light of changes in technology and levels of investment. For example, when a new technology is being introduced the purchase price will represent its current cost but in later periods indexation or an absolute valuation will be introduced as prices change and/or the technology of the asset is no longer "modern".

If the technology of an asset is still "modern" the asset is valued on a like-for-like basis but at current prices rather than the prices when purchased.

Existing technology

Where an asset is being revalued on a direct replacement cost basis its replacement cost is usually assessed either by indexation or by absolute valuation. The choice of method involves a judgment as to which method is likely to give a more accurate and robust valuation. Factors considered include the following:

- *Indexation*: This is an appropriate method where there has been little technological change in the asset category and all the direct costs associated with bringing the asset into service that would be incurred if it were to be replaced today. A major advantage of indexation is that the valuation is directly linked to the HCA values

of fixed assets, so any assets recorded in the HCA accounts are included in the CCA valuation.

- *Absolute valuation*: In using the indexation method there may be difficulties in establishing appropriate indices and hence it may be more accurate and reliable to use physical volumes and unit prices to derive an absolute valuation. This method in turn may present difficulties. For example, in establishing meaningful current unit prices, the choice of method for a particular asset depends on individual circumstances.

Modern Equivalent Asset

In situations where there is technological change, existing assets would not be replaced in an identical form. In such cases the replacement cost is based on the cost of an MEA, that is, the cost of a modern asset with similar service potential. In some cases the rate at which modern assets can be introduced is limited by practical constraints such as manufacturing capacity and lead times. In these instances and where BT has definitive plans to replace the existing assets, the mix of technologies used as the MEA for valuation in BT is generally taken as that forecast to be in place in three years time. The problems of assessing capacity and unit costs are the same as for any absolute valuation, as described above.

Low value/ Short Life

Where assets have a relatively low value the asset is accounted for at its historical cost and is not re-valued. Similarly, where the life of the asset is relatively short, such that there is unlikely to be a significant difference between the cost of the asset at the date of acquisition and its gross replacement cost, the asset is not re-valued but retained at its HCA value.

A.2.4 Cost Adjustments

Operating cost adjustments

If there are material differences in operating costs between the MEA and the existing asset, the MEA valuation of the existing asset is adjusted to reflect these. The differences may arise, for example, due to differing maintenance costs over the whole lives of the assets.

At present for assets valued using an MEA approach there are no cases where the differences have been identified as material and hence no adjustments are made.

Functionality Abatements

Where existing assets are valued using a MEA approach, the unit price of the modern asset may reflect a higher level of functionality than that of the existing asset. In such cases the MEA valuations of the existing assets are adjusted downwards to reflect the estimated cost of upgrading these assets to the functionality of the version used in the

valuation.

Surplus Capacity

An asset is considered to have surplus capacity only if there is capacity within the asset that is not in use and not expected to be put into use over BT's planning horizon. Thus, assets which have capacity planned to be brought into use or which is needed to meet known planning margins are considered to be part of the operating capacity.

Where there is modularity in the provisioning of capacity, provided that a part of the modular asset is utilised or will be utilised over the planning horizon, these assets are included within the operating capacity in their entirety.

BT has not identified any assets that fall within the above definition of surplus capacity with the exception of specialised accommodation. Assets such as exchange buildings have surplus capacity resulting from the accommodation dimensioned to fit analogue and mechanical exchanges. Vacant areas have arisen where space is no longer required due to the introduction of modern equivalent equipment or where existing old assets are valued on MEA basis and their accommodation requirements are therefore based on the smaller footprint of the modern assets.

Surplus capacity for specialised buildings is valued at "net realisable value":

New Technology and its use as MEA

Emerging replacement technologies are treated as separate asset categories until it is clear that their own costs are lower than those of an older technology and that they have become the modern equivalent. For example, fibre cable is being deployed in parts of the access network but its cost is not yet low enough for it to be considered as the MEA for copper cable.

In considering the use of new technology as the MEA it is assumed that there are no changes to BT's network topology, i.e. the number of nodes and links between them are valued in the existing configuration, not as a theoretical optimised network.

