



Leased Lines Charge Control

A new charge control framework for wholesale
traditional interface and alternative interface products and
services

Statement

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Section 1

Executive Summary

Introduction

- 1.1 This Statement sets out our conclusions on the charge controls for wholesale traditional and alternative interface leased lines services supplied by BT in markets which it was found to have Significant Market Power ("SMP") in the Business Connectivity Market Review ("BCMR") Statement¹. The BCMR Statement concluded that, in principle, BT should be subject to charge controls in the markets where BT had SMP. This Statement concludes on the detailed design and methodology of these charge controls.
- 1.2 We set out below our conclusions following consideration of the responses to the consultation document published on 8 December 2008 (the "December Consultation")².

The charge controls are being set in a changing market

- 1.3 The charge controls are being set in a dynamic and evolving market environment:
- The UK communications market is seeing increased demand for bandwidth in the backhaul network, to support higher speed broadband services and the associated growth of internet traffic.
 - The Traditional Interface Symmetric Broadband Origination ("TISBO") market is going through a period of steady decline. BT is not expecting any significant volumes to remain on the Digital Private Circuit Network ("DPCN") platform beyond 2012/13 and expects most customers to have migrated to other products such as Ethernet.
 - Openreach is continuing to develop its Alternative Interface Symmetric Broadband Origination ("AISBO") portfolio. It is currently undertaking a significant investment in a national backhaul network based on Wave Division Multiplexing ("WDM") technology, to support new products such as Ethernet Backhaul Direct ("EBD"), which are designed to meet the growing demand for backhaul capacity. The networked nature of this product will mean greater efficiency and lower costs in backhaul provision.
 - BT has recently announced an ambitious Next Generation Access ("NGA") programme, which is likely to further boost demand for capacity to support high speed broadband services.
- 1.4 In this context, we have sought to ensure that the charge controls provide appropriate incentives for efficient investment and for efficient migration from old to new products.

¹ <http://www.ofcom.org.uk/consult/condocs/bcmr08/>

² <http://www.ofcom.org.uk/consult/condocs/lcc/>

Stakeholder responses

- 1.5 We received twelve responses to our December Consultation. These are listed in Annex 1. We have published non-confidential responses on our website³. As set out in this Statement, responses included comments on the following:
- The form and duration of the leased lines charge controls – Most stakeholders agreed with our proposals for an RPI-X control for a three year period up to the end of September 2012;
 - The adjustments to BT's base years costs – Most stakeholders agreed with the principle of our proposed adjustments;
 - The one-off adjustments to the starting charges of TISBO and AISBO services – stakeholders (other than BT) expressed concerns regarding the one-off increases to the starting charges of some TI terminating services, but welcomed the proposed decreases to 2 Mbit/s trunk charges;
 - The underlying assumptions to be used in our cost modelling – Most stakeholders agreed with our proposed assumptions, though some also noted some areas where we could take a different approach;
 - The appropriate notice period ahead of any price changes – Most stakeholders commented on the need to keep the appropriate notification period for price increases that could be imposed as part of the charge controls.
- 1.6 The responses included comments from the European Commission ("EC") as part of the community-wide consultation which ran in parallel with the national consultation, received on 19 February 2009. The EC invited us not to exclude the possibility of carrying out a market review before the expiry of the charge controls if changes in market conditions warrant it. We have taken these comments into account in reaching our conclusions on the duration of the charge controls.
- 1.7 In this Statement we set out the key elements of these responses, which have informed our final decision making process on the design and methodology of the leased lines charge controls.

Summary of our decisions

We are implementing RPI-X charge controls

- 1.8 We are implementing RPI⁴-X charge controls for most of the services provided by BT in the wholesale markets in which it has been found to have Significant Market Power ("SMP").
- 1.9 The leased lines charge controls will apply for the period ending 30 September 2012. This duration will provide stability in the market and maintain incentives on BT to achieve efficiency savings. This is in keeping with other charge controls that have been implemented in the telecommunications sector in the UK.

³ <http://www.ofcom.org.uk/consult/condocs/llcc/>

⁴ RPI=Retail Price Index

We are setting price caps and sub-caps for six charge control baskets

- 1.10 When deciding on the appropriate charge control baskets we have balanced two potentially conflicting requirements: the requirement to give BT enough pricing flexibility to respond to changing market conditions and to manage migration from old to new services; and the need to ensure that this pricing freedom is not used in a way that might harm competition. We believe our baskets strike an appropriate balance between these two objectives.
- 1.11 The price caps and sub-caps for the various charge control baskets are summarised in Table 1.1.

Table 1.1 The 2009 leased lines charge controls

Basket	Services in scope	Value of X ⁵	Value of sub-cap
TI	Wholesale low bandwidth TISBO (≤ 8 Mbit/s) – connection and rental; Wholesale high bandwidth TISBO (> 8 Mbit/s and $\leq 34/35$ Mbit/s)-outside CELA – connection and rental; Wholesale very high bandwidth TISBO ($> 34/45$ Mbit/s and $\leq 140/155$ Mbit/s)-outside CELA – connection and rental; and Trunk (all bandwidths) – rental	RPI – 3.25%	RPI-0% (Sub-cap on sub-basket of TISBO terminating segments) RPI + 5% sub-cap on each charge (excluding PoH charges) RPI – 0% sub-cap on each charge (PoH charges only)
Equipment and Infrastructure (TI)	All relevant equipment and infrastructure charges	RPI - 0%	No charge can increase more than 5% in nominal terms
Ancillary Services (TI)	All relevant ancillary services used in the provision of TI services in scope of the TI Basket	RPI - 0%	None
AI	Wholesale low bandwidth AISBO (≤ 1 G bit/s) – connection and rental Including new services: Ethernet Backhaul Direct Bulk Transport Link Ethernet Access Direct	RPI – 7.00% ⁶	RPI-0% (Sub-cap on sub-basket of BES) RPI + 5% sub-cap on each charge
Accommodation (AI)	Access Locate AI Accommodation Administration Fee	3.5% nominal terms (2009/10) RPI + 4.5% (2010/11)	Controlling percentage \pm on each charge RPI-0%
Ancillary Services (AI)	All relevant ancillary services used in the provision of AI services within scope of the AI Basket	RPI-0%	None

⁵ The values of X are after the proposed adjustments to starting charges and are rounded to the nearest quarter.

⁶ The value of X for the AI Basket is net of the AI migration credit, which we estimated to be 2.26%.

1.12 Along with the main TI and AI price caps we are implementing a number of sub-caps and other safeguards in order to reduce the likelihood of undue price discrimination:

- We have limited any potential increases in the sub-baskets of TISBO terminating segments and BES services to RPI in each year of the control.
- We have limited the maximum increase in any charge in the TI and AI Baskets to RPI + 5% in each year of the controls. As an exception to this individual Point of Handover ("PoH") charges in the TI Basket will each be subject to a sub-cap of RPI – 0%.

We have taken account of the introduction of newer and cheaper products by Openreach

1.13 We have taken account of the introduction of newer and cheaper products by Openreach. Given the levels of migration and the expected average price reduction from moving to the new network, we have calculated the contribution that this migration would make towards meeting the AI Basket charge cap (which we estimated to be 2.26%). The value of X for the AI basket in Table 1.1 above is net of this migration saving.

We have excluded some services from the charge controls

1.14 We are not including Radio Backhaul Station Services ("RBS"), Symmetric Digital Subscriber Lines ("SDSL") and BT Wholesale Accommodation services (e.g. BT Netlocate) within the scope of the charge controls.

- For RBS, we maintain the requirement on BT to price these services in a manner which is consistent with the pricing of TISBO and trunk services.
- For SDSL, BT has given Ofcom a voluntary price commitment that it will not increase the price of these services faster than the rate of inflation (RPI-0%) for the two years following publication of the BCMR Statement.
- For BT Netlocate, we rely on BT's cost orientation and other *ex-ante* obligations as well as on its general obligation to comply with competition law.

We are amending the level of some starting charges

BT Wholesale has notified some of the price changes to TISBO services we discussed in our December Consultation

1.15 In our December Consultation, BT Wholesale ("BTW") had proposed a number of adjustments to the starting charges for some TI terminating and trunk services. The overall effect of these adjustments was to decrease TI Basket revenues in 2006/07 by around 4%, and the proposals were revenue neutral for external sales. BTW has since notified these new charges on 3rd June 2009. We are not introducing any further amendments to these prices with the exception of:

- We are introducing separate PoH rental charges; and
- 64 kbit/s and 2 Mbit/s external local end prices need to be reduced by the amount of the new PoH charges we are imposing.

- 1.16 In our December Consultation, BTW had also proposed to make one off adjustments to the starting charges of services in the Equipment and Infrastructure Basket. The proposals were revenue neutral for internal and external customers.
- 1.17 From 1st October 2009 BT will have an obligation to align all relevant TISBO starting charges with those included in Annex D to Conditions G4, GG4, GH4 and H4.
- 1.18 We discuss our conclusions regarding one of adjustments to the starting charges of TI terminating and trunk services in Section 4 of this Statement.

We have implemented further one off decreases to the price of 1 Gbit/s BES services

- 1.19 In our December Consultation we proposed not to impose any further one-off reductions to the prices of Ethernet services. We instead proposed that Openreach should be required to bring individual charges within appropriately measured DSAC ceilings and DLRIC floors within 12 months of the implementation of the charge controls. We also noted that Openreach had recently announced substantial decreases to the connection and rental prices of a number of WES/WEES/BES services. These price decreases were fully implemented in February 2009.
- 1.20 Following stakeholder responses, and to ensure consistency with our approach to the TI basket, we have since amended our position with regards to the starting charges of some Ethernet services. Our analysis indicates that some charges remain too high when compared to the overall level of costs and we are concerned about inefficiencies this could cause. We have therefore decided to require Openreach to decrease the price of 1 Gbit/s BES rental services by a further 17%. We require Openreach to introduce this new charge from 1st August 2009.
- 1.21 We discuss our conclusions regarding one of adjustments to the starting charges of AISBO services in Section 5 of this Statement.

The structure of the charge controls

- 1.22 We have concluded on a number of issues relating to the detailed structure of the controls, including the following:
 - *The weighting of the charge control baskets:* For TI and AI services we have determined that prior year revenue weights should be used to check compliance with the charge control.
 - *Geographic discounts:* BT can offer geographic discounts for charge controlled services at the wholesale level, but these will not contribute to BT meeting its charge control obligations;
 - *Volume discounts:* In line with our conclusions in the BCMR Statement BT cannot offer certain volume discounts (i.e. saw-tooth discounts) at the wholesale level; and
 - *Term discounts:* BT can offer term discounts for charge controlled services at the wholesale level, but these will not contribute to BT meeting its charge control obligations.

We have made a number of key assumptions to model the value of X for the main charge control baskets

- 1.23 X for the TI and AI basket of services. We based this model on a number of key assumptions which include the volume forecasts for the services covered by the controls, the underlying base year costs and assumptions about BT's future efficiency gains and cost of capital. We discuss our conclusions regarding these matters in the relevant parts of Section 4 and Section 5 of this Statement.

We have amended BT's base year costs

- 1.24 We introduced some amendments to BT's base year costs for 2007/08 in order to determine the level of costs which are relevant for charge control and forecasting purposes. The impact of these adjustments is to decrease the base year costs for the TI Basket by £137m and for the AI Basket by £12m.

Efficiency

- 1.25 The objective of the charge controls is to bring BT's current charges in line with an efficient level of costs at the end of the control period. As part of this process it is important to understand the efficiency levels that BT can be expected to achieve during the charge control period.
- 1.26 Taking into consideration the work undertaken by NERA and our internal work on efficiency, we have concluded that the appropriate assumption in respect of efficiency gains for services in the TI Basket is 2.5% p.a.
- 1.27 We have concluded that the appropriate assumption in respect of the efficiency gains for services in the AI Basket is 2.8% p.a. This aligns with our decision in the Statement entitled *A New Pricing Framework for Openreach*⁷ (the "OFFR Statement"), with some exceptions which we explain in our Statement.

Cost of Capital

- 1.28 In deriving the values of X, the aim of the financial modelling exercise is to estimate charging constraints such that in the final year of the charge control period, BT is forecast to earn a rate of return on the basket of services that is equal to its weighted average cost of capital ("WACC").
- 1.29 In the OFFR Statement we set Openreach's WACC to 10.1% (pre-tax nominal). On a consistent basis, the value for the WACC for the rest of BT (including core) is 11% (pre-tax nominal).
- 1.30 We are of the view that TI and AI services should not be classified within BT's access network for the purposes of an assessment of risk levels. We have therefore used the value for the WACC for the rest of BT as determined in the OFFR Statement, i.e. 11%.

We decided not to impose a charge control on Kingston Communications but we accepted its voluntary pricing commitments

- 1.31 We concluded in the BCMR Statement that Kingston Communications ("KCOM") has SMP in the wholesale market for low bandwidth AISBO in Hull. KCOM offered us a

⁷ <http://www.ofcom.org.uk/consult/condocs/openreachframework/statement/>

draft voluntary undertaking to decrease the prices of WES/WEES circuits each year by around RPI-16% over the period to 2012. In our December Consultation we consulted on KCOM's proposals. We decided not to impose a charge control on KCOM but instead to accept KCOM's voluntary pricing commitment on the basis of the considerations set out in Section 6.

Ongoing review

- 1.32 We explained in our December Consultation that, in light of the ongoing economic uncertainty, we recognise the possibility that certain eventualities may present unforeseen challenges that necessitate a review of the controls before the end of the planned charge control period. As proposed in our December Consultation, we will closely monitor the effectiveness of our new controls, and intervene if circumstances require it. At the same time, we recognise that such intervention is not without risk and potentially introduces an additional level of uncertainty. On this basis, such intervention will be at our discretion and will not be based on any automatic trigger mechanism.
- 1.33 In addition, we are required by our legal duties to keep developments in leased lines markets under review⁸. As such, we will continue to take a wider view of market developments in leased lines markets. If, at the time of the next review, we conclude that BT continues to have SMP we would have to decide whether or not to impose a charge control as a remedy once the current control expires in 2012. This would provide an opportunity to evaluate the operation of this LLCC and to assess whether any changes would be necessary at that time in light of experience and any other market developments.
- 1.34 We consider that our ongoing review of the charge controls will address the point of the EC in its response letter to our draft notification, as set out above in paragraph 1.6.
- 1.35 Also as explained in this Statement, our cost calculations exclude BT Wholesale's and Openreach's share of annual payments made by BT to address the funding shortfall in its pension scheme. While this approach is consistent with our historic treatment of pension deficits and surpluses, we consider that this issue is of increasing importance to the companies we regulate. Accordingly, we propose to undertake a separate review of our treatment of pension costs which will inform our future approach.

⁸ The Access Directive (Directive 2002/19/EC) requires to conduct market analyses periodically and also consistent with Ofcom's duties under the Act (specifically Section 84(2)(b)). The Act states that at such intervals as we consider appropriate to carry out further analyses of specific markets and, where appropriate, to make proposals for the modification of SMP conditions.

Section 2

Scope and policy objectives

Introduction

- 2.1 In December 2008, Ofcom published the statement on the Business Connectivity Market Review (the “BCMR Statement”) which sets out the conclusions of our review of the retail and wholesale markets for leased lines in the UK. As stated in the BCMR Statement, we found BT to have Significant Market Power (“SMP”) in a number of retail and wholesale leased lines markets. Moreover, in the BCMR Statement we indicated that, following consultation, our conclusion was that in principle charge controls should be applied to the services supplied by BT in the wholesale markets in which it has SMP.
- 2.2 In December 2008 we also published a separate consultation on our charge control proposals for wholesale leased lines services in the UK (the “December Consultation”). This consultation closed in March 2009. We received twelve responses to this consultation document which we have analysed and taken into consideration when formulating our decisions⁹. In this Statement we set out our conclusions on the charge controls for wholesale leased lines services.
- 2.3 The purpose of this section is to summarise:
- the key characteristics of leased lines; and
 - set out our policy aims and objectives for setting our charge controls in relation to leased lines services.
- 2.4 In this section we also discuss:
- the specific wholesale leased lines services where BT was found to have SMP in BCMR Statement and where we have concluded that the imposition of a charge control is appropriate;
 - the last charge control in place for wholesale leased lines services in the UK;
 - the legal framework we have had regard to when imposing the new charge controls; and
 - the link between these charge controls and other Ofcom projects.

Leased Lines have some key characteristics

- 2.5 Leased lines are fixed connections between two or more customer premises providing un-contended dedicated capacity between these sites. A leased line can be used for a variety of communications between customer’s premises including voice, video and data communications.
- 2.6 There are three broad types of leased lines:

⁹ For a list of responses see Annex 1.

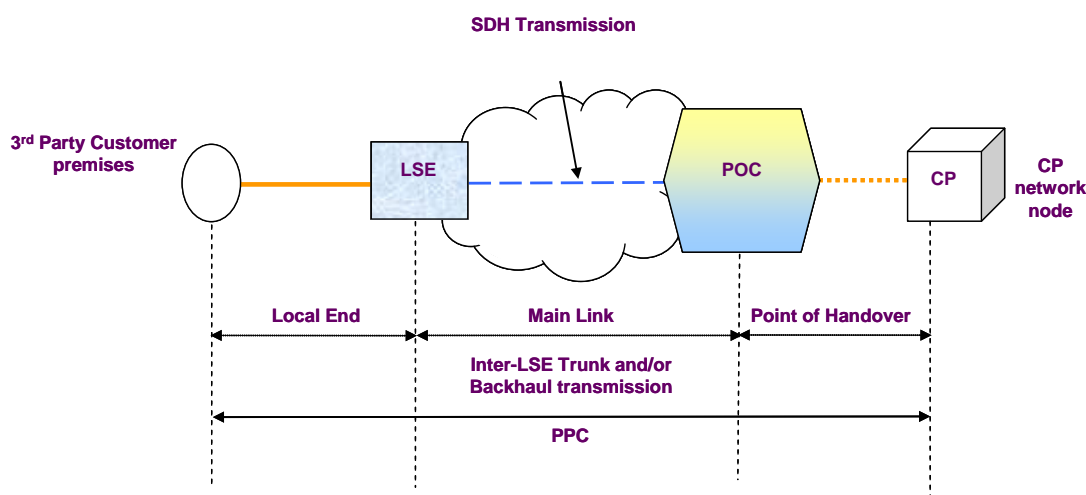
- 2.6.1 **Analogue Leased Lines:** These are commonly used for voice transmission e.g. sending racing commentary to bookmakers or taxi ordering lines. They can be made into low bandwidth digital leased lines with the addition of modems. They are mainly supplied at the retail level (i.e. there is no wholesale equivalent) and are steadily being displaced by digital services.
- 2.6.2 **Digital Leased Lines based on Plesiochronous Digital Hierarchy (“PDH”) and Synchronous Digital Hierarchy (“SDH”) technology:** PDH and SDH refer to transmission protocols in which the transmission of data is time division multiplexed. As a result, the transmission characteristics can be predicted with a very high degree of accuracy. This is a key characteristic for some user applications. PDH and SDH circuits are currently the most common type of leased line, and are used for a wide variety of purposes e.g. providing backbone transport for mobile networks and connecting remote offices to larger business sites. Bandwidths range from 64kbit/s up to 622Mbit/s, with the most popular variants being $n \times 64\text{kbit/s}$ and 2Mbit/s. Wholesale terminating segments of analogue, PDH and SDH circuits are referred to in the BCMR Statement as Traditional Interface Symmetric Broadband Origination (“TISBO”) circuits.
- 2.6.3 **Digital Leased Lines based on Ethernet technology:** Ethernet is the transmission technology of choice for 21st century networks (“21 CN”) and is gradually displacing PDH and SDH. Ethernet circuits are popular, for example, for providing access into Virtual Private Networks (“VPN”). However, as it is not a synchronous transmission protocol and cannot offer predictable transmission characteristics, Ethernet is not able to support some specialist applications, such as those used by some utilities. Bandwidths range from 10Mbit/s up to 10Gbit/s, with the most commonly used being 10Mbit/s. Wholesale Ethernet circuits are referred to in the BCMR Statement as Alternative Interface Symmetric Broadband Origination (“AISBO”) circuits.
- 2.7 There are two broad types of wholesale leased lines services:
- 2.7.1 **Disaggregated services:** These link an end-user site to a Communication Provider’s (“CP”) Point of Connection (“POC”), enabling the CP to assemble an end-to-end service using a combination of wholesale inputs and its own network.
- The PDH/SDH variants of these services are known as Partial Private Circuits (“PPCs”). When used by mobile operators for links to their radio base stations, they are known as Radio Base Station Backhaul Services (“RBS Backhaul”).
- For Ethernet services, the equivalent of a PPC is a Wholesale Extension Service (“WES”). These are currently provided using point-to-point fibre and are only available over comparatively short distances (e.g. 25 km). BT also supplies access and backhaul components of WESs. WES Access Services (“WES A”) enable CPs with a presence in a BT Local Serving Exchange (“LSE”) to aggregate a number of circuits for more efficient backhaul transmission. WES Backhaul (“WES B”) services can be used to carry these aggregated circuits back up to a CP’s POC and are also used by Local Loop Unbundling (“LLU”) Operators to carry their broadband traffic back up to their own networks (LLU Backhaul). WES B services are also referred to as Backhaul Extension Services (“BES”).

2.7.2 End to end services: These link two or more end-user sites and are simply a wholesale version of a retail service. The best example of this type is BT's Wholesale End-to-end Extension Service ("WEES"), which is an Ethernet service provided over relatively short distances using point-to-point fibre. PDH/SDH wholesale variants are not available from BT.