Unit Costs

Unit costs applied to capacity for absolute valuations are based on outturn prices where these are considered representative of the costs that would be relevant if the assets were being replaced at a normal rate in the normal course of business. It is possible that the prices currently being paid are unrepresentative, for example when ordering levels are particularly high or low, or at the end of a technology's life. In such cases an estimate is made of the appropriate current cost with reference to internal and external data.

Choice and application of indices for Indexation Method

For assets valued using the indexation method BT provides price indices for each class of asset. Cost trends based on the purchase price of the class of assets being valued are used to generate indices. Where there is divergence between known

historical achievements against predicted trends, this data is taken into account to better reflect the expected movements. 31 March 1989 is generally used as the reference base, with updates made twice a year (March and September). Newer technologies have the base year set in the first year of expenditure. The indices are derived from various sources of information including the following:

- the cost base of the elements of BT expenditure for stores items and contract expenditure.

- external indices and cost trend studies including the Office for National Statistics information, Retail Price Index and UK average earnings figures.

These indices are used to produce index trends for each asset based upon the appropriate mix of the four cost categories (i.e. BT pay, raw materials, contract and other). The year-end valuation for each asset is built up from the asset data by vintage. Indices at 31 March (current year) are used in the year-end valuations in conjunction with the indices at 30 September (in the year of registration for the asset being valued).

A.3 Denmark

Legislation effective from July 2000 required Denmark telecommunications regulator — National Telecoms Agency (NTA) at to develop a LRAIC model before 31 December 2002. The model is to serve as a basis for fixing prices for switched interconnection, lease of raw copper and collocation.

As a basis for the LRAIC model, two cost analyses were prepared — a topdown analysis prepared by TDC (incumbent) and a bottom-up analysis which is prepared by providers who want access to interconnection at prices calculated according to LRAIC. The topdown analysis was to be based on TDC's existing cost structures where only outdated technological solutions are replaced by optimal technology.

In April 2001, NTA released a set of guidelines (*most recent document listed on website under LRAIC*) for the development of the topdown model, that included a section on CCA and specific guidelines on how these adjustments should be made. These included that:

- the model should use, as a starting point, replacement cost methodology to calculate current cost of assets. This basis for valuation was considered more appropriate in a regulatory setting than other methods such as Net Realisable Value (NB: *current value of service potential is not mentioned*).

- the model should value those assets that would be replaced with assets using the same technology on the basis of absolute valuation. Any use of indexation will need to be justified by supporting documentation

Where "modern equivalent asset — MEA" is used as a basis for valuation (where technology is changing), the definition should relate to an asset that can produce the same services produced by the existing asset at lowest cost, adjusting where possible

to reflect differences in operating costs, quality, asset lives and space requirements.

These guidelines also recommended that the FCM approach to capital maintenance should be used. There are four reasons given for preferring FCM to OCM.

OCM becomes of limited value in a world where the mix of assets and the mix of outputs is rapidly changing, as is the case for telecommunications.

Accounting data can provide essential information about whether a firm should continue or discontinue an activity and whether, from a regulator's perspective, the firm is making acceptable, excessive or insufficient profits. However, one of the conditions for accounting information to perform this role is that it includes holding gains and losses. In other words any inferences drawn about the firm's performance from OCM measures of profitability, either from a shareholder's perspective or a regulator's perspective, may be incorrect.

OCM depreciation implies that the firm will not recover the cost of its investment when asset prices are falling and will over-recover its costs when asset prices are rising.

Finally, the EC recommends the FCM concept on these grounds when it states:

> The use of the OCM concept may systematically incorporate insufficient or excess returns into the level of allowed revenue (depending, respectively, on whether asset-specific inflation was expected to be lower than or higher than general inflation). This is not a desirable feature of any regulatory regime.

A.4 Other European Union members

Those EU members who currently require telecommunications incumbents to provide separated reports on a CCA basis (i.e. Ireland, Spain and partially in the Netherlands and Greece[13]) follow an approach that shares similarities to the one adopted by BT in the UK.

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[13] Study on the implementation of cost accounting methodologies and accounting separation by telecommunications operators with significant market power — prepared for the European Commission DG Information Society, 3 July 2002.