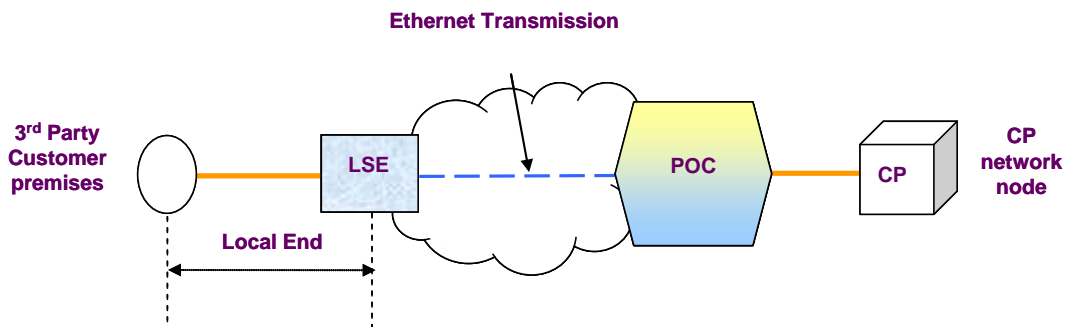
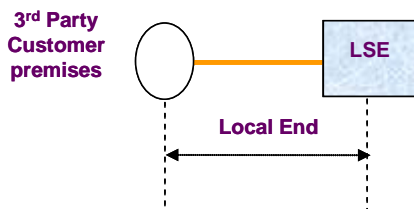
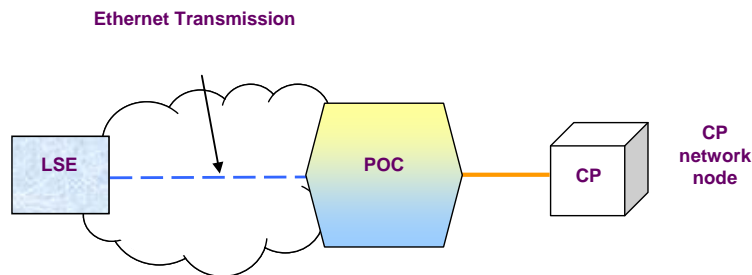
2.8 There are three network elements to a PPC (Figure 2.1). The 'Local End' is the dedicated link between the third party customer premise and the LSE and is provided using copper or fibre pairs.

- The 'Main Link' provides dedicated transmission capacity between the LSE and the CP's POC with BT's network. This Main Link can have a mixture of backhaul and trunk network transmission. The boundary between the backhaul and trunk element of a PPC is currently drawn at the Tier 1 nodes in BT's SDH network, of which there are 67 in the UK. In the BCMR Statement we proposed to define the boundary between the backhaul and trunk segments of a PPC at major points on the network where backhaul circuits are aggregated together – we identified 46 such aggregation nodes on BT's SDH network, which identify the break between trunk and terminating segments.
- Finally the Point of Handover ("PoH") is a high capacity link which connects the CP's networks with BT's own network. The high-capacity PoH infrastructure is supplied as either: In-Span Handover ("ISH"), In-Span Handover Extension ("ISH Extn") or Customer Sited Handover ("CSH"). Multiple circuits can be handed over at a single PoH.

Figure 2.1 Partial Private Circuits



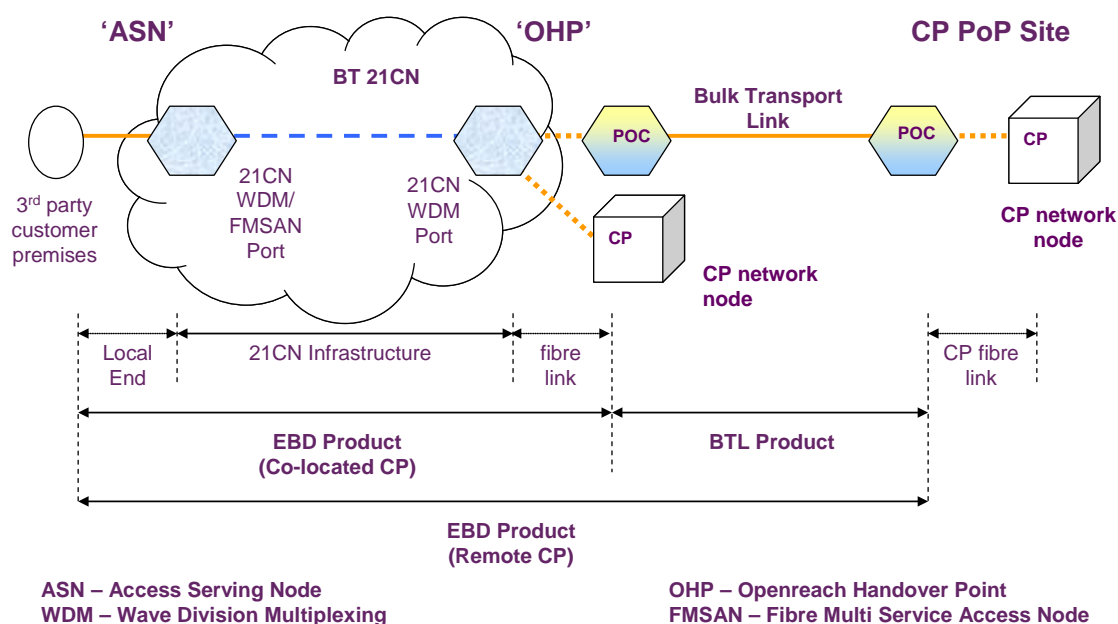
2.9 The component parts of a WES service are similar to PPCs in that the service is provided via a fibre-optic Local End using Ethernet transmission and often includes transmission between the LSE and the CP's POC provided using a dedicated fibre-optic pair (Figure 2.2).

Figure 2.2 Various types of Wholesale Extension Services (WES)**WES****WES A****WES B / BES**

2.10 In May 2008, Openreach launched the next generation backhaul products called Ethernet Backhaul Direct ("EBD") and Bulk Transport Link ("BTL"). Openreach has also recently launched Ethernet Access Direct ("EAD").

2.11 The key characteristics of these new products are:

- Point-to-point un-contended Ethernet backhaul service utilising shared infrastructure network;
- Based on wave division multiplexing ("WDM") technology – to be rolled out to 1100 Tier one nodes; and
- Change to traditional pricing structure – price banding by geography e.g. urban, suburban and rural (within the 1100 exchanges 67% will be urban, 28% suburban and 5% rural).

Figure 2.3 Openreach EBD/BTL products

2.12 In summary:

- EBD will operate between a CP's PoP, located in a designated Openreach Access Serving Node ("ASN"), and a CP's core network PoP, located in either a designated Openreach Handover Point ("OHP") or in the CP's own site, accessed using Openreach's BTL product. EBD is currently available at 1 Gbit/s.
- BTL is purchased separately by the CP from Openreach, effectively extending the Openreach transport network to the CP's site. It provides the connection between the OHP and the CP's site, up to a maximum radial distance of 35km from the OHP (maximum 50 km route distance). The BTL has been designed to support multiple EBD circuits.
- EAD services offer point-to-point fixed symmetrical Ethernet bandwidth between two defined sites. These sites can be a combination of End User sites, Communications Provider's (CP's) sites or BT exchange sites. At a BT site the circuit terminates at a CP presence within that serving exchange (e.g. BT Licensed space). Bandwidths available are set at 10 Mbit/s, 100 Mbit/s and 1000 Mbit/s. Customer accessible Network Terminating Equipment ("NTE") is placed at each end of the circuit. The EAD product has been developed to replicate and supersede, as a single product, the prevailing 10Mbit/s (Local Access), 100Mbit/s (Local Access) and 1000Mbit/s Ethernet Extension Services products, i.e. BES, BES Daisy Chain, WES, WES Local Access, WEES and WES / WEES Local Reach.

2.13 In our December Consultation, we also discussed how the broad physical characteristics of leased lines are reflected in BT's pricing structure. For a more detailed description of costs recovered via the different charges for TISBO and AISBO services see Annex 3.

We have had regard to our specific policy objectives when setting the new charge controls

2.14 Our specific policy objectives in setting the leased lines charge controls are:

- to prevent BT from setting excessive charges in wholesale leased lines markets where it has SMP while providing incentives for it to increase its efficiency;
- to ensure that prices are subject to appropriate controls whilst still encouraging BT to maintain service quality and innovation in leased lines services;
- to promote efficient and sustainable competition in the delivery of wholesale leased lines services;
- to provide regulatory certainty for BT and its customers and to avoid undue disruption;
- to encourage investment and innovation in the relevant markets; and
- to ensure that the delivery of the regulated services is sustainable, in that the prevailing prices provide BT with the opportunity to recover all of its relevant costs (where efficiently incurred), including the cost of capital.

2.15 We have adopted these policy objectives when reaching our conclusions on the leased lines charge controls. In paragraphs 2.23 to 2.45 we discuss how our policy objectives are consistent with the duties and objectives under sections 3 and 4 of the Act, and other relevant guidance.

The new charge controls include some TI terminating, trunk and Ethernet services

2.16 We are imposing new charge controls for all leased lines services which fall into the following SMP markets as determined in the BCMR Statement:

- Low bandwidth TISBO services up to and including 8Mbit/s;
- High bandwidth TISBO services above 8Mbit/s up to and including 34/45 Mbit/s (outside the Central and East London, “CELA”, area);
- Very high bandwidth TISBO services above 34/45Mbit/s up to and including 140/155 Mbit/s (outside the Central and East London, “CELA”, area);
- Low bandwidth AISBO services up to and including 1 Gbit/s; and
- TISBO trunk segments at all bandwidths.

2.17 In addition we are imposing a charge controls on all interconnection and accommodation services relating to BT’s provision of services in the above mentioned list.

2.18 This Statement sets out our conclusions on the charge controls as imposed on the above list of services.

Historically only TI terminating segments have been charge controlled

- 2.19 The 2003/04 Leased Lines Market Review (the “2003/04 Review”)¹⁰ identified BT as having SMP in the following wholesale markets for leased lines in the UK (excluding the Hull area) where a charge control was imposed:
- Low bandwidth TISBO up to and including 8Mbit/s; and
 - High bandwidth TISBO above 8Mbit/s up to and including 155 Mbit/s.
- 2.20 The same review identified BT as having SMP in the following wholesale markets in the UK (excluding the Hull area) where a charge control was not imposed:
- AISBO at all bandwidths – The 2003/04 Review did not impose a charge control on these services, as they were only recently introduced; and
 - TI Trunk segments at all bandwidths – The 2003/04 Review did not impose a charge control on these services, as it concluded that they were prospectively competitive.
- 2.21 The latest PPC charge controls came into effect for the four years from 1 October 2004 to 30 September 2008¹¹. The final values for X were set at the following levels:

Table 2.1 Last charge controls for TISBO terminating segments, which expired on 30 September 2008

Basket	Value of X
POC end and third party end equipment and infrastructure charges	RPI-8.9%
Low bandwidth connection and rental and maintenance charges	RPI-4.0%
High bandwidth connection and rental and maintenance charges	RPI-6.5%

- 2.22 These controls expired on 30 September 2008. In the interim period, between 1st October 2008 and the publication of this Statement, we obtained voluntary commitments from both BT Wholesale (“BTW”) and Openreach to keep the price of wholesale leased lines constant in nominal terms. Subsequently, at the beginning of June 2009, BTW withdrew its voluntary commitment and notified some price changes which will become effective from 1st September 2009.¹²

¹⁰ <http://www.ofcom.org.uk/consult/condocs/llmr/statement/>

¹¹ http://www.ofcom.org.uk/consult/condocs/ppc_charge_control/statement/

¹²

http://www.btwholesale.com/pages/static/service_and_support/service_support_hub/online_pricing_hub/cpl_hub/notifications/accn_notifications/April_2009_June_2009.html

We have had regard to the legal framework when setting the new charge controls

- 2.23 The present regulatory framework for electronic communications networks and services entered into force on 25 July 2003. The Framework is designed to create harmonised regulation across Europe and is aimed at reducing entry barriers and fostering prospects for effective competition to the benefit of consumers. The basis for the regulatory framework is five European Union Communications Directives (together “the Directives”):
- Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services (“Framework Directive”);
 - Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities (“Access Directive”);
 - Directive 2002/20/EC on the authorisation of electronic communications networks and services (“Authorisation Directive”);
 - Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services (“Universal Service Directive”); and
 - Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector (“Privacy Directive”).
- 2.24 The Framework Directive, the Access Directive, the Authorisation Directive and the Universal Service Directive were implemented in the United Kingdom on 25 July 2003 via the Communications Act 2003 (“the Act”). The Privacy Directive was implemented by Regulation which came into force on 11 December 2003.
- 2.25 Article 16 of the Framework Directive requires each national regulatory authority (“NRA”) to carry out an analysis of the relevant markets as soon as possible after the adoption of the Recommendation on relevant product and service markets or any updating thereof.
- 2.26 The Commission adopted the first edition of the Recommendation on 11 February 2003¹³. Ofcom carried out a review of retail leased lines, symmetric broadband origination and wholesale trunk segments in 2003/04 and published its final statement on June 2004 (“the 2003/04 Review”).
- 2.27 Subsequently, the Commission adopted the second edition of the Recommendation¹⁴, under which some markets concerned in this review are no longer on the list of recommended markets.
- 2.28 In the BCMR Statement we have taken into consideration the above regulatory framework when undertaking the market review to:

¹³ Commission Recommendation 2003/311/EC of 11 February 2003 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services.

¹⁴ Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (Second Edition) (C(2007)5406 rev1).

- Determine the relevant market or markets;
- Assess competition in each market, in particular whether any undertakings have SMP in a given market; and
- Assess the appropriate regulatory obligations which should be imposed where there has been a finding of SMP.

Moreover, the BCMR Statement concluded on a number of remedies, including in principle as a charge control. In this Statement, Ofcom states the conclusions reached on the design and methodology of the new charge controls.

2.29 Following completion of a market review, and in cases where the incumbent is found to have SMP in an identified service market, Ofcom has a duty under the Act and the Framework to set such SMP conditions as it considers appropriate and as are authorised under the Act. In assessing whether a charge control would be an appropriate remedy, in concluding on its design methodology and in assessing the appropriate level of that charge control, we have taken into consideration, amongst others, the following:

- Section 3 of the Act, which sets out Ofcom's general duties;
- Section 4 of the Act, which requires Ofcom to act in accordance with the European Commission's requirements for regulation.
- The Act (Sections 87-92), in particular Section 87(9) which provides that subject to satisfying the 'tests' in section 88, Ofcom may impose a charge control as an SMP condition;
- The EC Recommendation of 29 March 2005 on the provision of leased lines in the European Union – Part 2, Pricing aspects of wholesale leased lines part circuits¹⁵ and the accompanying explanatory memorandum¹⁶ (the "Leased Lines Pricing Recommendation");
- The Access Guidelines published by Oftel in September 2002¹⁷;
- The European Regulators' Group's ("ERG") common position¹⁸ on best practice in remedies imposed as a consequence of a position of SMP in the relevant wholesale leased lines markets (the "ERG Paper"); and
- The revised ERG¹⁹ common position on the approach to appropriate remedies in the regulatory framework for electronic communications networks and services (the "ERG Remedies Position").

Section 3 – Ofcom's general duties

2.30 In considering whether price controls are an appropriate SMP remedy to impose, we have had regard to our general duties as set out in Section 3 of the Act. Section 3(1)

¹⁵ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32005H0268:EN:NOT>

¹⁶ http://ec.europa.eu/information_society/policy/ecomm/doc/library/recomm_guidelines/leased_lines/expmem_rec_II_part2_en.pdf

¹⁷ http://www.ofcom.org.uk/static/archive/oftel/publications/ind_guidelines/acce0902.htm

¹⁸ http://www.erg.eu.int/doc/publications/erg_07_54_wll_cp_final_080331.pdf

¹⁹ http://www.erg.eu.int/doc/meeting/erg_06_33_remedies_common_position_june_06.pdf

states that Ofcom's principal duty is to further the interests of citizens in relation to communications matters and consumers in relevant markets, where appropriate, by promoting competition. Moreover:

- Section 3(2)(b) of the Act states that Ofcom must secure the availability throughout the UK of a wide range of electronic communications services.
- Section 3(4) of the Act states that we must have regard to the desirability of promoting competition in relevant markets.
- Section 3(5) of the Act states that, in furthering the interests of consumers, we must have regard to choice, price, quality of service and value for money.

2.31 We have taken the above into consideration when concluding on the leased lines charge controls. We explain this further at the end of Sections 4 and 5 of this Statement where we discuss our conclusions in relation to the charge controls for TISBO and AISBO services. In particular, Ofcom has a wide measure of discretion in balancing its statutory duties and objectives. In so doing, we have taken account of all relevant considerations, including responses received during the December Consultation, in reaching our conclusions.

Section 4 – European Community requirements for regulation

2.32 As noted above, our proposals involve Ofcom exercising functions falling under the EU regulatory framework. As such, Section 4 of the Act requires us to act in accordance with the six European Community requirements for regulation.

2.33 In summary, these six requirements are:

- to promote competition;
- to contribute to the development of the internal market;
- to promote the interests of all EU citizens;
- not to favour one type of network, service or facility over another;
- to encourage network access and service interoperability in order to promote efficiency and competition; and
- to encourage compliance with relevant international standards.

2.34 We have taken the above into consideration when concluding on the leased lines charge controls. In particular, we have focused on the requirement to promote competition, not to favour one type of network and to encourage network access and service interoperability, which are particularly relevant in relation to the design and methodology of the charge controls for leased lines. We explain this further at the end of Sections 4 and 5 of this Statement where we discuss our conclusions in relation to the charge controls for TISBO and AISBO services.

Section 87 and 88

2.35 Section 87(1) of the Act provides that, where Ofcom has made a determination that a person is dominant in a particular market, it must set such SMP conditions as it considers appropriate and as are authorised under the Act.

- 2.36 One of the SMP conditions which Ofcom is authorised to impose on a dominant provider is a price control (Section 87(9) of the Act).
- 2.37 Section 88 of the Act states that Ofcom may not set a price control as an SMP condition, except where it appears to Ofcom (from the market analysis carried out for the purpose of setting that condition) that there is a relevant risk of adverse effects arising from price distortions and that the setting of the condition is appropriate for the purposes of:
- promoting efficiency;
 - promoting sustainable competition; and
 - conferring the greatest possible benefits on the end-users of public electronic communications services.
- 2.38 In addition, in setting a price control, Ofcom must take account of the extent of the investment in the matters to which the condition relates of the person to whom it is to apply (Section 88(2)).
- 2.39 As well as being appropriate, as required by Section 87(1) of the Act, and meeting the test under section 88 of the Act, a price control, similar to all other SMP conditions, must also satisfy the tests set out in Section 47(2) of the Act. These are that each condition must be:
- objectively justifiable in relation to the networks, services or facilities to which it relates;
 - not such as to discriminate unduly against particular persons or a particular description of persons;
 - proportionate to what the condition is intended to achieve; and
 - in relation to what is intended to achieve, transparent.
- 2.40 We are also required under Section 6 of the Act to ensure that regulation by Ofcom does not involve the imposition or maintenance of unnecessary burdens and to consider the scope of effective self-regulation.
- 2.41 We are satisfied that the charge controls imposed BT in this Statement fulfil our policy aims and objectives as well as the relevant requirements specified in the Act and relevant Directives. We explain this further at the end of Sections 4 and 5 of this Statement where we discuss our conclusions in relation to the charge controls for TISBO and AISBO services.

We have taken into account other relevant guidance

- 2.42 In concluding on the final form of our charge controls, we have also taken into account relevant guidelines. In particular:
- The EC's Leased Lines Pricing Recommendation;

- The Access Guidelines published by Oftel in September 2002²⁰;
 - The ERG Paper²¹ on best practice in remedies imposed as a consequence of a position of SMP in the relevant wholesale leased lines markets; and
 - The ERG Remedies Position on the approach to appropriate remedies in the regulatory framework for electronic communications networks and services²².
- 2.43 The EC's Leased Lines Pricing Recommendation states that when imposing an obligation for cost orientation under Article 13(1) of the Access Directive, Ofcom should ensure that the prices associated with the provisions of leased lines part circuits reflect only the costs of the underlying network elements and the services being requested include a reasonable rate of return. Ofcom should also ensure that the price ceilings as listed in this recommendation are respected unless there is reliable evidence that the recommended ceilings would result in prices below the efficient cost. We have explained in Section 4 (paragraph 4.178 to 4.179) how we have taken this recommendation into consideration when setting the charge controls for TI terminating and trunk segments.
- 2.44 The ERG has agreed a Common Position Paper on 1 April 2004 relating to appropriate remedies in the new regulatory framework for electronic communications. The ERG Paper aims to ensure a consistent and harmonised approach to the application of remedies by NRAs in line with the Community law principle of proportionality, and with the new framework's key objectives of promoting competition, contributing to the development of the internal market and promoting the interests of EU citizens.
- 2.45 The ERG paper sets out four principles that should be adhered to when imposing remedies. These are:
- The need to produce reasoned decisions;
 - Where infrastructure competition is not likely to be feasible, access to wholesale inputs should be made available;
 - Where infrastructure competition is feasible, remedies should assist in the transition process to a sustainable competitive market; and
 - Remedies should, where possible, be incentive compatible.

The charge controls take into account other Ofcom projects

- 2.46 Our conclusions on the structure and level of the new charge controls are consistent with other regulatory decisions that we have taken and/or proposed. In addition to the BCMR, the following are relevant:
- **A New Pricing Framework for Openreach (the "OFFR Statement")**: The OFFR Statement was published on 22 May²³. Informed by the responses to the consultations, the OFFR Statement sets out new price controls for the MPF and SMPF rental services. Our conclusions contain two elements: price ceilings for

²⁰ http://www.ofcom.org.uk/static/archive/oftel/publications/eu_directives/2002/intg0902.htm

²¹ http://www.erg.eu.int/doc/publications/erg_07_54_wll_cp_final_080331.pdf

²² http://www.erg.eu.int/doc/meeting/erg_06_33_remedies_common_position_june_06.pdf

²³ <http://www.ofcom.org.uk/consult/condocs/openreachframework/statement/>

2009/10 and indexation of the ceiling for the services in 2010/11. The statement also sets out the controls that are applicable on the baskets of Metallic Path Facility (“MPF”) ancillary services, Shared Metallic Path Facility (“SMPF”) ancillary services and Co-mingling services.

- **PPC Disputes:** On 27 April, Ofcom published its draft determination on the PPC disputes (“draft PPC Determination”). Our charge controls on TI terminating and trunk segments are consistent with our preliminary conclusions as set out in the draft determination.

Our impact assessment

2.47 The analysis presented in the rest of the Sections and Annexes of this Statement represents an impact assessment, as defined in section 7 of the Act.

2.48 Impact assessments provide a valuable way of assessing different options for regulation and showing why the preferred option was chosen. They form part of best practice policy-making. This is reflected in section 7 of the Act, which means that generally Ofcom has to carry out impact assessments where its proposals would be likely to have a significant effect on businesses or the general public, or when there is a major change in Ofcom’s activities. However, as a matter of policy Ofcom is committed to carrying out and publishing impact assessments in relation to the great majority of its policy decisions. For further information about Ofcom’s approach to impact assessments, see the guidelines, Better policy-making: Ofcom’s approach to impact assessment, which are on the Ofcom website:
http://www.ofcom.org.uk/consult/policy_making/guidelines.pdf

2.49 Specifically, pursuant to section 7, an impact assessment must set out how, in our opinion, the performance of our general duties (within the meaning of section 3 of the Act) is secured or furthered by or in relation to what we propose

Structure of this document

2.50 The objective of this section has been to give some background on leased lines, set the regulatory scene for the new charge controls and summarise the links to other Ofcom projects. The rest of this document is structured as follows:

- Section 3 summarises the approach we adopted when concluding on the appropriate charge control framework for leased lines;
- Section 4 sets out our conclusions on the charge controls for TI terminating and trunk segments;
- Section 5 sets out our conclusions on the charge controls for AISBO services;
- Section 6 sets out our conclusions on whether to impose a charge control on KCOM;
- Section 7 sets out the steps in the implementation of the imposed charge controls.

2.51 In addition there are a number of Annexes which support our decisions. In particular:

- Annex 8 contains our detailed calculations on which we base the new charge controls; and

- Annex 9 includes our Notification under the 2003 Communications Act in which we set out Conditions which constitute the legal instrument for imposing the charge control obligations.

Section 3

The charge control design

Introduction

- 3.1 In this Section we explain our conclusions on the scope, form and duration of the charge control. In light of our decision on the appropriate charge control framework we also set out our conclusions on some more specific issues and policy questions:
- **Charge control formula issues:** ensuring the design of the charge control formula will not inhibit unduly the migration of leased lines services to new BT platforms during the charge control period;
 - **High-level modelling assumptions:** determining the appropriate basis to model and forecast BT's costs of providing leased lines services, including:
 - dealing with the uncertainty over the costs of BT's new platforms;
 - the appropriate information sources to use, given the restatement and recent publication of further accounting data;
 - the cost basis to use; and
 - how to account for geographical differences in costs.
 - **Our approach to starting charge adjustments:** given the divergence of some of BT's prices from its costs, what factors are relevant to our consideration of possible starting-charge adjustments;
 - **Treatment of 21CN cost recovery:** how BT should recover the cost of new services (such as its 21CN investments);
 - **BT's weighted average cost of capital:** our approach to determining the weighted average cost of capital ("WACC") associated with its leased lines investments;
 - **Term and geographic discounts:** how to treat various discounts offered by BT in assessing compliance with the charge controls.

Summary of our key decisions

- 3.2 In light of responses to our December Consultation and our further considerations we have reached the following conclusions:
- The charge control is a RPI-X form control expiring at the end of September 2012;
 - We adopted a technology neutral approach for TI and AI service baskets;
 - We used prior year revenues control for both the TI and AI charge control (as applied in the 2004 PPC Charge Controls);

- We included an adjustment to the value of X under the AI control for anticipated migration to a new networked Ethernet service;
- We cross checked our 2006/07 base year costs to BT's 2007/08 RFSs (subject to relevant adjustments proposed in Sections 4 and 5);
- We used national data to model costs without adjusting for geographic differences;
- We implemented further one off adjustments to some starting charges;
- We applied a WACC of 11% to TI and AI services, consistent with the “rest of BT” rate used in our conclusions in the OFFR Statement; and
- We did not count any price changes associated with geographic and term discounts towards the charge control.

3.3 We discuss, in turn below, how we arrived at the above conclusions.

The leased lines charge control is an RPI-X type control

3.4 In the December Consultation, we discussed issues associated with the scope, form and duration of the charge control. Full discussion of these proposals is set out in paragraphs 3.2 to 3.45 of the December Consultation.

Use of RPI as our benchmark for inflation

Our proposals

3.5 The overall charge control term is intended to reflect economy wide inflation, less an amount (X) to reflect gains in efficiency and the removal of any excess profits existing at the start of the control period. In the December Consultation we proposed to use RPI as our benchmark for inflation. We discussed alternative inflation measures (such as the Consumer Price Index, (“CPI”)), but we thought that RPI continued to remain the appropriate benchmark for charge control purposes. Hence the control will have the RPI-X form.

3.6 In the December Consultation we asked respondents the following question:

Question 3.1 Do respondents agree that RPI is the best index for the charge control?

Consultation responses

- 3.7 BT, C&W and another respondent that commented on this issue expressed support for the use of the RPI index. BT noted the rationale for the use of RPI-X is that prices should be controlled against all other prices in the economy, and these are generally appropriately measured by RPI. Among other comments, respondents noted its transparency and familiarity; and its use historically in other regulated sectors.
- 3.8 BT and another respondent who supported RPI, offered only qualified support. Both of them raised concerns that we could be entering a period where prices, as measured by RPI, could fall. This would mean that in addition to the price reductions required by X, prices would also be required to fall by the recorded decreases in retail prices.

- 3.9 One of the respondents suggested that if BT's internal costs are not falling as quickly (or are potentially rising) and if BT has to cut prices by RPI (as well as the value of X), this could adversely impact consumers. It argued that the required price reductions might push the price of business connectivity services below that of BT's efficient competitors, which would damage investment and innovation.
- 3.10 BT argued that if RPI were negative then the value of RPI (for charge control purposes) should default to zero. It thought that many of its costs would not actually decrease in nominal terms even if RPI is negative, noting, for example:
- Its property prices have "upwards only reviews", which suggests that changes to rental or leasing costs can only occur when general prices rise;
 - Its debt is fixed in nominal terms; and
 - There are downward rigidities to its staff pay costs.
- 3.11 BT also noted the cost modelling implications of deflation. It noted that our cost modelling uses real input prices. BT argued that in a deflationary world this modelling should reflect higher depreciation (reflecting unrealised holding losses) due to falling capital asset prices. In other words, falling asset prices due to deflation would mean that the replacement cost of the assets will fall through time, which should be reflected in the charge control.
- 3.12 One respondent suggested that CPI would be a superior index for charge control purposes. It noted the use of CPI in other public policy contexts (i.e. Bank of England's inflation target and HM Treasury's reference for public sector pay awards). The respondent suggested that CPI is less influenced by cyclical changes in the economy (due, for example, to the omission of housing related costs price changes) and therefore it would provide a more stable and uniform basis to set charge controls. The respondent also argued that industry familiarity with RPI was not a legitimate reason for the use of a sub-optimal index.
- 3.13 Another respondent did not object to the use of RPI but raised concerns that we used historically published RPI figures. In particular, it referred to our proposed use of the RPI as of June 2008²⁴, which is materially different from current RPI. The respondent argued that significant delay in the introduction of the price control should allow Ofcom to estimate a more accurate RPI figure for the charge control.

Our response

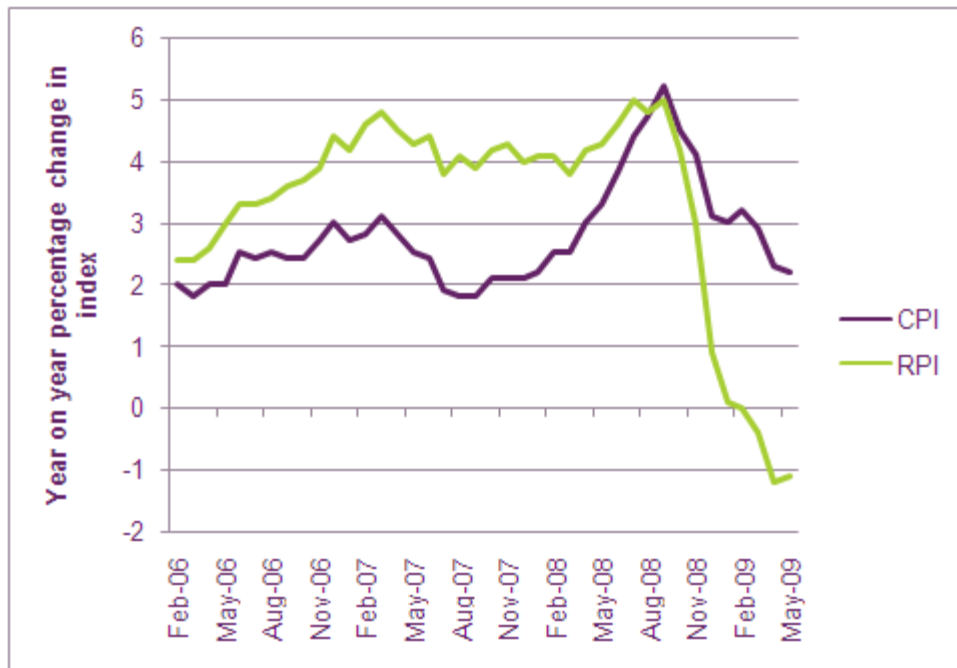
- 3.14 We have considered stakeholder comments and suggestions in detail. We set out below why we continue to believe that RPI is the most appropriate measure of inflation for charge control purposes. We also address the concerns raised by some respondents over the impact of deflation. Finally, given concerns over the use of RPI data from June, we have explained why we are proposing to keep this approach. In relation to BT's comments on the implications of deflation for our cost modelling, we have discussed this in Annex 7.

²⁴ Under our proposals, we would use the RPI figure published by the Office of National Statistics as of the June in the year in which the formula year started. Therefore, the respondent's reference to the June 2008 RPI figure relates to the first year of the control (i.e. from 1 October 2008 to 31 September 2009).

Recent movements in the RPI

- 3.15 Before discussing issues over the relevant inflation index, it is worth providing some context to this discussion. We show in Figure 3.1 below the recent movements in the RPI and the CPI.

Figure 3.1 Trends in the percentage changes of the retail and consumer price indices



Source: Ofcom, ONS data (June 2009)²⁵

- 3.16 Figure 3.1 shows that there have been some recent significant downward movements in the growth of the RPI, which declined rapidly at the end of 2008 and became negative in March 2009 for the first time since the 1960s. By contrast, the CPI has remained positive although there were more rapid increases in CPI inflation for the period October 2007 to the end of 2008.

RPI continues to be the appropriate index

- 3.17 We believe that RPI continues to be the most appropriate index for the purpose of the charge control. As noted above, many respondents supported the use of RPI on the grounds of familiarity and its established use in the past. Indeed, the Competition Commission ("CC") recently considered the use of RPI as the index for price controls in its assessment of the economic regulation of the Gatwick and Heathrow airports. Its conclusion was as follows:

"...there is no regulatory precedent in the UK for changing from the RPI index, though most sector regulators have examined the issue at some point. Most sector regulators have concluded that the value of continuing to base controls on RPI is, first, that precedent favours RPI, and secondly that significant cost items of regulated companies, such as index linked bonds which are used to calculate the cost of capital and wage settlements, are generally linked to RPI [...]. We therefore see no

²⁵ <http://www.statistics.gov.uk/pdfdir/cpi0609.pdf>

*reason to change the current approach of relating increases in charges to changes in the RPI.*²⁶

- 3.18 Only one respondent put forward arguments for an alternative index and thought that the CPI should be used, as it would be a more stable index than the RPI. It thought that the latter contains a number of price elements more prone to cyclical movements. We are not convinced that simply looking at changes in the RPI in recent months supports the argument that CPI has been a more stable index when viewed over a longer time-frame.
- 3.19 Neither the CPI nor the RPI will necessarily closely reflect BT's costs. The use of telecoms-specific cost indices is unattractive on the grounds of lack of familiarity and possible endogeneity, given BT's position as a major purchaser of telecoms equipment in the UK. Given the strong regulatory precedent and the familiarity of stakeholders with RPI, we believe that it would be a costly exercise to move to an alternative index. Therefore, we consider that there would need to be stronger arguments for such a change.
- 3.20 Historically, we have used RPI as a reasonable basis for forecasting cost inflation. This has the advantage of being reasonably well understood and widely forecast. We therefore continue to believe that, given our past use and experience of the RPI, it continues to remain an appropriate index for this charge control.

We will not differentiate between positive and negative changes in the RPI

- 3.21 BT pointed to a number of its costs that it argued would not fall as quickly as suggested by the decline in RPI. BT argued that the downward "stickiness" of its costs suggested that, if the value of RPI were negative, it would be more difficult to meet any price control and at the same time maintain a reasonable rate of return. It therefore argued that the value used in the charge control should default to zero in the event of deflation in the RPI.
- 3.22 Having assessed BT's arguments, we do not think that a proportionate response would be to set the value of RPI to zero where deflation occurs. In particular, we think that:
- As with any firm, BT has some scope to reduce its costs in response to deflation and it should be given incentives to pass these reductions through to customers. In particular, we consider that it should be able to reduce costs sufficiently when faced with modest rates of deflation; and
 - Most external forecasters attach only low probability to material and sustained deflation over the charge control period.
- 3.23 BT expressed concerns that it faced nominal rigidities downwards for its wages and other costs. It is often argued, not just by BT, that wages are less flexible downwards than upwards, but some external commentators question the assumption that wages cannot be reduced.²⁷ And at the very least, for relatively low levels of deflation, we

²⁶ http://www.competition-commission.org.uk/rep_pub/reports/2007/fulltext/532.pdf (paragraphs 3.21 to 3.22)

²⁷ For example, in the Bank of England's February 2009 inflation report (page 33) it said "*The extent of nominal wage rigidity in the United Kingdom is uncertain. The proportion of freezes in pay settlements in 2008 H2 was about twice that in 2008 H1, but the number of pay cuts remained very small. However, a recent BCC survey suggested that about 10% of companies planned to implement*

think that BT can find ways to manage its costs. For example, BT has the opportunity to re-negotiate contracts and also has control to reduce some staff costs (such as the amount of staff benefits, bonuses or overtime)²⁸. Therefore, we do not think that BT's proposal that RPI should default to zero is appropriate. Particularly for lower rates of deflation, this would not be reflective of its ability to manage costs.

- 3.24 We note that in the recent OFFR Statement (paragraph 1.20), we included an adjustment to the value of X used in that control to reflect possible bias from the use of lagged RPI figures.

"the October 2009 RPI is unlikely to provide a reliable indicator of the inflationary pressure facing Openreach for the relevant period. Specifically, the October RPI data is likely to show a much lower level of reported inflation than we consider should be used in setting the 2010/11 control due to the impact of changes in VAT and mortgage interest rates on the reported RPI. The values of the Xs set out below have therefore been adjusted to allow for this bias."

- 3.25 We concluded that these adjustments were appropriate in the context of the OFFR Statement due to the particular circumstances of that control. In particular, given the short duration of the price control and the fact that Openreach would effectively only have one year in which it was subject to an RPI-X% type control²⁹, we concluded that the risks associated with any inflation bias due to the use of lagged figures would be more significant. For the LLCC, we will use the June 2009 RPI figure for the 2009/10 formula year. So there is a risk for the 2009/10 formula year that the RPI figure used in the charge control formula will show a much lower level of reported inflation than and the inflationary pressures prevailing in 2009/10. However we do not consider that we should apply similar adjustments as were made in the OFFR Statement, because in the case of the LLCC there is more time for any distortions arising from the use of lagged RPI figures to unwind and for any bias to even out. In later years of the charge control, the lag could also work in BT's favour if the lagged RPI term is higher than the inflationary pressure that BT faces in a particular formula year. By contrast, as the current regulation of Openreach's network access services would end in March 2011, and the RPI control only applies from April 2010 to the end of March 2011, it would not have any opportunity to make offsetting adjustments in the subsequent years of a price control. Therefore, we have concluded that the adjustment we made for the OFFR Statement is not appropriate in the context of longer duration charge controls such as the LLCC.
- 3.26 However, we accept that (in the unlikely event of sustained and material deflation) there could be potential challenges to BT in managing to reduce its costs at the same rate as the decline in the RPI. As has always been the case with all charge controls, we have the option of re-opening the control where there are material risks arising of unforeseen and exceptional events. But given that we think that lower levels of deflation can be managed and that the risk of sustained and material deflation is a

nominal pay cuts in 2009. And there are other ways in which businesses can reduce their labour costs (for example, by reducing non-wage benefits)."

<http://www.bankofengland.co.uk/publications/inflationreport/ir09feb.pdf>

²⁸ Another possibility is that even if nominal wages are rigid downwards, they may lag inflation in the bounce back. So over a longer period of both positive and negative inflation wages may not exhibit nominal rigidity, but may follow the long term trend in the RPI.

²⁹ In the case of the ORFF, we have only set regulated prices for two years. In the first year, from 1 April 2009, we have fixed BT's prices in nominal terms (e.g. SMPF prices are fixed at £15.60). And in year two of this price control BT is not permitted to increase its prices by more than RPI+1%.

low probability event, we think that it would not be proportionate to adjust automatically the RPI term to zero.

We use the latest published data as of June each year

- 3.27 One respondent to the December Consultation was concerned that we might use RPI data from June 2008 as the reference point for the first year of the charge control.
- 3.28 However, as set out in the December Consultation, due to the delays in the introduction of the new controls (as discussed in Section 7), we concluded that provided sufficient reductions were made to prices before the start of the new control we would not require additional cuts. Our expectation was that BT would not apply any further nominal increases in its prices in the period 1 October 2008 to 30 September 2009. In other words, given the price adjustments occurring in the period 2008/09, we do not intend to apply the RPI-X term in this first year.
- 3.29 In Sections 4 and 5, we explain that we have now concluded that we will not require further reductions to prices in the first year, over and above our starting charge adjustments as well as the price adjustments already made by BT in 2009. And there will be no further nominal increases in its prices in the period to 31 September 2009. This overcomes the concerns of the respondent that we would be using June 2008 RPI data in the first year of the charge control.
- 3.30 For every other year of the charge control, we also think that the June figure remains appropriate. Each year will start on 1 October and will use RPI data from June of the same year (or otherwise the most recently published RPI figure prior to that date). The reason for a relatively long interval between June and the start of the charge control year in October is that it allows BT to rely on a known value of RPI (which is typically published a few weeks after the end of June). Allowing BT sufficient lead time gives it longer to consider relevant changes to its prices and still give 90 days' notice before any changes it might choose to make at the start of each formula year in October.
- 3.31 By adopting a value of RPI published in advance of the formula year, it provides BT and other stakeholders with greater certainty because both the value for RPI and the value of X are known in advance.

Our conclusions

- 3.32 We have concluded that:

- RPI remains the appropriate inflation benchmark. We have not sought to make any explicit adjustment where the RPI is negative. The value of RPI-X will also be calculated using the published RPI data as of June in each year from 2009/10 onwards.

RPI-X form of control

Our proposals

- 3.33 Under an RPI-X form of control, we would regulate BT's prices according to a price cap, in which the allowed annual increase in BT's leased lines charges are limited to the percentage increase in RPI plus or minus the value of 'X'. The value of 'X' is intended to reflect required changes in prices over and above movements in RPI.

Therefore, where BT faces a control of RPI minus a positive value of X, it would be required to make real reductions in the price of its leased lines services.

- 3.34 The overall value of X is set so that the control on BT's charges brings BT's revenues in line with forecast costs in the last year of the charge control period. BT is thereby given the incentive to outperform the charging limits imposed by the charge control. If BT is able to deliver required services at lower cost than had been forecast in the charge control determination, it can keep those realised savings for the charge control period (if a glide path is followed subsequently, then these savings may be kept beyond the price control period). Therefore, the RPI-X form of control provides BT with incentives to increase its efficiency through time.
- 3.35 In the December Consultation we asked the following question on the form of charge control:

Question 3.2 Do respondents agree that an RPI-X control is the appropriate form of charge control for the regulation of TI terminating, trunk and Ethernet services?

Consultation responses

- 3.36 Three respondents specifically commented on our proposals for an RPI-X form of control, with two expressing support. BT agreed, in general, that RPI-X is an effective form of charge control with many positive incentive properties. Another respondent agreed with the RPI-X approach, highlighting that it has good incentive properties, and that it gives the most reasonable spread of economic risk between the parties.
- 3.37 One respondent thought that price cap regulation was inappropriate, as it was likely to damage competition to the detriment of consumers. The respondent argued that price cap regulation was aimed at particular market circumstances (i.e. where a firm is a monopoly and there is scope to drive out inefficiencies (that would otherwise not be driven out due to a lack of competition)). The respondent argued that in the context of business connectivity markets such conditions do not arise:
- Whilst BT has SMP, it faces a degree of competition and it is not in a monopoly position.
 - It highlighted that BT was efficient in comparison with relevant comparator companies (it referred, for example, to the study Ofcom commissioned from NERA comparing BT to US Local Exchange Carriers). Therefore, there was limited scope for the price cap to drive out further inefficiencies arising from a previous monopoly position; and
 - The respondent also highlighted that business connectivity markets are characterised by significant levels of innovation. The use of the charge control will have the unintended effect of stifling innovation as it will make BT focus on cost savings rather than the development of new services.
- 3.38 The respondent argued that if Ofcom were to adopt a price cap, we should limit it to RPI-0% as international benchmarks show that BT is not inefficient relative to comparator companies. It argued that an aggressive negative value of X would be likely to undermine competition.
- 3.39 The respondent also argued that although it did not want to see regulation forcing prices below the efficient levels, it did think that some of BT's prices appeared to be

substantially above costs. The respondent therefore proposed that we should instead rely on the cost orientation remedy to address concerns over inefficient prices.

Our response

- 3.40 We have decided to use the RPI-X form of charge control. It is an established way to provide regulated firms with incentives to seek efficiency savings. It also provides a degree of certainty and stability to all industry participants for a defined period.
- 3.41 A particular feature of an RPI-X form of control is that it gives BT incentives to enhance its efficiency. The charge control entails forecasting expected efficiency gains over the duration of the control and determining the maximum permitted price change for particular group of leased lines services. In order to maintain its profitability on these services, BT has to make efficiency improvements to reduce its costs in line with the expected path set by the charge control. As noted in paragraph 3.34, it is the linking of prices to an exogenous benchmark (RPI) which is the key source of efficiency incentives under RPI-X.
- 3.42 In addition, the RPI-X control also provides BT with incentives to make additional efficiency gains over and above those forecast when the control is set. If it achieves these additional efficiency gains, BT would get to keep any profits resulting from these additional savings. Consumers benefit in the longer-term from this incentive mechanism, as these additional efficiency gains can be passed back to them in the form of lower prices.
- 3.43 The main alternative to RPI-X form of control is “cost-plus” regulation. Both RPI-X and cost-plus controls are set to allow BT to recover costs plus an appropriate mark-up (at least on a forecast basis). But with cost-plus regulation, charges are set equal to actual costs including a regulated rate of return in each year of the control. The key concern with this type of charge cap is that it has poor incentive properties. BT would obtain a similar profit margin no matter what level of costs it incurred. In particular, BT would have limited incentive to keep its costs under control (or to outperform the control) as it can still pass on inefficient costs to customers. Cost-plus regulation would also potentially be intrusive as detailed ongoing regulatory scrutiny of costs would be needed.
- 3.44 One respondent was concerned that although BT has SMP it faces some competition and does not have monopoly power which would justify a charge control. However, our conclusion in the BCMR Statement was that BT has SMP in the leased lines markets, which means that BT is able to act independently of its competitors to an appreciable extent. This does not mean that BT’s rivals cannot compete for wholesale customers. But our conclusions in the BCMR Statement were that there are a number of market features such as economies of scale and barriers to entry, which result in limited scope for competition. As such we did not think that this level of competition is sufficient to constrain BT’s pricing behaviour. For this reason, we have decided to impose a charge control on those leased lines markets where BT has SMP.
- 3.45 The respondent was also concerned that the focus of RPI-X type control was on securing productive efficiency gains at the expense of dynamic efficiency gains. In this respect, we are mindful that a reduction in service quality of leased lines services is one way in which BT could reduce its costs (e.g. it might be able to reduce costs by undertaking less routine maintenance of its assets). However, we note that BT has wider regulatory obligations aimed at ensuring BT maintains service standards. For example, BT has to report on its service performance based on Key Performance

Indicators (“KPIs”). In addition, it has explicit financial incentives related to the time it takes to respond to repairs and to connect new circuits. It faces penalty payments for failing to connect, repair and respond to calls with a certain period. Therefore, wider regulatory remedies on BT provide us with mechanisms to monitor service quality and to provide BT with incentives to maintain service standards. It does not follow that the imposition of the charge control would be at the expense of service quality. The regulation of BT’s wholesale charges supports competition in downstream markets and hence dynamic efficiency gains there.

- 3.46 In designing our charge control, we have also considered how to incentivise BT to adopt new technologies, where these have the potential to bring long-term savings to consumers. We have adopted a technology neutral approach, which gives BT the incentive to introduce new lower cost technologies. In addition, we have set the charge control at a level which will give BT incentives to invest (see for example our discussion of the WACC in paragraphs 3.262 to 3.269). Therefore, we have explicitly taken into account incentives for BT to introduce new and innovative new services where these are in consumers’ interests.
- 3.47 Another concern the respondent expressed was that our benchmarking study presented in our December Consultation suggested that BT was among the most efficient companies (when compared to “comparable” US companies). The respondent argued that this would suggest that there is limited scope for BT to become more efficient. The respondent was concerned that a further cap would result in BT’s costs being too low, which would undermine efficient competition.
- 3.48 We agree that we should not require efficiency gains if there was a reasonable expectation that these could not be achieved. For this reason, we have undertaken a detailed assessment of BT’s efficiency, which we discuss in Sections 4 and 5. Our findings are that we expect BT to be able to achieve efficiency gains of 2.5% p.a. for the TI Basket and 2.8% p.a. for the AI Basket.
- 3.49 However, no matter what our particular conclusions over BT’s anticipated efficiency gains are, our conclusions are that we should impose a cap on its charges. The respondent’s final proposal was to rely on cost orientation rather than charge controls. We do not think reliance on cost orientation would be sufficient *ex-ante* remedy on its own, as it is intended to complement rather than replace price cap regulation. The absence of price caps would be likely to allow BT to raise its prices significantly. In addition, a cost orientation obligation only looks at the relationship of BT’s prices to its costs. A cost orientation obligation would not for example give BT’s the same incentives to keep its costs under control in the same way that price cap would.

Our conclusions

- 3.50 We have concluded that:

- We continue to believe that the RPI-X form of charge control is the most appropriate way to cap BT’s prices.

The charge controls will expire in September 2012

Our proposals

- 3.51 We proposed a four-year duration for the charge control in light of our experience of setting other charges controls and the balance we have to strike between different

regulatory objectives. We thought that four years was long enough to give BT sufficient incentives to make further efficiency savings (over and above those required by the price cap). Our BCMR Statement, published in December 2008, covered a timeframe of up to four years, which would be consistent with the end of the charge control on leased lines. This duration it gives BT certainty that it can keep any savings it achieves for longer and at least for the charge control period. Consumers will benefit in the long-run by having these cost savings passed to them in the form of lower prices through subsequent controls or competition. The proposed four-year charge control period also reflects the fact that our charge control determination relies on forecasts of future volumes and costs. If we were to adopt longer duration charge controls, we would be concerned about the increased margins for error the further into the future we forecast.

3.52 In the December Consultation we asked the following question:

Question 3.3 Do respondents agree that a four year duration for the charge controls on TI terminating segments, trunk and Ethernet services is appropriate?

Consultation responses

3.53 BT, C&W and other three respondents commenting on the duration of the charge control generally supported our proposals, albeit with some qualifications. In commenting on the duration of the charge control, many respondents expressed concerns over the delay that occurred in the implementation of the charge control, which they argued had benefited BT to the detriment of its customers and end-users.

3.54 BT agreed with a four-year control provided that we retained flexibility in the charge control design (particularly to tackle uncertainties associated with AI services). The other respondents generally accepted that four years struck the right balance between forecast uncertainties and regulatory certainty (for BT, purchasers of wholesale products and competing operators). C&W noted that a longer control poses more risks in terms of forecast uncertainty for AI services. Two others called for a mid-term review after two years in particular to deal with the uncertainty of migration of legacy services to BT's 21CN and new Ethernet backhaul network.

3.55 Another respondent accepted the four-year duration but highlighted the importance of robust and transparent monitoring of all of the regulatory requirements within it (in particular BT's compliance with cost orientation obligations). Further, the respondent thought that Ofcom should closely track volume, usage and cost data to ensure that actual profiles are consistent with those anticipated.

Our response

3.56 In respect of the comments over the delay in the implementation of the charge control, we have summarised these points in more detail under Sections 4 and 5 of this Statement, as we asked specific questions on our approach to this issue for the TI and AI services respectively. In this Section, we consider respondents' comments over the length of the charge control, the uncertainty over the AI markets and the use of mid-term reviews.

3.57 As we proposed in the December Consultation, we have decided that the charge control should end on 30 September 2012. Our experience of setting charge controls previously (e.g. for PPCs and for the Network Charge Controls, "NCCs") suggested that this period would provide an appropriate balance between different factors:

- **Efficiency incentives:** as the charge control rewards BT for making additional efficiency savings over and above those anticipated by the charge control caps. BT's incentives to reduce costs will tend to be greater the longer the duration of the control (as it can keep the rewards for longer);
- **Passing efficiency gains to consumers:** ensuring the time period over which any efficiency gains are passed onto customers via lower prices is not too long. One concern with setting the control for too long is that the benefits of any cost savings would potentially accrue to the regulated company for a relatively long period, allowing prices to get too far out of line with costs and introducing static inefficiency;
- **Providing price certainty:** by setting controls for a fixed period, the LLCC regime can provide a period of certainty on charges. This is beneficial to BT and also to other providers when deciding, for example, whether to use BT's regulated services, to contract with third parties, or to invest in their own infrastructure.
- **Forecasting errors:** the longer the duration of the control, the greater the challenge of ensuring we obtain accurate volume and cost forecasts.

3.58 In light of our experience of other charge controls, we generally think that four year period would strike the right balance between providing sufficient incentives on BT and ensuring consumers enjoy the benefits of those efficiency gains. However, we had to delay the implementation of the charge control until 1st October 2009, so that we could resolve the issues over BT's restatement of its accounts. If we were to retain a four year control (i.e. so that the final year ran from 1st October 2012 to 30th September 2013), this would extend the charge control beyond the time-frame considered by the BCMR (i.e. beyond 2012). To retain the benefits of a longer duration control, we have therefore set the RPI-X control for three year period (i.e. from 1st October 2009 until 30th September 2012).

We think that mid-term reviews are undesirable

- 3.59 We do not accept the proposals by some respondents to conduct a mid-term review after two years. Respondents proposed this approach due to the uncertainty over forecast demand for circuits (mainly in the alternative interface market). However, we believe that the main source of forecast uncertainty relates to the migration between services within the alternative interface market. We think that a better solution is the technology neutral approach as it has a number of advantages in terms of dealing with this type of uncertainty (which we discuss in paragraphs 3.77 to 3.111 below).
- 3.60 We think that to plan now for a mid-term review, other than in exceptional circumstances, would undermine the incentive properties associated with a longer control. For example, BT is considering further investment in full roll-out of its 21CN, which potentially will provide lower cost platform for leased lines services. If there is a risk of regulatory intervention after only two years, then this might jeopardise or delay such investments and other long-term efficiency improvements that entail upfront expenditure.

Charge control monitoring and uncertainty

- 3.61 One of the respondents suggested that in adopting a longer duration control we should monitor BT's actual profits from its new investments to ensure that it is consistent with its forecasts.

- 3.62 However, we do not consider that once we have fixed the charge control that we would intervene where BT is able to achieve higher profits than forecast (when this charge control was set). For example, if BT is able to manage a faster migration of customers to its lower cost 21CN platform then this may well entail higher profitability. Provided its charges remain consistent with its cost-orientation obligations and the overall price caps, we believe that BT should be able to retain the benefits of any efficiency savings (at the very least for the duration of the charge control period). Likewise, if migration from its legacy platform is slower than expected we would not anticipate BT being able to recover those costs via higher prices under the current charge control.

Our conclusions

- 3.63 We have concluded that:

- Based on our experience of previous charge controls and considering the delay in implementation, our RPI-X charge control will last for three years until 30 September 2012.

We have adopted a technology neutral charge control

Our proposals

- 3.64 To overcome the concerns under this control over forecast and cost uncertainties we proposed a technology neutral approach. A particular forecast uncertainty faced in the period of the charge control is the possible rate of migration of BT's customers from existing legacy services to 21CN and new networked Ethernet services. As the costs of providing services using legacy and 21CN technologies could be significantly different, if we tried to set individual charge controls on legacy services and the new technologies, we would have to model accurately the expected volumes and the costs of each. However, not all of these costs of the new technologies are fully known, as BT has only begun rolling-out the technology. In addition, it is difficult to predict the way in which the new technologies will be utilised (relative to legacy services).
- 3.65 We therefore proposed a so-called "technology neutral" approach – as has been applied in other charge controls - to overcome this forecast uncertainty. Under this approach, we would apply the charge control in the same way for a particular service irrespective of the platform the service is carried over. A technology neutral approach would deal with this uncertainty by forecasting costs as if all volumes continued to be provided over a single "continuing hypothetical network". Therefore, if BT migrated, for example, a circuit from its SDH platform to an "equivalent" service over the 21CN, the charge control caps applied to the new service would not change. In addition to avoiding the need to forecast the rate of migration between the two platforms, it would also mean that we would not have to model separately the costs of legacy and 21CN platforms. Further discussion of this approach is set out in paragraphs 3.38 to 3.45 of the December Consultation and in paragraphs 3.77 to 3.111 of this section where we discuss our final conclusions on technology neutrality. In addition, we note that this approach gives BT incentives to migrate services in a way which minimises costs.
- 3.66 Even with a technology neutral approach, in certain circumstances, it may be appropriate to consider the likely migration path and the impact it will have on average price levels. Further consideration is given to this question in paragraphs 3.136 to 3.152 below.

3.67 In the December Consultation we asked the following question.

Question 3.4 Do respondents agree with our proposed technology neutral approach to modelling?

Consultation responses

- 3.68 Nine respondents (including BT, C&W, Colt, Sky, KCOM and four other respondents) provided comments on the technology neutral approach. BT broadly agreed with the proposals (subject to certain caveats). Two respondents supported the approach in principle, but one of these highlighted that Ofcom would need to assess its validity when considering setting charge controls for markets other than leased lines. The remaining respondents either had strong reservations or did not support the approach at all (mainly due to high returns that might accrue to BT under the approach).
- 3.69 BT agreed that the technology neutral approach was a reasonable way to overcome issues over forecast and cost uncertainty. BT also noted that it would provide it with incentives to migrate onto new platforms where the costs of doing so are lower than the continuing use of an existing platform. BT also stressed that its support for the approach depended on two issues. First, that we correctly model the costs of the “hypothetical continuing network”. BT argued that to derive our view of the continuing hypothetical network, we should only exclude costs BT is currently incurring in relation to its 21CN to the extent that these are “truly incremental” to that network. There may be costs associated with 21CN that BT might have incurred in any case to maintain the legacy network and not only for 21CN.
- 3.70 Second, as 21CN is a long-term investment, the period over which BT seeks to pay-back this investment may be longer than four years of the current charge control (ending in 2012/13). BT therefore argued that we should provide some assurances over our approach to (possible) charge controls for the period after 2012/13:
- Any potential upfront costs it incurs now to invest in 21CN should be recognised as a legitimate cost of service provision if there were to be a charge control beyond 2012/13.
 - BT also requested that Ofcom clarify its approach to one-off price reductions at the start of the next control. It argued that we should signal that one-off price reductions will not be imposed in 2012/13 if it had not benefited from net cost savings by the end of the current control.
- 3.71 One respondent supported the principle of technology neutrality but was concerned that that the “hypothetical network” should be correctly modelled to take into account technological progress that would have occurred in the normal course of business. It was concerned that the hypothetical network model would take a static view of BT’s current costs and fail to make adequate allowances for general technology advances that would occur in the absence of a programme such as 21CN.
- 3.72 A number of respondents considered that the technology neutral approach would entail significant potential gains for BT as 21CN and BT’s other new Ethernet services would entail significant cost reductions. One respondent did not believe that the risks associated with the new platform were very high. It noted that there were limited “technology risks” as there was nothing inherently new in the design of the 21CN, and it would not entail major changes to the way Openreach operates. The

respondent also argued that there was limited demand risk as Openreach's customers have been requesting services similar to 21CN Ethernet for several years. And Openreach's own forecasts show strong take-up of the services over the charge control period. As such, it did not think that this warranted the high returns potentially associated with the technology neutral approach. It suggested that Ofcom should consider at a minimum some form of accounting transparency to be able to understand the level of returns BT is achieving on the new services.

- 3.73 One of the respondents suggested that under other price controls, the technology neutral approach had enabled BT to reap much higher rewards than had been predicted. The respondent highlighted concern that BT will be allowed to keep cost savings arising from use of its IP investment (which the respondent suggested BT had predicted will amount to £1 billion p/a). The respondent also highlighted that newer products such as Ethernet Access Direct ("EAD") would entail using 50% less fibre capacity than currently used to deliver WES services due to the use of Single Fibre Working. It therefore thought it important that aggressive but achievable forecast efficiencies are included in the starting year charges in order to ensure CPs are not materially disadvantaged.
- 3.74 One respondent was also concerned about the potentially high returns associated with a technology neutral approach and argued that, if adopted, a mid-term review should still be conducted. It thought that this would allow Ofcom to consider adjusting the charge control should BT appear to be on track for a significant over-recovery of efficiency gains. It thought that a two-year window would allow BT to keep the efficiency savings associated with 21CN and would provide BT with the incentive to invest sooner rather than later. The respondent argued that in the absence of a mid-term review it would expect to see one-off reductions at the start of the next charge control.
- 3.75 Colt was concerned that combining new and legacy AISBO services in the same basket would significantly weaken the effectiveness of the charge control as *ex-ante* protection against anti-competitive pricing:
- BT could "game" the process by using excessive gains on some services to offset predatory pricing on other services;
 - The complexity associated with designing the charge control to deal with legacy and new services in the same basket will mean that monitoring will be difficult in practice.
- 3.76 The respondent argued that as Ofcom would only be likely to detect anti-competitive behaviour and non-compliance long after the event, the charge control will be ineffective as *ex-ante* protection against such behaviour. Another respondent expressed concerns over the difficulty of monitoring a combined control for legacy and new services. It argued for excluding the latter from the charge control and instead rigorously enforcing the cost orientation obligation.

Our response

- 3.77 We have decided to apply the technology neutral approach described in paragraph 3.64 as it has a number of significant benefits given the likely developments in leased lines markets.
- 3.78 BT is expected to continue to roll-out its 21CN network, albeit more slowly than anticipated, as well as introducing networked Ethernet backhaul under project Orchid

over the charge control period. The adoption of these new platforms has the potential to offer significant cost savings and we want the charge control to give the right incentives for BT to undertake investments (where this benefits consumers in the long run). At the same time the migration of services to new platforms poses some challenges as the costs and volume of that migration to the new platforms is uncertain. Hence, there is still uncertainty over the costs and full extent of roll-out of the 21CN and Orchid platforms.

- 3.79 There are some differences in the way in which customers migrate to the 21CN and to the networked Ethernet ("Orchid") platforms. It is likely to be the case for most services moving to 21CN that BT will take the decision to migrate customers. Indeed, any migration that might occur from the legacy network to the 21CN platform may not be obvious to the wholesale customer or the end-user at all (either in terms of the service delivered or the price that the consumer pays).³⁰
- 3.80 By contrast, we think that, at least initially, the migration for Openreach's wholesale Ethernet customers to the Orchid-based platform will be slightly different to 21CN migration. In the case of Orchid services, the decision to migrate will be in the hands of BT's customers. It is likely that Openreach will need to induce customers to move voluntarily onto the Orchid platform by offering overall price savings (i.e. Orchid-products would need to offer an overall price saving relative to the legacy products). This reflects the fact that there will be some fixed costs to a CP to aggregate legacy circuits onto aggregated backhaul single links. The CP may also have to interconnect at new Openreach network nodes to pick up traffic from the new Orchid backhaul links.
- 3.81 Under either of these migration scenarios, however, the technology neutral approach has some important incentives properties and that also helps address uncertainty over migration volumes and costs:

- **In respect of the incentive properties:**

- In some cases, BT can provide a service using either its legacy or 21CN network without the customer being aware which is used. Where BT, rather than the customer, chooses the underlying technology, the technology neutral control can then give BT appropriate incentives to use the network which minimises costs. If BT charges the same price for a particular service irrespective of the technology used to provide it, BT would have an incentive to migrate traffic to a new platform only if this is the most efficient way to provide that service.
- The charge control would reward BT when it achieved cost savings (e.g. by migrating services to the new network sooner).
- Where the customer takes the decision to migrate, as in the case of BT's new networked Ethernet products ("Orchid") the structure of the charge control would also allow BT flexibility to offer lower prices on the NGN, in order to induce efficient migration. The technology neutral approach would also permit charges for services remaining on the legacy network to continue to reflect relatively higher legacy network unit costs.

³⁰ For example, an AI service using legacy technologies will be delivered using the Ethernet protocol. If BT migrates the customer to the 21CN platform, the service delivered to the wholesale customer would still be in the same format (e.g. using the Ethernet protocol). It could be that the only difference is the platform and lower costs associated with delivering this service.

- **In respect of cost and volume forecasting issues:**

- One of main difficulties is forecasting the volumes of traffic delivered over particular platforms (e.g. leased lines traffic provided either over a legacy or 21CN networks). The uncertainty about future migration means that unit cost forecasts for individual networks could be unreliable.
- The technology neutral approach also reduces the need to determine the costs of the new network. In particular, it overcomes the problem of having to estimate, as yet, not fully known costs of the provision of “replacement” or “emulated” services over alternative platforms.

3.82 As noted in Section 2 of this Statement, Section 4(6) of the Act requires Ofcom to take account of the desirability of carrying out its functions in a manner which, so far as practicable, does not favour one form of electronic communications network, service or facility over another. We note that we have applied the technology neutral approach in a number of other recent charge controls (for example, the Mobile Call Termination Charge Control and BT’s NCC) and previously in the 2004 PPC Charge Controls. In each case, we faced similar issues over the (potential) migration of services from legacy platforms to newer platforms that are used to provide similar downstream services. In each case, we concluded that technology neutrality would give the right incentives and benefits to charge controlled firms and would mitigate cost and volume forecasting issues.

3.83 In the case of the leased lines markets, we are dealing with two main migration scenarios as explained in paragraph 3.79. For migration to 21CN products, the technology neutral approach (in which the same charge applies to a service whether provided over the 21CN or the legacy platform) would give BT incentives to migrate its customers, where this is the lower cost platform, as the charge control would allow BT to keep any savings associated with moving customers onto this potentially lower cost platform. For the migration to Orchid, the technology neutral approach still has the benefit that Openreach can manage the overall price differential it sets between legacy and new services (subject to any safeguard caps we have set on the AISBO legacy services). It will also provide BT with the incentive to migrate customers onto the lower cost network, as Openreach retains any difference between its costs and prices (which could be set up to the limits imposed by the technology neutral control).

3.84 One difference of Orchid migration to the migration to 21CN is that BT’s customers will initiate this migration voluntarily. As such, as discussed in the paragraphs above, the average price paid for the AI services may need to be lower than legacy services to induce this customer migration. We have therefore considered this issue in paragraphs 3.136 to 3.152 below, where we discuss more detailed charge control design issues. In particular, in setting the value of X, we assess whether we should take into account the benefit which customers get from these overall lower prices if they migrate to the Orchid platform.

Respondents’ concerns over the technology neutral approach

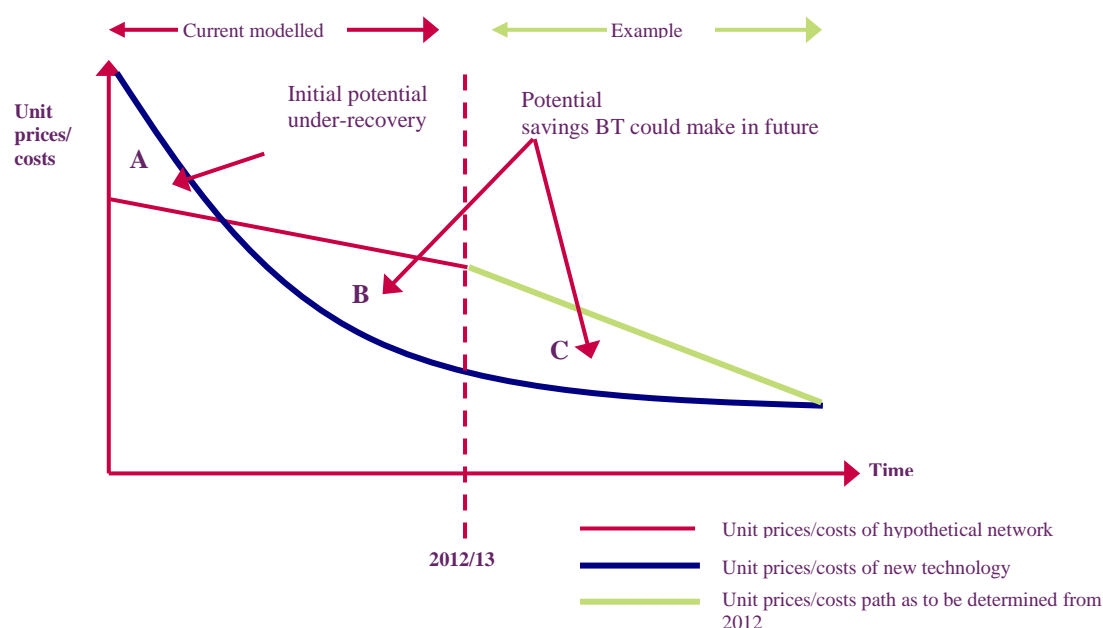
3.85 Although there was general acceptance of the incentive properties of the technology neutral approach, respondents expressed a number of concerns. There were comments on the need to model the continuing hypothetical network effectively. In addition, there were a number of concerns over the potential returns and cost recovery of BT’s 21CN investments. Finally, some respondents were worried about the competition effects of combining legacy and 21CN services in the same charge control basket. We discuss these issues in further detail below.

Ensuring appropriate modelling of the hypothetical network

- 3.86 Some respondents commented on the need to model accurately the continuing hypothetical network if we were to apply the technology neutral approach. BT wanted to ensure that we had included all costs it would have had to incur to support the predicted leased lines volumes on the hypothetical network. Another respondent stated that we should account for technological progress that would have occurred on the hypothetical network in the normal course of business.
- 3.87 In respect of BT's concerns, we discuss our specific treatment of costs in Sections 4 and 5, including how we have adjusted BT's 21CN related costs and how we have modelled the hypothetical network. However, we believe that our approach appropriately takes into account BT's concerns. For example, in Sections 4 and 5 we explain the explicit allowance we have included for future capital expenditure that would have been required to support the hypothetical continuing network.
- 3.88 Another respondent was concerned that we should account for technological progress on the hypothetical network. We think that this has been captured as part of our assessment of BT's predicted efficiency gains over the charge control period. In particular, part of our assessment of the scope for future efficiency gains looks at the past trends in BT's unit costs. Any downward trend in historical costs is likely to reflect, at least in part, the benefits of technological progress. Hence, if BT has been able to use cheaper technologies for its legacy products or new ways of providing leased lines this will be one input into our assessment of anticipated future efficiency gains for the hypothetical continuing network. We have included further discussion of our conclusions on BT's efficiency in paragraphs 4.225 (Section 4) and 5.114 in (Sections 5).

Concerns over costs and potential returns associated with 21CN

- 3.89 There were a number of concerns over the potential returns and cost recovery of BT's 21CN investments. Many respondents thought that the technology neutral approach could yield BT significant returns due to the potential cost savings associated with migration to BT's 21CN network. BT on the other hand highlighted that due to the long-term nature of the 21CN investment and the costs of running the new and legacy platforms in parallel, it may not be able to achieve sufficient scale on its investment to earn a reasonable return in the short run. BT therefore sought regulatory assurances over our long-term approach to regulating the 21CN network.
- 3.90 To aid our discussion of our views on these issues, we have repeated below the illustrative cost profile for the legacy and 21CN platforms that we used in the December Consultation.

Figure 3.2 Approach to cost recovery on new services**21CN Cost recovery in during the charge control period**

- 3.91 In Figure 3.2, we first consider the time period up to 2012/13 (when the charge control would expire). The red line shows the path for prices implied by an RPI-X charge control based on costs of the hypothetical continuing network. The path implied by the red line is assumed to be consistent with bringing prices in line with forecast unit costs (of the hypothetical continuing network) by the end of the charge control period (e.g. in 2012/13). It therefore shows our forecasts of the implied unit cost based on all customers remaining on the hypothetical continuing network
- 3.92 The blue line shows a possible profile for 21CN related costs based on volumes gradually migrating to this new service platform over the four-year period. For the 21CN, unit costs are expected to decline as a greater number of circuits are supported on BT's 21CN products³¹. Initially, however, with a lower volume of customers on the 21CN platform, unit costs may well be above those of its legacy products.
- 3.93 As shown in Figure 3.2, in the early part of the charge control period the blue line (21CN unit costs) would be above the red-line (i.e. the implied unit cost had all customers remained on the hypothetical continuing network). As BT would only be able to charge up to a maximum of the charge control (i.e. the red line), it would incur an initial accounting loss on any 21CN services.
- 3.94 However, once sufficient customers migrate to the 21CN platform, BT will be able to realise savings arising, for example, from economies of scope and scale on the 21CN platform. Hence, BT would be able to keep any additional profits associated with the savings arising from the more efficient network. These allowed retained profits are represented by Area B in Figure 3.2.
- 3.95 Respondents' concerns about BT's high returns suggest that they think that Area B could be very large and that, by the end of the charge control period, the blue line will

³¹ There is a decline in costs reflecting, for example, greater potential to exploit economies of scale and scope and the potential efficiency benefits of the new network.

be very far below the red-line. We agree that the adoption of the 21CN platform could potentially result in benefits from migrating, for example, Ethernet customers currently on dedicated fibre onto a shared IP network architecture. If BT is able to migrate customers onto the 21CN quickly, the efficiency savings that could accrue to it over the charge control period could be significant. Therefore, there is some upside benefit to BT if migration happens relatively quickly. We think, however, that this is appropriate in the light of the desirability of incentivising cost-saving investments.

- 3.96 On the other hand, if migration were slower, there is a risk that the efficiency benefits of 21CN (relative to the legacy networks) would take longer to be realised. This is the concern that BT expressed, and we have considered below the implications of a longer payback period for our approach to regulation for future (possible) charge controls.

BT's 21CN investments may require longer pay back periods

- 3.97 As stated above, for BT to recoup its investment by 2012/13, it would potentially need to offset any initial under-recovery with sufficient subsequent returns (i.e. in Figure 3.2, Area B would need to exceed Area A in present value terms). However, as discussed above, it is possible that this payback period could take longer than four years (particularly under slower migration scenarios). Therefore, for BT's investment to be viable it might require BT to continue to price above the accounting cost beyond the period of the initial charge control. BT has stated that it would require that the combined Areas B and C to exceed Area A.
- 3.98 BT has expressed concern that if BT's payback period is over a longer timeframe than the four years of the initial charge control, this creates a degree of uncertainty. In particular, in making its investments, BT requested assurances over our approach to regulating the 21CN if we were to impose a charge control from 2012/13 onwards. A particular concern is that at the start of a new charge control, we would impose immediate starting charge adjustments (for example that reduced 21CN prices to costs implied by the blue line). It would be concerned that in doing so it would not earn a reasonable rate of return it requires (potentially represented by Areas B and at least some contribution from Area C).
- 3.99 On the other hand, if as shown in Figure 3.2 we adopted a glide path approach (under the next charge control), such that prices were brought into line with costs by the end of the next control, this could potentially be consistent with BT earning its required return on these investments. This is shown in Figure 3.2 above as the green line, which shows that prices would converge to costs by the end of the control. It would also mean that the full benefits of efficiency gains of new services (e.g. on 21CN platform) would be passed to consumers by the end of the next charge control period. It could also be consistent with BT earning a sufficient return on its 21CN investments (and potentially higher rates of return depending on the costs and prices in Figure 3.2).
- 3.100 In the above example, we highlighted that BT's recovery of some of its 21CN investment might rely, in part, on long-term cost recovery. In its response to the December Consultation, BT therefore requested assurances over the approach to a possible future charge control beyond this current control. In particular, it sought assurances that at the time of the next control we would not fully regulate prices down to the unit costs prevailing at the end of this charge control period if this was not consistent with its required long-term cost recovery profile.

Further commitments for future controls are not possible

- 3.101 As discussed above, uncertainty over future possible regulation might impact on the rate at which BT proceeds with certain investments. We explain below that we cannot provide firm commitments for any prospective future charge control. However, we note below that our current general preference for glide-paths provides some comfort.
- 3.102 BT has suggested that we should offer some regulatory assurances to guarantee that we would not make any starting charge adjustments (in the context of a new charge control), where it had not recovered its costs in the current charge control period up to 2012/13. Clearly, however, it is not possible for Ofcom to fetter its discretion on future possible regulation by committing in advance to a particular charge control design³². Any decisions would have to be made, at the time, taking into account all relevant factors and in line with our relevant statutory duties, particularly in light of the interests of citizens and consumers.
- 3.103 However, we would note that when re-setting charge controls, Ofcom has, as a general principle, sought to bring prices down to cost over the duration of the charge control by means of a glide path. We have given high weight to the need to preserve efficiency incentives and we have taken into account the fact that regulating prices down to costs by means of one-off adjustments might undermine these incentives (particularly if efficiency savings rely on longer-term investments). Therefore, our preferred approach in this review has been to focus any starting charge adjustments only where there are particular regulatory concerns that might outweigh the benefits of the glide path approach.
- 3.104 One factor that we have looked at in assessing possible start charge adjustments is the overall profitability of particular services. BT should be able to take comfort from the fact that we have taken a balanced view on its profitability. High returns can be the result from innovation in new products and cash savings in new technologies not only the exploitation of SMP. Particularly where BT has been subject to a previous charge control, we have to take into account the incentive effects of a glide path relative to one-off adjustments. To encourage BT to make additional cost savings under the charge control, we accept the possibility of high profitability by the end of a charge control. In setting charge controls for a fixed duration, BT can keep those savings during the current control period and our preference is then to bring prices down to costs via a glide path at the time of the next charge control.
- 3.105 In the context of a future review of BT's charge control, BT would be able to put forward evidence to show its returns on its 21CN investment to date and its investment timeframe. Although we cannot commit to a particular regulatory approach, we would consider (alongside the views of other stakeholders) the evidence BT might provide in support of a glide path approach.
- 3.106 BT is also concerned that the current costs it is incurring now in respect of 21CN should be recognised under the next charge control. However, we cannot provide a definite view on this issue, as we will have to decide again on the scope and form of any charge control reflecting the circumstances at the time. It is difficult to provide further comment on this issue, as our treatment of 21CN costs in a future control is

³² This also assumes that BT would be found to have SMP following a further market review of business connectivity markets and that we think that some form of charge control continues to be appropriate, which may not necessarily be the case at the time of the next BCMR.

likely to be linked to decisions over the type of control we might apply (i.e. whether or not a technology neutral approach based on the legacy network will still be desirable) and hence the appropriate cost base to use.

- 3.107 As stated above, we cannot fetter our discretion over the possible approach we might take under future possible charge controls. However, we discuss in more detail the circumstances in which starting charge adjustments might be made in paragraphs 3.227 to 3.241. This may help provide further clarity on our thinking on this point. In respect of our treatment of 21CN costs in a future control as this is linked (amongst other things) to decisions over the type of control we might apply, it is difficult to provide further comment on this issue.

Potential competition concerns

- 3.108 A number of respondents expressed concern over combining legacy and new services in the same basket. We agree with respondents that the inclusion of legacy and 21CN services in a wide AI Basket creates some scope for BT to re-balance prices between the legacy and new services. This will be necessary where BT has to give users an incentive to migrate to the lower cost service. In addition, as BT has only just begun to offer new services, they could have a low initial weight in the AI Basket, so these services could initially be priced high without breaching the cap.
- 3.109 We do not think, that the appropriate response would be to apply separate charge controls on the legacy and 21CN products. There are significant risks associated with modelling the costs and volumes for each platform separately. If we modelled the costs on the legacy platform incorrectly this might deter BT from migrating customers to the 21CN platform. There is also a risk that we could force prices on the 21CN too low such that we undermine competition from efficient wholesale competitors.
- 3.110 Instead, we think that we can apply safe-guard caps on particular services to ensure sufficient protection against the competition concerns while providing the right incentives to migrate customers to the 21CN platform. We discuss in Section 5 our decisions on the design of the AI Basket. Our conclusion is that we should have specific safeguard-caps on the main legacy services to prevent BT raising the price of legacy products excessively. At this time, however, we do not think it is necessary to have safeguard caps on 21CN products, as BT should have sufficient incentives to migrate customers onto the new network as soon as possible by offering lower prices relative to legacy services so that it can begin to earn a positive return.
- 3.111 In addition to the sub-cap requirements under the AI Basket, BT's regulatory obligations require it to provide leased lines services on a cost-orientated and non-discriminatory basis which prevent BT from setting individual prices at anti-competitive or exploitative levels within a basket. We have also concluded that we will monitor the price components of WES and BES charges to ensure sufficient consistency between them, in line with BT's non-discrimination requirements. We think the combination of our charge control basket design and BT's wider regulatory obligations should therefore give sufficient *ex-ante* protection.

Our conclusions

- 3.112 We have concluded that:

- We will apply a technology neutral approach as it has a number of significant benefits in terms of incentive properties and dealing with the uncertainties over costs and volumes. Reflecting possible concerns over the approach, we have

ensured that there is adequate protection to legacy customers in the form of safeguard caps and cost orientation and non-discrimination rules.

Detailed charge control design issues

- 3.113 In the above discussion, we have set out our conclusions on the main elements of the design of the charge control, namely we will apply a “technology neutral” RPI-X form of control lasting four years. Given this overall charge control approach, we then considered in the December Consultation some more issues on the design of the charge control formula. In particular, in our December Consultation, we considered how the charge control formula should operate, so we can judge BT’s compliance with the charge cap.
- 3.114 The charge controls for AI and TI Baskets would, in each case, limit the increase in a weighted average of BT’s charges for all services within the scope of the AI and TI Baskets to a maximum of RPI-X. As each basket applies to a number of services, one issue is the weights we should attach to the price changes BT makes on individual services in each basket. These weights need to reflect the relative importance of services in the basket, and taking into account that the importance of certain services may change through time. We considered this issue individually for AI and TI services reflecting the fact that differences in these markets might justify different approaches to the charge control formula.
- 3.115 Full discussion of our proposals on detailed charge control design issues is set out in paragraphs 3.46 to 3.74 of the December Consultation. We set out in the paragraphs below respondents’ views on these issues and the detailed response and conclusions on these issues.

TI Basket charge control design

Our proposals

- 3.116 For the TI Basket, we proposed to use a similar approach to the 2004 PPC formula. We proposed to weight price changes of each service in the TI Basket by its share of prior year revenues, which was the approach used in the 2004 PPC charge control. Under this prior year weighting approach, basket weights would be set equal to the proportions of basket revenues accruing to the relevant services in the year prior to the one in which the price change occurs³³.
- 3.117 In light of our proposals in the December Consultation, we asked the following question.

Question 3.5 Do respondents agree with Ofcom’s proposal to continue to use prior year weights to assess compliance with the proposed control on charges for TISBO and trunk services?

³³ For example, if the TI Basket consisted of two services A and B. If the prior year revenue (Year 0) for service A were £50 million and for service B it were £25 million then using these weights in Year 1 would mean that service A would have double the weight of service B. So, if BT cut the price of service A by 10% and service B by 2.5% (in real terms) then the calculated weighted average price change would be 7.5%.

Consultation responses

- 3.118 Four respondents (including BT and C&W) provided comments on the use of prior year weights for the TI Basket, with three respondents expressing support and one respondent expressing some concerns over its use.
- 3.119 For the respondents supporting the proposal, one pointed to greater transparency and certainty around price cap levels. Another highlighted the inherent uncertainty in predicting demand for services, which is necessary if current-year weights are used, and saw no plausible alternative to using prior year weights. BT made similar points regarding the benefits of certainty and argued that the issue of service migration (to new services) does not have the same importance for the TI Basket compared to the AI Basket.
- 3.120 The respondent (C&W) that expressed concern over the use of prior year weights referred to its application in the mobile call termination charge controls. The respondent argued that some mobile operators have been able to use prior year revenue weights under these controls to increase their revenues in a manner that is detrimental to consumers and other operators. The respondent argued that Ofcom should assess this issue to ensure that it could not be the case for the TI Basket.

Our response

- 3.121 Reflecting the reasons we set out in the December Consultation and the general support from respondents, we have concluded that prior year weights are appropriate for the TI Basket.
- 3.122 As we explained in paragraphs 3.46 to 3.75 of the December Consultation, the use of prior year weights has some significant advantages given the nature of the TI market. In particular, the prior year weighted control relies on already published revenue information when setting prices to comply with the control. This means that BT will know at the start of each charge control year the weight the control would attach to any price changes it makes. This makes BT's task of complying with the charge control less complex and is more transparent to stakeholders.
- 3.123 By contrast, the alternative approach (using current year weights) would require BT to forecast revenues and to set its price based on expected revenues from each service. A forecast would be necessary because current-year revenues are by definition not known until the end of the price control year. This forecasting requirement would make charge control compliance more complex and less transparent. This is because we would not have a benchmark on which to compare or challenge data from BT and it might therefore be susceptible to gaming.
- 3.124 We have nevertheless sought to satisfy ourselves over concerns expressed by one respondent on the application of weights in the charge controls applied to mobile call termination. The particular concern relates to the fact that the prior year volume weights used in that control change can vary from year to year (e.g. the control uses weights based on volumes of minutes from fixed to mobile and mobile to mobile calls). This can result in higher average revenues than if we had based the charge control on within-year weights.
- 3.125 We do not believe that the specific issue associated with the Mobile Call Termination ("MCT") control referred to by a respondent is likely to arise in the case of the LLCC. In particular, issues in the MCT control related to variation in charges by time of day, and variations between years in the weights given to each time of day period, do not

arise in the case of the TI Basket formula. There is a more general concern, however, that a charge control that uses prior year revenue weights could still provide scope for gaming where the weights are erratic from year to year.³⁴ For the TI Basket the demand forecasts for these services suggest that high levels of volatility in revenue weights for the components in the basket are unlikely. The risk of gaming of the charge control therefore appears relatively small. We have in any case included a safe-guard cap on TISBO services which will limit BT's ability to raise the price of terminating segments within the overall TI Basket. We have also limited the permitted real increase in the price of individual service items in each year to RPI+5%.

Our conclusions

3.126 We have concluded that:

- The use of prior year weights for the TI control is appropriate.

AI Basket charge control design

Our proposals

3.127 For the AI Basket, given the potential for a large number of services to migrate from legacy to new services, we considered whether we needed to further develop our charge control formula. As we discussed in the paragraphs above, because the migration of customers from the legacy platform to networked services would be voluntary, BT would have to offer some inducement (in the form of overall price savings to customers). A particular concern was that the "traditional" charge control model we have previously applied to regulated leased lines services such as PPC might not adequately credit BT for offering these new lower priced services. For the AI market in particular, it may be the case that the migration to new lower priced services would have the effect of lowering the average price paid for AI services but this would not be reflected in the formula.³⁵

3.128 We invited views on whether we should devise an alternative charge control approach to give credit for the reduction in average prices arising from new service migrations. We suggested one possible approach that incorporated prior year elements (similar to the TI Basket) but with credit given to BT for migration to new, lower priced services. This could be achieved by:

³⁴ For example, if at the start of the charge control a leased lines service, ("service A") has a low prior year revenue weight then the regulated firm could increase price of that service significantly in Year 1 without breaching the price cap. This is because, using prior year weights, the price rise would not have a large weight in the calculation of the overall basket price change. In the second year, it may be the case that Service A now has a much higher revenue weight, therefore the company could not impose further price increases.

³⁵ For example, the "existing" formula only considers the weighted price change of each individual service. This means that BT would get credit for reducing the price of a legacy service (e.g. BES rental fees). In addition, if BT reduced the price of a new service (such as the price of EBD rentals) then this would contribute towards meeting the AI Basket charge cap. However, if a customer moved from BES to a lower priced EBD (and BT kept the price of both constant), as there would be no corresponding change in the price of BES or EBD there would not be any "credit" in the formula. The concern might arise that the charge control does not reflect the fact that AI customers were paying a lower price (on average). It would also be necessary to consider the extent to which the benefits of lower prices could be offset by costs incurred by customers in switching to a new service.

- first, calculating the average revenue of legacy point-to-point and new networked AISBO circuits at each relevant bandwidth; and
- second, using the average revenue change calculated from the first step as the “price” of circuits at each bandwidth, which would then be controlled by the prior year weighted control at the basket level.

3.129 Therefore, for the AI Basket, in the December Consultation we proposed to calculate first the change in the average price for the main services at each bandwidth³⁶. Then, similar to the control on the TI Basket, we would use prior year revenues to calculate a weighted average of these price changes.

3.130 We asked stakeholders the following question:

Question 3.6 We would welcome views on the merits of an average revenue control for AISBO services and on whether this could be combined with a prior year weighted price cap on the AISBO basket as a whole.

Consultation responses

3.131 There were five responses on this issue. BT supported the intent behind the proposals but thought that we could simplify the way we calculated the formula. The other respondents generally did not support the new approach or proposed their own variants.

3.132 BT supported the general objective that the AI Basket control accounts for the migration of those services to the new platforms approach by calculating the average price across the new services and existing legacy products. BT noted however that this approach would be very complex as it was difficult to track the migration and use of new services. In its response it proposed what it thought would be a “simpler” approach. Under this approach, we would calculate an average price using total revenues across all services divided by the total comparable volume of new and legacy products.³⁷ BT proposed that in addition to the overall AISBO basket control, it would provide price guarantees on all WES and BES connection and rental products such that it would not be able to increase any charge by more than RPI+5% each year.

3.133 One respondent expressed support for an average revenue control for AISBO services based on prior year weights. However, it did not support the inclusion of BT’s networked services (e.g. EBD, BTL, EAD) as it thought that these services were not necessarily direct substitutes for point-to-point services. It also thought that it

³⁶ The charge control formula would be based on a calculation of the average price of the main AISBO point to point services with the equivalent networked services at each bandwidth. For example, the formula would combine revenues from BES 100 Mbit/s services and the equivalent service customers would migrate to on the new platform (e.g. EBD 100 Mbit/s). We would then divide the total revenue by the number of circuits sold (i.e. total BES and EBD circuits) to derive an average price for a particular year. By comparing this with the average price paid for the same service in the previous year, it would be possible to reflect the savings associated with migrating a number of point to point circuits to the new networked services (as well as any price changes on individual products).

³⁷ BT proposed that we should calculate an average charge for AI services in each year based on total revenue of all relevant legacy and new services. We would then need to the total revenue figure by an appropriate volume of legacy and “equivalent” volume of new services to derive the average price paid in aggregate for all AISBO services in each year.

would be difficult to identify the point-to-point service for which a network service is a substitute. The respondent therefore suggested that Ofcom should use prior year weights but exclude new services from the relevant charge control baskets.

- 3.134 C&W did not think that there was sufficient detail to provide a view on the proposal, but it expressed concerns that our approach may result in unintended consequences.
- 3.135 Another respondent disagreed with our proposed approach as it believed that BT should not be given incentives for doing what it is required by regulation to already do. It also acknowledged the inherent difficulties in predicting the demand in particular for AI services.

Our response

- 3.136 We have decided to apply the same type of (prior year weighted) charge control formula for the AI and TI Baskets. As suggested by respondents, there are real difficulties in assessing the legacy leased lines products and their networked “equivalents”, particularly without any experience of their use. As such, we think that the change in the AI formula would present additional complexity and difficulty of monitoring.
- 3.137 As BT has now introduced charges for its new services, we have had the opportunity to assess the potential savings and BT has also provided us with estimates of the likely scale of migration to the new services. Our analysis does not suggest that the scale of potential savings or the likely migration might be as high as we first thought.
- 3.138 Given that we have concerns over the potential complexity and monitoring issues, we do not think that the benefits justify moving from our standard approach to charge controls. Nevertheless, we still think that there is merit in providing BT with some “credit” under the charge control, but we have sought to do this in a simpler way.

Difficulties associated with an average price control

- 3.139 As explained above, we proposed an alternative charge control formula that calculated the average price of the main AISBO point-to-point services with the equivalent networked services at each bandwidth. In principle, we thought that this formula would be reasonably straightforward to calculate. For example, to calculate the average price, we thought that we could compare the revenues of a point-to-point service (e.g. BES) and the equivalent networked services (e.g. EBD) and then simply divide the total revenues by the volume of circuits sold. In practice, given the wide range of new and legacy leased lines services and differences between the products, this approach raises a number of difficulties:
- **Tracking migration of products:** There is not a simple one to one mapping of legacy and new services. For example, a BES might be replaced by an EBD circuit, plus a proportion of BTL, whilst a WES might be replaced by an EBD circuit plus a proportion of Ethernet Access Direct (“EAD”) circuit plus a proportion of BTL. Therefore, this would create an additional information burden to track the migration of legacy to new products.
 - **Determining “comparable” volumes of new services and their legacy counterparts:** Due to the way that BT’s new services are provided (i.e. circuits are provided over networked rather than dedicated fibre networks) this also makes it difficult to estimate “comparable” volumes of circuits sold on the legacy

and new networks³⁸. The new networked services are broken up into individual access, backhaul and interconnection network components compared to a single dedicated point to point link on the legacy network. If we were to calculate average prices on the basis of volumes of new services sold (i.e. the individual network components) then this would result in significant overestimates of the average savings from the new network.

- **New supply:** Not all demand for BT's networked services will arise from customers migrating from legacy AI products. In some cases, there may be entirely new demand. We would have to come up with an additional approach for the sales of new services that had not migrated from legacy products.

3.140 The issues identified above highlight that it is not straightforward to calculate an average price for the legacy services, as it is difficult to determine what "equivalent" new services a customer might migrate to and the usage of those networked services by the migrated circuit.

Comparisons of potential savings and scale of migrations

3.141 Having looked in more detail at BT's forecasts and having assessed the potential costs savings associated with 21CN relative to the legacy products it appears as if the overall levels of net migration over the next four years and scale of savings might be lower than we originally thought. We have set out in Annex 2 further detail on the potential levels of migration implied by BT's volume forecasts and prospective cost savings.

3.142 Given the respondents' views and having considered changes to our "traditional" approach to the charge control, we have concerns over the potential complexity and monitoring issues. Given that there are potential risks moving from our standard approach to a largely untested charge control approach for the AI Basket, we have decided not to develop further the charge control formula based on an average current price approach.

3.143 However, we have considered below whether there are alternatives to our December Consultation proposals that could achieve the objective of crediting BT for the expected migration of legacy services to the new networked products.

Alternatives to our December Consultation

3.144 BT proposed what it thought was a simpler approach that would allow us to credit it for migration of legacy services to lower priced new services. Similar to our December 2008 proposals, BT proposed that we should calculate an average charge for AI services in each year. However, BT proposed that we do this at a more

³⁸ For example, a CP might purchase a WES product to its point of handover. An equivalent Orchid based product would include an access element (Ethernet Access Direct), a backhaul element (Ethernet Backhaul Direct) and possibly an interconnection product referred to as Backhaul Transmission Link (BTL). In this scenario, the CP migrating to Orchid-based product, that would have purchased a single point to point product (WES) would now purchase up to three Orchid products (EAD, EBD and BTL). However, in terms of calculating the average price taking into account sales of legacy and new services we could not simply divide the total revenues of WES, EAD, EBD and BTL by the total number of the individual circuits (i.e. the count of EAD, EBD, BTL). In this example, the sale of the EAD, EBD and BTL is equivalent to a single point to point service. This calculation becomes far more complex as it may be the case that a CP takes advantage of the ability to groom services more easily on the Orchid platform. So, it may use a single 1 Gigabit BTL or a high bandwidth EBD link to replace multiple lower bandwidth legacy circuits.

aggregated level. Under its proposals, we would use total revenue from all relevant legacy and new services and divide this by an appropriate volume of legacy and “equivalent” volume of new services. The difference from our proposals in the December Consultation is that, using BT’s method, we would only have to calculate the price change for this single “aggregate” average price. By contrast, under our proposals, we would have calculated the overall price change by weighting a number of individual average prices.³⁹

3.145 Although in principle the proposal would appear simpler, we do not think that this approach is desirable for a number of reasons:

- **BT could benefit or lose out due to portfolio effects:** As the calculation relies on total revenues divided by total volumes the charge control could either reward or penalise BT for changes in the AISBO product mix through time. For example, there will be a general trend towards higher bandwidth circuits during the next charge control period and, other things being equal, this will tend to increase basket average revenue per circuit. This trend would distort BT’s aggregated average revenue control (for example, increasing use of higher bandwidth circuits would tend to raise average prices even if BT kept all prices unchanged). Alternatively, the projected increase in the use of disaggregated services such as WES Local Access will tend to reduce average revenue per circuit, regardless of any changes in price.
- **The formula would still be difficult to calculate due to difficulties in determining total volumes:** The average price calculation for the AISBO basket would still require us to divide total revenues in a particular year by appropriately measured volumes. As we discussed in paragraph 3.139, determining the “comparable” end-to-end circuit volumes for new services to their legacy counterparts is not an easy task. There is not a simple one-to-one mapping of legacy products and new services. Therefore, BT’s proposals would not overcome the complexities of calculating an average price.
- **The lack of transparency associated with greater aggregation:** We would have to base our assessment of compliance with the charge cap on highly aggregated cost and revenue data. It might be less transparent and harder to keep track of underlying trends in volumes and prices. Hence, there would potentially be greater concerns over the ability of BT to game such a control. In addition, as it is also a current year weighted approach, there would still be a need to forecast revenues and correct for overcharges resulting from forecast error.

We propose to use the same approach for AI and TI Baskets

3.146 In light of the above concerns over average price controls (including BT’s suggested alternative) when applied to leased lines markets, we have decided to retain the same charge control formula for both the AI and TI Baskets. As discussed in paragraphs 3.121 to 3.125, this charge control formula has a proven track record. It would overcome the issues associated with applying the charge control to the average price of legacy and new services. Given that there are a number of uses of new services and different migration possibilities, a particular advantage of the

³⁹ Under our proposal, we calculate separately the average price of each legacy product (i.e. WES, BES etc at different bandwidths) combined with equivalent networked service. We would then weight the average change in the price of each product by its prior year weight to calculate the percentage change in the AI Basket.

“traditional” approach is that we would not have to establish the mapping of new services onto their legacy point-to-point counterparts. This is because the charge control is applied to the (weighted) average change in each charge, with the weights based on prior year revenue shares.

- 3.147 The use of a prior year weighted control for the AISBO basket does, however, raise some potential issues. In particular, BT is proposing to introduce new services within the basket during the control period. We expect there to be customer migration between the existing product portfolio and the new products. This means that there may be large movements in the revenue weights of the different services over time and this may give BT the opportunity to game the control (particularly if the relative weights change significantly). This underlines the importance of more detailed safeguard caps in particular on BT's legacy products. With this in mind, we have discussed our final views on the specific design of the safeguard caps for the AI charge control basket in Section 5.

We have decided that the charge control should contain some credit for migration

- 3.148 We believe that BT should still receive some credit for offering new networked Ethernet services at lower prices under this charge control. This is to ensure that our charge control captures in a fair way the ability of BT to satisfy any required price changes in different ways (including price savings arising from migration to new services). However, the adjustment we propose is specific to the unique migration scenario expected under the AI control over the next price control period. Therefore, we do not think that this principal should apply universally, for example, for the TI Basket and may not be appropriate in every case.
- 3.149 Without the adjustment considered here, the charge control formula we will use for the AI Basket would not directly credit the migration of customers from a legacy product to a cheaper networked Ethernet service. Instead, the formula would calculate the overall average percentage price change for the AI Basket based on the change in the price of each service individually (i.e. the change in the price of the legacy product and separately the change in the price of the new services). This means that the existing formula would only credit BT for further reductions on the individual prices of either the legacy product or the new services. It would not credit BT for the price reductions a user enjoys if it migrates from a legacy service to a new networked service). This could result in a tougher charge control being set than if the formula took those price savings into account.
- 3.150 We think that it is appropriate to calculate a credit under the charge control that reflects the fact that we would expect migrating customers to pay a lower price on average for new services. However, reflecting our concerns over complex charge control formulae, we have done this in a simple way that allows us to retain the prior year weighting approach. In summary, we have used the predicted net migration of customers to new services over the duration of the charge control. We have also calculated, using current prices, the expected savings that migrating customers would be expected to realise. Given the levels of migration and the expected average price reduction from moving to the new network, we have calculated the contribution that this migration could make towards meeting the requirements for price cuts under the charge cap. We have then taken into account the potential contribution of migration when setting the overall value of X for the AI Basket.
- 3.151 When it comes to assessing the potential price savings associated with a customer migrating from legacy to new services we have sought to ensure that the replacement services would be genuinely “equivalent” to the legacy services (from a

wholesale customer's perspective). It would not be appropriate, for example, to take into account price savings, if these were associated with deterioration in service quality. In addition, it may be the case that as a result of migrating to a new service, a wholesale customer has to incur a number of additional costs to achieve the same level of service as it received using the legacy product. We would also have to take into account these additional costs in forming our views over the average savings and an appropriate credit.⁴⁰

- 3.152 We discuss the detail of our calculations in more detail in Annex 2. In essence, the approach is to reduce the value of X by an amount equivalent to the value of the savings to customers due to migration. For example if, before adjustment, the control would have been set at RPI-5%, but migration is estimated to be worth the equivalent of a 1% cut in average prices per annum, then the control is set at RPI-4%.

Our conclusions

- 3.153 We have concluded that:

- We should apply a prior year weighted control for the AI Basket. Our proposed approach for the AI Basket formula retains the benefits of increased certainty and stability associated with prior year weights. However, due to specific circumstances in leased lines markets, we have taken into account the migration of services from legacy point-to-point services to new networked arrangements. We then adjust the value of X to reflect the savings to customers from migration, so that there is a smaller overall required reduction for the AI Basket.

AI Basket charge control design – adjustment factor

Our proposals

- 3.154 Given the proposals for the AI Basket to apply an average price control, we explained the need for a further adjustment term in our charge control (which we referred to as a “k-factor”). We only proposed this K-factor adjustment term as part of the average price control for the AI Basket. We did not propose this approach for prior year weights as the same forecasting issues would not arise in a prior year weighted control.
- 3.155 One of the implications of using average prices for the AI Basket would be that BT would have to set its prices of legacy and new services in anticipation of the migration between the two services. If outturn demand differed from BT's forecasts (e.g. migration to new services is slower than anticipated) then the average price paid by BT's customers would potentially be higher than that allowed by the charge control.
- 3.156 We therefore proposed a k-factor, which would adjust the required percentage change (i.e. the RPI-X term) in the next year of the charge control to take into

⁴⁰ Specifically, in the context of the AI Basket, we could consider the example of a CP requiring LLU backhaul and currently using legacy BES services. Under the BES service, BT would backhaul those circuits to a CP's nominated PoH. In the case of EBD services, BT's service would hand over those circuits at specific network nodes known as Openreach Handover Points (“OHPs”). If the CP is not co-located at an OHP (i.e. its existing PoH is not located in the same exchange as the OHP), then it would have to incur costs either to co-locate at the OHP or to build or buy interconnection circuits to route traffic back to its PoH. Therefore, to ensure a equivalent comparison of BES with its Orchid counterparts, we would have to include the costs of EBD plus the interconnection costs to the CP of reaching its PoH (e.g. BT's BTL service).

account any shortfall (or overrun) that occurred in the previous year. We noted that this K-factor could include an appropriate interest rate to compensate customers for being over-charged. We also considered whether stronger incentives (in the form of an additional penalty rate (on top of the compensatory interest payment) were needed. Such an approach would encourage BT to forecast accurately and to counteract any incentive for it to game the forecasting mechanism to its advantage.

3.157 In the December Consultation we asked the following question:

Question 3.7 Do respondents agree with the application of the “k factor”? We would also welcome stakeholder views on the appropriate level of the interest and penalty rates to be applied.

Consultation responses

- 3.158 BT agreed with the proposal for a *k*-factor, provided it was applied symmetrically both for over and under recovery. However, it did not agree with the application of a penalty as it thought that the cause of under-achievement could be due to factors outside of its control. It explained, for example, that CPs may well submit inaccurate forecasts of their likely demand for leased lines to BT).
- 3.159 C&W agreed with the proposal for AI services and argued that BT's WACC should be used as the relevant rate of interest and LIBOR + 4% as the penalty rate.
- 3.160 Another respondent agreed with the approach for any under or over-recovery but thought that rates of interest should only apply to any over-recovery by BT. In the final year of the control period, if BT under-recovers it should have no ability to recover those costs in the next year. If BT over-recovers then CPs should be entitled to a compensation of over payment.
- 3.161 One respondent thought that the need to introduce an additional adjustment factor underlined the fact that there were issues associated with ensuring compliance with the AI charge control. It suggested that this supported its view that cost orientation would be a better remedy. More generally, it did not support the use of the K-factor as this would affect the net prices paid for services under the price cap. The respondent thought that non-compliance with the charge cap should constitute grounds to penalise BT. It believed that if BT failed to meet its price cap obligations, Ofcom should deal with this separately (e.g. in the form of a direct fine) not by adjusting prices under the charge control.

Our response

- 3.162 As we have decided to use a prior year weighted charge control for both the AI and TI charge controls, we no longer require a specific *k*-factor for the AI Basket. Our proposal for the *k*-factor was linked to proposals to apply a charge control based on average price changes.
- 3.163 Nevertheless, some of the respondents' comments seemed to suggest a more general concern regarding the appropriate mechanisms where BT fails to comply with charge control. However, for the avoidance of doubt, the formula we propose to use for the TI and AI Basket includes carry-over provisions that deal with any over or under recovery. For example, in the main charge control baskets, namely the TI, AI, Equipment and Infrastructure and Accommodation baskets, BT will be able to carry over any price reductions it makes in excess of the requirements of the charge

control for that year. That is, if BT's average charge for these baskets at the end of the Relevant Year is lower than required by the associated RPI minus 'X' constraint, it will be able to carry over the difference into the next charge control year. This means that the benchmark for assessing BT's compliance with the control in the following year will be the level of charges BT was required to achieve, rather than the level it actually achieved. Conversely, if its average charge is higher than the required level, it has to take the excess into account in the following year. This is to give BT an incentive to bring forward price reductions.

3.164 These carry-over provisions were set out in paragraph 6.39 to 6.40 of the December Consultation and in our proposed draft conditions⁴¹. In addition to this adjustment mechanism, we would of course have to consider what action, if any, to take in terms of appropriate compensation to BT's customers in the event that BT failed to comply with its price caps.

Our conclusions

3.165 We have concluded that:

- As we have decided to use the same charge control design for the AI and TI charge controls, we no longer propose a specific K-factor for the AI Basket.

Our overall approach to modelling costs

3.166 Having described the broad framework for the design of the RPI-X control, we then explained in the December Consultation the steps we followed to arrive at our proposed ranges for the value of X for the main charge control baskets:

- Stage 1: decide on the appropriate number and scope of the charge control baskets;
- Stage 2: determine the base year costs for each basket;
- Stage 3: forecast costs forward to determine final year costs;
- Stage 4: consider the rate at which prices should converge to final year costs (i.e. via a glide path and/or one-off cuts); and
- Stage 5: calculate the final values of X.

3.167 The main issues on which we particularly invited views related to our proposed approach to establishing base year costs (Stage 2). We have set out below respondents' views and our final decisions on these key modelling issues. We then discuss in paragraphs 3.227 to 3.241 below our approach to one-off adjustments to starting charges (Stage 4).

We use CCA FAC as our cost basis

Our proposals

3.168 To determine BT's base year costs, we had to decide upon the appropriate cost basis to use. In the December Consultation we noted that BT's SMP conditions provide a useful reference point, as they require that the charges for its regulated

⁴¹ For example, draft licence conditions G4.7 and G4.8 on page 231 of the December Consultation.

services are required to be reasonably derived from the Long Run Incremental Costs ("LRIC") of providing that service allowing for an appropriate mark-up, including recovery of any common costs. However, the way in which we can arrive at a view of these costs depends on the cost basis used. There were two main methods considered:

- LRIC + Equi-Proportional Mark-Up ("LRIC + EPMU")⁴²; and
- Current Cost Accounting with Fully Allocated Costs ("CCA FAC")⁴³.

3.169 We noted that neither option was necessarily superior to the other, but we proposed to use CCA FAC, given the additional resource costs and time associated with LRIC+EPMU modelling. We noted that CCA FAC is based on audited data, so it has the benefit of greater transparency to enable us to map more easily BT's audited RFSs to relevant base year costs.

3.170 In the December Consultation we asked the following question:

Question 3.8 Do respondents agree that CCA FAC is the appropriate cost basis for setting the proposed charge controls?

Consultation responses

3.171 Four respondents commented on the use of CCA FAC approach to assessing base year costs. Three respondents supported this approach, whereas another respondent favoured the use of LRIC+EPMU.

3.172 BT supported the use of CCA FAC as it thought it provides an appropriate basis for evaluating starting charges for price controls (and enables appropriate cost floors and ceilings to be calculated).

3.173 C&W and another respondent supported the use of CCA FAC over LRIC + EPMU but one of these respondents expressed very significant concerns over the quality of the cost information being used. The other respondent argued that there were insufficient arguments in favour of the alternative of LRIC+EPMU (particularly given insufficient experience of LRIC+EPMU). Nevertheless, it requested at some point in future that Ofcom conduct analysis as to how this alternative might have affected prices during the charge control period.

3.174 One respondent did not support the use of CCA FAC as it thought it gave BT the ability to allocate common costs in its own interests. The respondent argued that the principal objective is to ensure that BT's cost base is transparent and auditable and it does not allow BT to exploit the system by unfairly allocating cost to monopoly

⁴² LRIC + EPMU approach calculates the long-run incremental costs associated with each service and then marks up these amounts to take account of BT's common costs. Using the EPMU rule, we can allocate any common costs across the different services in proportion to the LRICs of individual services.

⁴³ CCA + FAC is the approach we have adopted for other recent charge controls and takes as its starting point the fully allocated costs in BT's RFS (subject to any adjustments we decide are appropriate for charge control purposes). The RFS applies CCA (as opposed to Historic Cost Accounting ("HCA")) so provides a view of costs based on the current replacement value of BT's assets rather than the price at which BT purchased those assets. Unlike LRIC + EPMU rule, common costs are apportioned according to BT's accounting treatments in the RFS.

products and/or to products that it does not use itself. The respondent argued that LRIC+EPMU would better meet those objectives and would also ensure transparency and facilitate the monitoring of BT's compliance with its cost orientation obligations.

Our response

3.175 We have decided that the use of CCA FAC is an appropriate cost basis for the LLCC (subject to relevant adjustments) and we note that most stakeholders providing views on this issue supported its use. As stated in the December Consultation, we consider that:

- the use of CCA FAC is consistent with the approach we have adopted for other recent charge controls. We think that the LRIC + EPMU would involve a more time consuming operation where we would need to review BT's LRIC estimates for individual services and to ensure that they were an appropriate basis for attributing common costs.
- LRIC+EPMU and CCA+FAC have some similarities in that the definition of costs for both is still forward looking, unlike Historic Cost Accounting ("HCA") approaches. Charges based on forward-looking costs provide appropriate incentives for entry and investment. Both also include an allocation of fixed common costs to allow for full cost recovery.
- monitoring BT's actual financial performance on a LRIC basis is not straightforward, as wholesale service profitability information is prepared more generally on a CCA FAC basis. CCA FAC uses data that can be reconciled to the RFSSs, which are audited and are in the public domain. We also think that the CCA FAC and LRIC+EPMU should provide reasonably similar results, particularly at more aggregate levels, since the overall total of costs to be recovered is the same.

We have used CCA FAC as our starting point

3.176 One respondent expressed concern that CCA FAC allows BT discretion to allocate a greater proportion of common costs to monopoly services and reduce the allocation to more competitive services. We agree that in principle BT has an incentive to load a greater proportion of common costs into charge control services where BT has SMP (as compared to recovery of common costs from more competitive services). In addition, CCA FAC approach also provides scope within the charge control for BT to make decisions over common cost allocation.

3.177 However, we have not taken a view as to whether there is reasonable allocation of common costs between our leased lines services and services outside of the scope of the charge control. Nevertheless, taking as the starting point BT's CCA FAC allocations, we have reviewed those costs in detail. And, where appropriate, we have made adjustments to those costs, so that they provide an appropriate forward-looking view for the purpose of forecasting costs for this charge control.

Our conclusions

3.178 We have concluded that:

- It is appropriate to adopt the CCA FAC approach.

We exclude costs incremental to 21CN from the base year costs

Our proposals

- 3.179 Under the technology neutral approach to modelling, we forecast the costs of services irrespective of the underlying technology used to deliver them. To do this, we modelled the costs of a hypothetical ongoing network, which we proposed for simplicity, we would base on the costs of the current legacy networks. This meant that we had to exclude certain costs related to 21CN investment (and that BT had allocated within its accounts to leased lines markets). To ensure that our cost base only reflected the hypothetical ongoing network, we proposed to exclude any costs incremental to BT's 21CN investments (i.e. so the hypothetical network would include only the costs BT would have incurred to support leased lines demand had 21CN project not taken place).

Question 3.9 Do respondents agree with our proposal that, in principle, costs truly incremental to 21 CN should be excluded from our base year 2006/07?

Consultation responses

- 3.180 As some respondents did not support the technology neutral approach many of them did not provide further comments. However, one respondent was concerned that the approach underlined its concerns that technology neutrality would divorce the charge control from cost causality. BT, C&W and another respondent agreed with the exclusion of costs incremental to 21CN under the technology neutral approach.
- 3.181 One of those respondents agreed that where short-term costs of 21CN were higher than the 20CN equivalent then the difference should not be included. It also flagged that we should ensure that BT does not recover BT Wholesale's 21CN core network costs via Openreach's Access and Backhaul services.
- 3.182 BT agreed that the principal aim of the technology neutral modelling was to assess the costs that would have been incurred in the absence of a decision to invest in 21CN. BT argued that this means that costs adjustment should only remove incremental 21CN related costs. It also argued for an upwards adjustment to reflect any ongoing costs that would have been incurred in the absence of the NGN investment. BT proposed a method by which these notional costs could be estimated. BT also argued that indirect costs of NGN investment (e.g. the allocation of overheads) should not be removed as they are not dependent on whether the investment in 21CN is made.

Our response

- 3.183 We have decided that it is appropriate to exclude costs incremental to 21CN from the cost base. BT's comments suggested that we had not provided an allowance for the capex that would have occurred on the hypothetical continuing network had 21CN not taken place. We have set out our approach on this in more detail in paragraphs 4.129 to 4.132 in Section 4 and paragraphs 5.66 to 5.68 in Section 5.
- 3.184 BT also argued that any indirect costs of NGN investments that are currently allocated to leased lines costs should remain as these costs would have been incurred whether or not the investment in 21CN is made. We recognise that BT would not necessarily have avoided all of these indirect costs had 21CN not

occurred. Therefore, in modelling the hypothetical continuing network, we have included an appropriate level of indirect costs.

- 3.185 One respondent argued that the exclusion of 21CN costs from our charge control model highlighted that we were divorcing the charge control from cost causality. As such, it thought this further undermined the case for a charge control.
- 3.186 We do not agree. Firstly, BT's SMP would need to be constrained by a charge control, irrespective of whether the technology neutral approach was used. In addition, it is arguable that additional 21CN costs are not caused by demand for legacy services which could continue to be provided over the old platform. Lastly, our approach is internally consistent in that it does not include efficiency savings resulting from the 21CN investments.
- 3.187 We are not attracted to BT's suggested method which seems highly complex and unlikely to result in sufficient gains in accuracy to be justified. Reductions in capital expenditure relative to its long-run average could be due to efficiency savings for example.
- 3.188 In relation to the respondent's concerns that BT might be seeking to recover other 21CN related costs (specifically BT Wholesale's 21CN core network costs) via leased lines services, we can confirm that we excluded "direct" costs from our cost base. This is discussed in Annex 6.
- 3.189 Further details of our modelling of capital expenditure for the hypothetical continuing network and our treatment of indirect costs are set out in Annex 7.

Our conclusions

- We have decided that it is appropriate to exclude costs incremental to 21CN from the cost base.

We use national cost data for 34/45 and 140/155 Mbit/s

Our proposals

- 3.190 In the December Consultation, we noted that the charge control for 34/45 Mbit/s and 140/155 Mbit/s TISBO services applied to only some parts of the UK (excluding the Central and East London Area ("CELA") and in the Hull area). This reflects the findings of the BCMR Statement, where we found BT to have SMP only outside the CELA (and the Hull area). However, as BT's cost information currently only applies to the UK (excluding the Hull area), we had to identify an appropriate approach to setting our charge control for the relevant geographic area.
- 3.191 We proposed to use national cost and revenue data for all controlled services. This would mean that we would derive base year unit costs for 34/45 Mbit/s and 140/155 Mbit/s TISBO services (to set a charge control for the UK excluding the CELA and the Hull area) from BT's cost base relating to the provision of these services on average across all parts of the UK (except the Hull area, but including the CELA).

Question 3.10 Do respondents agree with the use of national costs to set the charge controls for the 34/45 Mbit/s and 140/155 Mbit/s services in the non-CELA region?

Consultation responses

- 3.192 Five respondents commented on our proposed use of national data, with two agreeing (C&W and another respondent) with the approach and three (BT, Colt and another respondent) suggesting that we should estimate cost data on a geographically de-averaged basis.
- 3.193 One of the respondents agreed it was correct to use national cost information where there was no realistic alternative.
- 3.194 BT argued that unit costs in the CELA regions were likely to be lower than the national average and that costs in the non-CELA regions will be higher than the national average. This suggests that the use of national average data will result in costs outside the CELA appearing lower than they actually are. BT argued that this could undermine its ability to meet cost-orientation and could make entry less attractive to competitors in the non-CELA market. Another respondent expressed similar concerns over the impact of nationally averaged cost data on investment incentives in the non-competitive areas.
- 3.195 Colt argued that the risks to competition Ofcom identified in the December Consultation suggest that Ofcom should insist that BT prepares geographically de-averaged costs. It argued that BT should be required to provide cost data on a disaggregated basis so that prices can reflect the different cost conditions in respective geographic markets. This and another respondent argued that BT is required to prepare such cost information by its cost orientation obligations.

Our response

- 3.196 Our final decision is that for this charge control we will use national data. We explain below the issues around requiring BT to provide accounting data to support geographic modelling. We also discuss the issues associated with applying adjustments to national data.

Geographically de-averaged accounts

- 3.197 In principle, the preferred option would be to model BT's costs based on actual geographic data for those costs in the CELA and non-CELA areas. However, BT does not currently produce audited regulatory financial data on a geographically de-averaged basis for leased lines markets. This is because we only recently published the BCMR Statement, in which the precise geographic markets for leased lines were finalised. As such, the regulatory remedies associated with particular markets, including the requirements in relation to the publication of accounting data, only came into effect when we published the BCMR Statement. Our expectation is that this accounting data will first appear in its 2009/10 accounts, which will not be available until the summer of next year⁴⁴.
- 3.198 We do not consider that further delaying the charge control to wait for this information is a proportionate option, as we already have had a significant delay to the charge control to reflect BT's restatement of its 2006/07 accounts. Moreover, it is unlikely that we could establish robust geographic cost data applicable only to those areas in which the charge control would apply in the time available. Such an approach would

⁴⁴ See section of Ofcom Statement on "*Changes to BT and KCOM's regulatory financial reporting – 2008/09 update*", published on 15 June 2009.
<http://www.ofcom.org.uk/consult/condocs/btkcom09/statement/>

create a high burden on BT's cost accounting. In particular, BT would need to identify for each cost component where local variations in unit costs were thought to be likely.

- 3.199 We would also need to assess the relative efficiency of BT's costs by geography. There would be a number of detailed issues regarding the assumptions used to forecast costs (e.g. cost volume elasticities). Therefore, we have to rely on currently available national data although there would be the option of seeking to make adjustments to this data to account for geographic variations.

Applying adjustments to national data

- 3.200 Given this high information barrier, we also considered whether we might instead use national average cost data and seek to apply adjustments to those costs to reflect likely geographic differences in costs. We could base such adjustments, for example, on an analysis of competitors' costs in the CELA and non-CELA area in order to provide a benchmark for the competitive prices. However, we considered it unlikely that we could collect sufficiently comparable data from a range of operators for the data to be sufficiently representative of geographic differences. In addition, such an exercise would also place high information burden on relevant stakeholders.
- 3.201 As we noted in the December Consultation, and as raised as a concern by respondents, there are certain risks associated with the use of national data to model BT's costs. But equally there would be risks if we were to rely on unaudited BT data or sought to undertake our own modelling of those costs. We note using as our starting point national base year data consistent with BT's RFSs may not capture some geographic differences in costs, but we think that it is a reasonable and proportionate approach.
- 3.202 To clarify why we think that the use of national data is sufficient for charge control purposes, we have considered the key issues and the impacts on competition associated with cost recovery on a geographic basis.

Specific geographic cost recovery issues

- 3.203 In the BCMR Statement, we concluded that separate geographic markets exist in a newly defined Central and East London Area ("CELA") and the rest of the UK (excluding Hull) in relation to the markets for high bandwidth 34/45Mbit/s and very high bandwidth 155Mbit/s TISBOs. The BCMR Statement concluded that BT had SMP in the non-CELA markets for both high and very high bandwidth. On the other hand, the analysis in the BCMR Statement concluded that the two CELA markets were effectively competitive and that BT did not have SMP in relation to these.
- 3.204 In light of the above, we want to ensure that, as well as meeting the overall requirement for cost recovery, the use of national data as far as possible provides the right incentives to ensure efficient recovery between CELA and non-CELA areas.
- 3.205 In the December Consultation, we considered that it was important to ensure that the following conditions were met:
- the combination of charge control in non-competitive areas and lack of control in CELA needs to be consistent with cost recovery taking all areas together;
 - it needs to be consistent with fair and efficient competition in the competitive area; and

- it needs to be consistent with the protection of consumers in the non-competitive areas.

3.206 We have, therefore, assessed below each of these points to ensure that our approach does not distort competition, which was the main concern raised by respondents.

Consistent with cost recovery taking all areas together

3.207 In the longer term, if competition intensifies significantly in London, BT might lose further market share, and hence contribution to recovery of common costs in the CELA, but would not be able to recover fully additional common costs in the non-CELA area because of the charge control. There is a risk therefore that the use of national cost data to set charges for non-CELA services might become inconsistent with overall cost recovery. However, such a risk would only be likely to materialise if there was a significant further reduction in BT's market share within the CELA. Based on our discussions with stakeholders as part of the BCMR regarding their investment plans, we think there is a low risk that much deeper competition for SDH/PDH markets will materialise such that BT's market share will be reduced significantly.

3.208 An additional reason why the risk of further significant market share loss may be low is that deregulation will give BT greater freedom to compete effectively. Greater pricing freedom should enable it to make greater revenues in the CELA than in the previous charge control period, when, despite facing increasing competition, it remained subject to charge control regulation. We therefore believe that there should not be a need to increase the revenues BT is allowed to earn in the non-CELA market in order to recover more common costs there, at least unless competition increases markedly and unexpectedly in intensity in CELA.

3.209 We therefore think that the use of national cost data for the purposes of modelling costs within non-CELA areas is consistent with cost recovery (taking all areas together).

Fair and efficient competition in the competitive area

3.210 The effect of de-regulating the CELA is that it provides BT with greater scope to respond to competitive pressures for example through bespoke pricing of wholesale services. Even if prices were to fall in the event of deregulation, this could still mean that BT's sales in the CELA would be making a greater contribution to overall cost recovery. For example, pricing freedom could allow it to increase its market share such that any price reductions in response to competition should be profitable.

3.211 The cap on charges for non-CELA services will also ensure that BT cannot offset any price reductions in the competitive areas through higher charges for non-CELA services. This is an important point as competing operators with smaller geographic reach cannot recover common costs outside the competitive area in London. Deeming that BT should be able to recover a reasonable share of its common costs in London should therefore allow fair competition in this geographic market. Otherwise, BT could undermine competition in London and leverage its market power from the rest of the UK.

Protection of consumers in the non-competitive areas

3.212 One concern is that BT might seek to recover costs common to CELA and non-CELA areas within the non-CELA area only. The concern would be that BT might reduce

CELA charges by loading its common costs into the non-CELA area. This concern can be addressed by setting a charge control on the basis of national average costs, including an average rate of common cost recovery. Customers in the non-CELA will be no worse off than under the current national control, as prices would not then be higher in this area simply as a result of differential rates of common cost recovery.

We do not consider there to be a high risk of competition being undermined in the non-competitive area

- 3.213 Some respondents, including BT were concerned that the use of national data would result in us underestimating the costs in the non-competitive areas – which could undermine competition in those areas. However, for the reasons set out above, we do not believe there is currently a need for prices outside the CELA to rise to recover a greater proportion of common costs there. This could be unfair to users of BT's wholesale services in the non-CELA area, and tend to give BT an advantage over its competitors in the more competitive CELA.
- 3.214 It is worth remembering that the purpose of the cost data is to establish BT's cost base and to forecast costs in order to inform the choice of an appropriate value of X for a large basket including low bandwidth TISBO and trunk services, which are supplied in national markets. In revenue terms these account for a much higher proportion of the TI Basket than 34/45 and 140/155 Mbit/s services (for which the CELA has been found competitive). Therefore, even if we were to understate the costs of the latter, this would have only a very small effect on the basket X. Any risk to competition outside the CELA from such understatement is likely to be very small therefore.

Our conclusions

- 3.215 We have concluded that:

- Using national cost data would provide a reasonable basis for modelling costs in the charge controlled non-competitive areas.

Principles for making one-off adjustments to start charges

Our proposals

- 3.216 In the December Consultation, we discussed the principles that should inform how quickly BT's price should converge to its costs. We noted that one of the features of price cap regulation is that profits may diverge from the level expected at the time when that control was first set. An important issue when we come to reset the value of X in the next price control review is how we adjust for any such divergences between prices and costs.
- 3.217 We noted that one way in which this adjustment can occur is via one-off reductions in prices, which could bring the firm's prices into line with costs in the first year of the new control. The main alternative is a "glide path" approach, which would set the control so that the firm's prices are brought into line with costs by the end of the price control period. We also noted that a combination of smaller one-off reductions and glide paths was also possible.

Our general preference was for glide-paths

- 3.218 We explained in our December Consultation the circumstances that might warrant either of the two approaches. We expressed a general preference for glide paths as it approximates more closely (than one-off reductions) to the workings of a competitive market in which excess profits are gradually eroded as rivals improve their efficiency. The glide path approach generally also has greater incentive for efficiency, as it provides greater comfort to a regulated firm that in seeking to make any cost savings that these savings would not be eroded immediately at the start of the next charge control.

We explained why we might consider one-off adjustments

- 3.219 We explained, however, that some starting charge adjustments can be justified where there are strong efficiency arguments for bringing prices in line with costs sooner. We highlighted that if prices are markedly out of line with cost, we may want to mandate one-off reductions. In particular, if prices are very high relative to costs, and especially if this could distort entry decisions or downstream competition, this may justify price reductions sooner. We thought however that there could be a stronger case where services had not previously been charge controlled and the high profitability was reflective of market power, rather than past efficiency gains made under a price cap.

Alternatives to mandated one-off reductions

- 3.220 We noted that in assessing possible one-off reductions, we would need to balance this against alternative (and potentially more proportionate) regulatory approaches. For example, we highlighted that BT could potentially achieve any price adjustments voluntarily without us having to mandate these through one-off reductions.
- 3.221 In the December Consultation, we explained that we had asked BT to put forward proposals for adjustments to some of its main AI and TI charges to bring them in line with appropriately measured LRIC floors and ceilings (conventionally used as a first order test of cost orientation). We were minded not to require any further one-off changes when the proposed charges were introduced. However, we proposed that we would require BT to bring all of its prices within appropriately measured floors and ceilings with 12 months. We noted that the onus remained on BT to meet its regulatory obligations in this respect.
- 3.222 Full discussion of the principles to one-off adjustments was set out in paragraphs 3.117 to 3.137 of the December Consultation. In addition, we discuss in Sections 4 and 5 our specific proposals and final decision in respect of one-off adjustments to start charges for AI and TI services.
- 3.223 There was no specific question asked on the general principles applied when considering one-off reductions, but, aside from particular questions, stakeholders were invited to comment to the December Consultation in its entirety.

Consultation responses

- 3.224 Many respondents did not comment directly on our general principles. However, a number of respondents were concerned about our specific proposals where prices were currently outside of LRIC floors and SAC ceilings. Respondents did not agree with our requirement that BT bring prices within appropriately measured floors and ceilings within 12 months. In particular, many respondents believed that any prices

that are outside of floors and ceilings should be adjusted immediately in the form of one-off adjustments. One respondent highlighted for example that it would be wrong to allow BT to continue to price above ceilings potentially for a whole year. It highlighted that charges above SAC would be a strong indication (in Competition Law terms) that prices are excessive and, as such, would constitute an abuse of a dominant position.

- 3.225 Respondents raised specific concerns over WES and BES prices at higher bandwidths, which they considered were excessive, even after Openreach's recent price reductions. Some respondents pointed to the connection charges for the same products being below their LRIC floors.
- 3.226 BT provided a detailed Annex to its response setting out a number of concerns regarding our proposals to require it to bring its prices within appropriately measured floors and ceilings within 12 months. In summary, BT raised particular concerns with the proposal:
- It suggests an "absolute" pricing rule for all of its services, such that no objective justification could then be given for prices to be outside of the floors and ceilings;
 - The available DLRIC/DSAC measures should be recognised as imprecise and not a valid basis for an absolute cost-orientation rule; and
 - If the cost-orientation rule were applied in this way going forward there would also be practical implementation issues and risks that need to be addressed.

Our response

- 3.227 In terms of the principles underlying any assessment of one-off adjustments to start charges, we explain below that:
- we have retained a general preference for glide paths;
 - we will require some one-off reductions for some of BT's charges where there are clear efficiency arguments given the differences between prices and costs and
 - we recognise that cost orientation issues are not within the scope of the LLCC.

We have retained a general preference for glide paths

- 3.228 The benefit of the glide path approach is that it approximates to the workings of a competitive market in which excess profits are gradually eroded as rivals improve their own efficiency. It also leads to a more stable and predictable background against which investments and other decisions may be taken by market players. This is particularly important for telecoms as there are now many suppliers besides BT.
- 3.229 The approach generally also has greater incentives for efficiency as it allows firms to retain the benefits of cost reductions for longer. The key difference between price control and rate of return regulation in terms of their incentive properties arises from longer regulatory lag in the former. This means that cost reductions feed into price reductions only after a period during which the firm receives the benefit of increased efficiency. One-off reductions to prices would reduce the effective regulatory lag (i.e. it would be limited by each four-year charge control) and hence it reduces the incentives to reduce costs.

- 3.230 In addition, one-off adjustments would create a particular distortion to the incentives to the firm near the end of a price control period. If the gains from increased efficiency were always taken away in the first period of the new cap, there would be little incentive to efficiency towards the end of a control period.
- 3.231 Whilst the above discussions relate to one-off cuts to prices, one-off increases would similarly raise concerns about incentives for efficiency. Allowing a rapid rise in charges (i.e. via one-off price adjustments) would signal to BT that cost increases would quickly be followed by price rises. Therefore, if cost increases resulted in swift price increases this could reduce the incentive to control costs. Indeed, one-off adjustments upwards could create an expectation that other one-off adjustments – up or down – will be made in future, and this could also have adverse effects on incentives.

We will require some starting charge adjustments

- 3.232 In light of respondents' views to the December Consultation, we have further considered the case for some one-off adjustments. Our detailed assessment is set out in Sections 4 and 5. In assessing whether there is a case for further starting charge adjustments we have considered:
- the main BT services within the AI and TI markets and we have also reviewed any charges highlighted by respondents as of potential concern;
 - where the starting prices are significantly out of line with costs, whether efficiency concerns suggest that starting charge adjustments would be preferable to a glide path.
- 3.233 Our conclusion in Section 4 is that no further starting charge adjustments are required for the TI Basket. In Section 5, we conclude that we should impose certain starting charge adjustments for certain services in the AI Basket. In reaching this conclusion, we have taken into account respondents' concerns over WES/BES pricing at higher bandwidths and concerns that Ethernet connections charges were apparently below individual LRIC floors.
- 3.234 For Openreach's AI services, the price changes it introduced in February 2009 are sufficient in most cases for further one-off cuts not to be required. However, in line with respondents' comments, we consider that BT's adjustments do not go far enough for higher bandwidth BES services. Thus, our conclusion in Section 5 is that we should apply further reductions to Openreach's 1 Gbit/s BES rental prices.

BT's AISBO prices still appear significantly above its costs

- 3.235 In Section 5, we explain our assessment of WES and BES charges. We explain that in considering possible start-charge adjustments, we have looked at BT's rental and connection costs (for each WES and BES service) together as:
- these charging elements fall in the same economic market;
 - BT's wholesale customers would necessarily consume rentals and connection services together in order to use a WES or BES service; and
 - it is not always clear what the optimal structure of charges is, and what the balance should be between up-front (connection) and recurring (rental) elements for efficient recovery of costs.

- 3.236 We have therefore assessed, separately for each WES and BES services, the combined rental and connection costs relative to the revenues associated with those rental and connection charges. We made this comparison over the typical expected life of a wholesale contract. Based on this comparison, we considered that BT's revenues were well above the costs of provision.

There were different views from BT and other respondents on cost orientation

- 3.237 We have focussed our starting charge adjustments where there is most obviously a risk of distorting investment decisions. Nevertheless, it is clear from responses to our December Consultation, that there are significantly differing views on the link between starting charges and cost-orientation.
- 3.238 Many other CPs suggested that prices should be within floors and ceilings at all times and hence prices outside of cost floors and ceilings would not be cost orientated. On the other hand, BT expressed concerns regarding our proposals to require it to bring its prices within appropriately measured floors and ceilings with 12 months. It thought that this created a stricter and more absolute test of cost orientation and which raised implications for how this test would be applied going forward.
- 3.239 In the December Consultation, we thought that one way we could ensure that BT's prices would be consistent with cost orientation would be to include an explicit requirement to bring prices in line with appropriately measured DLRIC floors and DSAC ceilings within 12 months. We note that BT thought that this went a lot further than its cost orientation obligations necessarily require. On the other hand, respondents viewed this as giving BT a "grace period", which would effectively undermine the requirements of its cost orientation obligations. The respondents thought that any price adjustments should occur immediately (i.e. via start charge adjustments) where they are out of line with floors and ceilings.

Issues regarding cost orientation are not within the scope of the LLCC

- 3.240 For the leased lines charge controls, we have focussed on those services where stakeholders have raised specific concerns and where we can see a clear case for starting charge adjustments rather than a glide path. However, the onus rests with BT to ensure that each of its individual charges is cost orientated.
- 3.241 In formulating the starting charge adjustments for AI services (as discussed in Section 5, paragraph 5.90) we have taken an initial view of how BT would be required to comply with its cost orientation requirement. This is not a definitive position in relation to BT's compliance with its cost orientation obligation, but it does reflect our interpretation of the requirement based on the information currently available.

Our conclusions

- 3.242 We have concluded that:

- We have retained a general preference for glide paths; and
- We will require some one-off reductions for some of BT's charges where there are clear efficiency arguments given the differences between prices and costs.

Our position on other issues

3.243 There were some other important proposals we made in respect of our cost modelling and approach to the charge control, in particular:

- **Weighted Average Cost of Capital:** we had to decide what the relevant value(s) of BT's WACC should be for AI and TI services.
- **Approach to term and geographic discounts:** We asked respondents how we should treat certain price discounts BT was currently offering (or was proposing to introduce) under the charge control.

3.244 We discuss these two final issues in the remainder of this Section.

We apply the same WACC to TI and AI Baskets of services

Our proposals

3.245 Under our charge control we typically set the value of 'X' so that the value of BT's rate of return projected for the last year of the charge control is equal to its weighted average cost of capital ("WACC"). Therefore, we had to decide what the relevant value(s) of BT's WACC should be for AI and TI services.

3.246 In the December Consultation, we proposed to use the same WACC in setting the charge controls for TI and AI services. We proposed to use information from the detailed studies we conducted on BT's WACC for the OFFR consultations.

3.247 In the OFFR Second Consultation, we proposed to amend Openreach's WACC to a value between 9.25%-10.75% (pre-tax nominal). As a result, the estimated range for the WACC for the rest of BT (including core networks) was 10.25%-11.75% (pre-tax nominal). In the December Consultation, we were of the view that TI and AI services should not be classified with BT's "access" network for the purpose of assessing risks levels. We therefore proposed to apply the range proposed by the OFFR Second Consultation for the "rest of BT" rate, i.e. 10.25% to 11.75%.

3.248 However, noting some possible differences between AI and TI markets, we also highlighted that we would consider evidence provided in response to the consultation as to whether to allow a higher WACC on AI services. In the absence of information from respondents, we explained that we would be minded to apply a similar WACC for both AI and TI services.

3.249 In the December Consultation, we asked the following question:

Question 3.11 Do respondents agree with our proposed ranges for the WACC for TI and Ethernet services?

Consultation responses

3.250 Seven respondents provided comments on our proposed approach to BT's WACC, BT and another respondent thought that we should apply higher overall values across both the AI and TI markets. Three respondents did not support the use of the "rest of BT" WACC. Another two respondents explained why they thought we should use a lower WACC.

- 3.251 BT did not agree with the proposed WACC for either TI or AI services. It considered that the range proposed in the ORFF by Ofcom for the WACC was too narrow and that the use of the mid-point of this range was not in keeping with the practice of the CC, nor with Ofcom's previous practice. BT urged us to make a thorough assessment of the evidence it set out in its submission to the OFFR Second Consultation, which it considered justified a WACC considerably above the mid-point of the proposed range.
- 3.252 C&W expressed concern that a key component of the WACC was the risk-free rate. It was concerned that we could overestimate this value due to uncertainty over our inflation assumptions.
- 3.253 Two respondents (C&W and another) were concerned over the use of the "rest of BT" WACC rather than the lower Openreach specific WACC. One of those respondents believed a WACC of 6.3% - 7.4% for Openreach's Core Rental services was appropriate. The respondent noted that the appropriate return for leased lines was probably higher, due to higher risks in the market, but it thought this risk premium would only justify increasing the WACC by between 1-2%. The other respondent thought that TI and AI costs are heavily driven by duct costs, which is shared with the copper access used in LLU. The lower speed TISBO services use the same copper access and the respondent thought that the risk associated with fibre deployment (i.e. for AISBO or higher speed TISBO services) would be no greater than it is for copper. It suggested instead that we apply the Openreach WACC of 9.25%-10.75%.
- 3.254 One respondent thought that there was a relatively low level of risk associated with delivering leased lines services. It referred to BT's work on PPC payment terms where BT has presented its PPC business as inherently stable and with low risk of bad debt. The respondent argued that the low provisions for bad debt; the small number of customers to support; the established product design; and the stability of revenues pointed to the WACC being at the bottom or below our proposed range. Similarly, the respondent thought that the WACC for AISBO should be at the lower end of the range due to the high uptake of AISBO over the past 3-4 years, the fact that Ethernet services were now established products and the limited threats to BT's market share in access and backhaul.
- 3.255 Sky argued that uncertainty on the deployment of Next Generation Access ("NGA") did not support a differential WACC for AI services. It referred to Ofcom's recent statement on NGA that had indicated that we would allow BT greater pricing flexibility in respect of NGA services. The respondent argued that this pricing flexibility negated any requirement for a higher cost of capital intended to reflect possible risks associated with using LLU-backhaul products entirely or partially to convey NGA data. The respondent argued that where Ethernet circuits are being used for current and next generation broadband, it may be impractical to apply differential charging. It considered that it would be more practical for BT to recover NGA costs through access related NGA components as opposed to backhaul. Even if one could make an argument for a higher cost of capital, applying it against all Ethernet services (in a manner proposed by BT) would entail recovery of NGA costs from other unrelated services.
- 3.256 One respondent agreed that the "rest of BT" rate should apply, but argued that we should revisit the absolute values applied. It thought that volatility in the financial markets and credit shortages suggested higher values for the WACC. In particular, it suggested that recent calculations of BT's equity beta would result in a higher

WACC. The respondent urged us to reconsider the range to ensure BT a reasonable return and so as to not deter future investment by its competitors.

Our response

We estimated BT's WACC across different parts of its business

- 3.257 Our general approach to estimate the WACC uses the capital asset pricing model ("CAPM")⁴⁵. As set out in the OFFR Statement, the resulting value for Openreach's pre-tax nominal WACC applicable to its WLR and MPF services is 10.1%. The relevant value for the pre-tax nominal WACC for the rest of BT is higher, because these services are higher risk (reflected, in the CAPM framework used, in a higher beta value). The resulting value for the WACC for the rest of BT is 11.0%.
- 3.258 Our final conclusions for the values of WACC, and the range of estimates of underlying parameters from which they are derived, are summarised in the table below (taken from the OFFR Statement).

Table 3.1 Final value for Weighted Average Cost of Capital for BT

	<i>Openreach</i>	<i>BT Group</i>	<i>Rest of BT</i>
<i>Equity Risk Premium</i>	5.0%	5.0%	5.0%
<i>Equity Beta</i>	0.76	0.86	0.96
<i>Risk-free rate</i>	4.5%	4.5%	4.5%
<i>Debt premium</i>	3%	3%	3%
<i>Pre-tax nominal WACC⁴⁶</i>	10.1%	10.6%	11.0%

Source: Ofcom, A new pricing framework for Openreach, May 2009

- 3.259 In arriving at these values, we had, amongst other things, regard to Section 3(4) (d) of the Act which requires Ofcom to have regard to the desirability of encouraging investment and innovation in relevant markets when exercising our duties. Our duty to promote competition under Section 4 of the Act was also an important factor we considered. The ranges proposed for the WACC are intended to allow a reasonable return on investment and to encourage future efficient investment, in line with Ofcom's statutory duties.

Our approach is to use the "rest of BT" WACC for the LLLC

- 3.260 We explain below why we think that the cost of capital appropriate to BT's current portfolio of TI and AI services should be the "rest of BT" rate of 11%.
- 3.261 A separate question is whether the actual values estimated for the WACC for the "Openreach" and "rest of BT" rates are appropriate, but we have not addressed this issue in detail in the LLCC as this discussion and analysis is contained within the OFFR Statement.

⁴⁵ http://www.ofcom.org.uk/consult/condocs/cost_capital2/statement/

⁴⁶ We consider it prudent to round our range estimates of the WACC to the nearest 0.5%.

We think the “rest of BT” rate captures the risks associated with leased lines markets

- 3.262 We are of the view that neither the AI Basket of services nor the TI Basket of services should be regarded as similar to BT’s access network for the purposes of an assessment of risk levels, even though AI services are provided by Openreach. Since the retail leased lines services from which the demand for these wholesale services is derived are mostly used by SME and corporate customers, future demand for these services, particularly in the case of the demand for new circuits, is likely to be more closely correlated with the economy-wide level of economic activity than other access services. This view is in line with our conclusion in *“Ofcom’s approach to risk in the assessment of the cost of capital”* (“2005 Cost of Capital Review”) in 2005⁴⁷.
- 3.263 As noted above only one respondent explicitly advocated the use of the “Openreach” rate. In supporting this view, it highlighted that there are costs that are similar between on the one hand, TI and AI services and, on the other, Openreach’s main access services such as LLU and WLR. The respondent thought that access-related costs would form a relatively large proportion of BT’s costs of delivering leased lines and will use a number of similar cost components to Openreach’s main access rental services such as duct and copper.
- 3.264 We note that unlike Openreach’s LLU and WLR access-based services, leased lines services also require additional backhaul and, in some cases, trunk capacity, which are a significant proportion of the end-to-end costs of providing leased lines. However, even if access elements form a large part of the costs of wholesale services, we think that the important issue is that there are different levels of risks associated with delivering services to different markets. Openreach’s core access services are primarily WLR and MPF services used, in the main, to deliver narrowband and asymmetric broadband to residential customers. On the other hand, BT’s PPC and AISBO service customers ultimately use wholesale leased lines services to deliver services to SME and corporate customers, as well as more generally (in the case of BES) to provide broadband services. And as stated above future demand for new circuits is more likely to be correlated to economic activity, whereas other access services are less sensitive to those changes. Therefore, it is mainly the nature of the demand for leased lines products (derived from downstream markets) that lead us to use the higher “rest of BT” rate for leased lines.
- 3.265 Following from the above, our view is that the cost of capital appropriate to BT’s current portfolio of TI and AI services should be the “rest of BT” rate. We have therefore selected the value of 11.0% consistent with the conclusions of the ORFF.

We have not seen additional evidence to support a higher differential WACC for the AI market

- 3.266 Another question we posed in the December Consultation was whether to apply exactly the same WACC rate for the AI and TI Baskets. In the December Consultation, we noted, for instance, that in the next charge control period, BT may invest in AI backhaul capacity specifically to support super-fast broadband services. This investment may be subject to higher than normal risk because of uncertainty over future demand for these services. We noted that if this demand does not in fact emerge, there was a potential risk that the additional investment may be “stranded”. We therefore invited views as to whether we should allow a higher cost of capital for these investments.

⁴⁷ http://www.ofcom.org.uk/consult/condocs/ppc_charge_control/statement/ppc_stmnt.pdf

- 3.267 In the December Consultation, we placed the onus on BT (or other respondents) to justify use of a higher project-specific cost of capital on a case-by-case basis. However, in its response, BT did not make any arguments for a differential rate for the WACC for AI services (when compared to TI services). The only respondent that provided specific views on this issue did not think that uncertainty on the deployment of NGA supported a case for a differential WACC for AI services.
- 3.268 As we explained in the December Consultation, we thought that there should not be a different (i.e. higher) cost of capital for the AISBO basket in the next charge control period, for the following reasons:
- It is unclear that investments in AISBO markets to support super fast broadband services will be significant in this period, since NGA roll out will still be in its early stages.
 - A higher cost of capital based on the above arguments would need to be accompanied by high volume growth assumptions, to reflect the growth of super-fast broadband services. We do not believe that this is reflected in our base case volume forecasts.
 - To quantify any adjustment to the WACC, we would require an estimate of the share of the AISBO asset base which is related to super fast broadband, and the extent to which the risk associated with super-fast broadband is higher than allowed for in the standard cost of capital (for the "rest of BT").
 - Backhaul capacity on an NGN can be expanded at relatively low marginal cost, which reduces the potential cost impact of forecasting errors. To some extent network upgrades and incremental bandwidth can also be provided in response to increasing demand, particularly where this increase is gradual.
- 3.269 Given the above arguments and the fact that no respondent provided any evidence in support of another specific rate being more appropriate, we have therefore concluded that a differential rate should not be applied for the AI and TI Baskets.

The cost of capital estimates in the OFFR Statement

- 3.270 The remaining comments on the cost of capital reflect points that relate to the approach and the cost of capital modelling in the OFFR Statement. BT's concerns (in its response to the OFFR Second Consultation) fell into two main areas:
- **Differences to the CC's approach:** BT thought that our approach to modelling the cost of capital differed to that used by the CC and the Civil Aviation Authority ("CAA") to set charges for airport use, resulting in a lower cost of capital both for Openreach and the rest of BT rates. It thought that our approach did not make an explicit allowance for the potential asymmetry in welfare losses arising from dis-incentivising investment versus allowing some excess returns.
 - **Parameters used to estimate the overall cost of capital:** In BT's response to the December Consultation, it referred to its submission to the OFFR Second Consultation, which contained a number of detailed points on the parameters used to model our BT's WACC.
- 3.271 We consider below that these issues have been addressed in reaching our conclusions. We have therefore set out below a summary of the OFFR Statement, including why we think that our modelling approach is consistent with the CC.

Comments on the parameters used to estimate the cost of capital

- 3.272 Annex 8 of the OFFR Statement has considered in detail BT's and other respondents' views on the parameters and assumptions underlying the modelling of the cost of capital. Therefore, to the extent that BT commented on modelling parameters in its response to the OFFR Second Consultation, we considered those issues in reaching our conclusion on the WACC in this Statement.
- 3.273 However, a number of other respondents raised specific points in their response to the December Consultation that also relate to the modelling of parameters in the OFFR Statement. We have not revisited the approach or assumptions of the OFFR Statement here, but we include in Table 3.2 below references to the relevant parts of Annex 8 of the OFFR Statement that address those points.

Table 3.2 Respondents' views and approach in Openreach Financial Framework Review

Modelling parameter	Respondents' specific comments in LLCC	Summary of ORFF conclusions	Reference
Risk-free rate	Respondent was concerned that we had overestimated the risk-free rate due to uncertainty over our inflation assumptions.	We assume a forward-looking real risk-free rate of 2% (based on observed financial market data on average real gilt yield, which have moved within a narrow range of 1.9 – 2.1% over the last 6 months, 1 year, 2 years, 3 years and 5 years).	Annex 8, paragraphs A8.90 to A8.109
Equity beta	Respondent believed BT's equity beta has recently increased.	We estimated BT's Group's equity beta based on movements in BT's share price against the wider stock market. This analysis suggested a lower BT group beta of 0.86 as compared to 1.1 in our 2005 Cost of Capital Statement.	Annex 8, paragraphs A8.55 to A8.82 "Updated Estimate of BT's Equity Beta", The Brattle Group's Report to Ofcom, March 2009", ⁴⁸
Equity Risk Premium ("ERP")/ Debt Premium	Respondent believed stock market volatility/shortages in capital markets has lead to investors requiring increased returns in exchange for holding equity/corporate debt rather than risk-free assets.	We settled on a plausible range of 4 – 5% for the ERP and 2-3% for BT's debt premium. We concluded that we should choose a point estimate at the top of these ranges to account for increased market volatility and uncertainty and taking into account the risks associated with underestimating this parameter.	Annex 8: paragraphs A8.12 to A8.54 Annex 8: paragraphs A8.110-A8.125

⁴⁸ <http://www.ofcom.org.uk/consult/condocs/openreachframework/statement/brattlebt.pdf>

Comparison of our approach with the Competition Commission's approach

- 3.274 In its submission to the OFFR Second Consultation, BT argued that we should be setting the final value of its cost of capital towards the upper end of our overall estimated range of the WACC. It argued that this would be in line with the approach adopted by the CC in its work for the CAA's charge control reviews.
- 3.275 We summarise the findings in the OFFR Statement, where we state that, although our methodology is slightly different to the CC's, the outputs of the two approaches appeared to be comparable. We also explain why our approach also takes into account the possible asymmetry associated with setting too low a WACC.

There are some differences in methodology

- 3.276 In the OFFR Statement we note that our approach is slightly different from that of the CC. In the case of the CC, it provides ranges for each of the parameters that go into the calculation of the overall range. It then selects a value from the overall range for the WACC without choosing point estimates for each of the underlying parameters. Our approach in the OFFR review has always been to give ranges for parameters through the consultation process, with individual point estimates for those parameters at the final stage of the process. We selected values from our proposed parameter ranges based on the information available at the time of the OFFR Statement.

Our modelling of the WACC takes into account possible welfare asymmetry

- 3.277 We agree that it is important, in determining the appropriate value of the WACC, to strike a balance between the risk of setting rewards too low, at a level that could lead to discretionary investment being discouraged, and the risk that setting rewards too high could lead to customers and ultimately consumers paying prices that are too high (or investments that are not fully justified by demand). Indeed, in the December Consultation, we set out, that there may be an asymmetric impact (in consumer welfare terms) associated with disincentivising investment relative to the welfare cost of slightly higher WACC. As such, we highlighted that it may be appropriate to set the WACC based on setting parameters towards the top end of our estimated range.
- 3.278 Our approach in the ORFF allows for this asymmetry. However, the way we take this into account is by setting the point estimates towards the top end of their ranges for the parameters underlying the calculation of the WACC. For example, one of the parameters in the calculation of the WACC is the Equity Risk Premium ("ERP"). Given that the welfare impact of setting an ERP too low is worse than the downside of setting the ERP too high (as explained above), this was a factor we took into account when deciding to set the ERP at the upper end of the 4 to 5% range. We have therefore allowed for the asymmetry described by BT by selecting values for parameters towards the top end of relevant ranges.

The WACC associated with our approach is comparable to the Competition Commission's

- 3.279 In the OFFR Statement, we compared the likely outcome of applying a CC-style approach to calculating the cost of capital for BT to our own. We estimated that the CC-style approach would result in a lower range than our own, but that would be likely to be mitigated by the CC's preference for the use of a point estimate at the top end of the range.
- 3.280 We estimated that using a CC-style range (i.e. using the CC's estimate of the risk-free rate and its range for the ERP with our estimates of Openreach's equity beta and

debt premium) would result in a real WACC range in the region of 6.8%. Selecting a point estimate at the 80th percentile of this range would lead to a real pre-tax WACC point estimate of around 7.5%, and (assuming 2.5% inflation) a nominal pre-tax WACC of around 10%.

- 3.281 This compares to our estimate of 10.1% in the OFFR Statement. Therefore, our conclusion was that our approach does not appear inconsistent with that of the CC, although we noted that some care has to be taken when making comparisons between the two sets of estimates.

Our conclusions

- 3.282 We have concluded that:

- We should set a value of the WACC for the AI and TI Baskets based on the “rest of BT” rate set out in the OFFR Statement. Consistent with the OFFR Statement, we therefore propose to apply a WACC of 11% to TI and AI services.

BT’s geographic discounts will not count towards meeting the cap

Our proposals

- 3.283 In the December Consultation (paragraphs 3.206 to 3.214), we discussed how we should assess compliance with the charge controls. In particular, we discussed, how we should treat certain discounts BT was intending to offer to its customers. We proposed that, in principle, BT has the freedom to offer geographic discounts, subject to its SMP obligations and competition law. However, we proposed that these discounts do not contribute towards compliance with the price cap.

- 3.284 In the December Consultation, we asked the following question:

Question 3.12 Do respondents agree with our proposed approach to discounts, in particular the proposed treatment of geographic and term discounts under the charge control?

Consultation responses

- 3.285 BT’s concerns in respect of geographic discounts were that it would be discouraged from reflecting geographic cost differences, which could distort competition. If prices were to be set on a national basis, competition would be more likely to develop in lower cost areas, where margins are higher. In areas where costs are higher than average, margins may be too small to make competition economic. BT argued that the proposals would have the effect of distorting the development of competition, as competition would be encouraged in lower cost areas and would not develop (to the extent possible) outside of those areas.
- 3.286 Colt noted that BT had SMP in charge controlled geographic markets and therefore it was BT’s competitors that required protection. The respondent argued that if there was a risk to competition arising from BT not having sufficient price flexibility to compete, Ofcom should set separate charge controls for each geographic area. We should require BT to properly cost its services in those areas in line with cost orientation. This would guard against discriminatory and predatory pricing behaviour.
- 3.287 Another respondent was concerned about BT being able to offer discounts strategically in areas where it faces competition and recover possible losses in areas

where it has a monopoly. BT would then be able to behave in an anti-competitive manner to foreclose competition in those areas outside CELA where competition could exist. Should geographic discounts be permitted, the respondent considered that Ofcom should:

- ensure that local data is used to set charge controls; and
- take account of geographic discounts in judging compliance with the charge control, with the strict stipulation that BT must provide sufficiently disaggregated data to objectively justify those discounts.

Our response

- 3.288 In the BCMR Statement we conducted a detailed geographic market analysis for each of the wholesale and retail product markets. Ofcom's analytical framework for the UK (excluding the Hull area) focussed on the presence of common pricing constraints and geographic variations in competitive conditions. On the basis of this analysis, we note that for the geographic markets where we have found SMP, the underlying costs and competitive conditions will not be completely homogenous throughout the UK (even outside the CELA).
- 3.289 In the 2004 PPC Statement⁴⁹, we thought it was appropriate to give BT, within the context of that control, the ability to set differential charges between different geographic areas. However, these geographic discounts did not contribute to meeting BT's charge control obligations. We have concluded that we should apply the same approach for the leased lines charge controls.
- 3.290 In setting geographically differentiated charges, any price reduction below that mandated by the proposed charge control that is restricted to particular geographic area would not contribute towards the reductions required by the charge control. Therefore, in calculating compliance with the charge control, we would calculate the revenues from low bandwidth services in London at an undiscounted rate (i.e. the rate that applied to these services outside of the London area).
- 3.291 BT's concerns in respect of geographic revenue rule was that it would be discouraged from reflecting geographic cost differences, which could distort competition. If prices were to be set on a national basis, competition would be more likely to develop in lower cost areas where margins are higher. We do not agree that BT would be prevented from offering lower prices in lower priced regions.
- 3.292 The rule would allow BT the freedom to charge in a way that it thinks reflects more accurately the costs incurred and to respond to the local characteristics of competition that exist in these markets. Moreover, given the level of cost differences that may exist and the extent of competition in some areas, BT's ability to compete could be limited if it were required to maintain nationally uniform prices. Hence, geographically differentiated prices may reflect BT responding legitimately to cost differences in the face of competition.
- 3.293 However, we cannot give BT complete discretion over the way it sets its prices in SMP areas. Therefore, not allowing discounts to contribute to the charge control imposes a safeguard to avoid BT having an excessive incentive to concentrate price reductions in more competitive areas and offset these reductions against smaller reductions (or increases) in less competitive areas. We need to ensure that BT is

⁴⁹ http://www.ofcom.org.uk/consult/condocs/ppc_charge_control/statement/ppc_stmnt.pdf

prevented from charging above the level required by the charge control in instances where competitive pressures are particularly weak. Over each relevant year of the control, we want to ensure that BT is not be able to levy a charge above the charge control cap in a particular areas offset by lower prices in a more competitive area. For example, it would be undesirable for BT to raise prices for low-bandwidth services outside of the CELA and use this to “cross-subsidise” its low-bandwidth services in the CELA.

- 3.294 This approach tackles respondents concerns that BT could price anti-competitively. The rule prevents any discounts being “funded” via higher prices in less competitive areas. If BT wants to offer additional price reductions for a sub-set of customers in particular geographies to reflect lower costs there (or to respond to emerging competition) then it is free to do so, but the discounts would need to be self-financing. However, the charge control requires that real price reductions feed through in the form of lower prices across all parts of the UK that are subject to charge control.
- 3.295 BT asked a specific clarification over the treatment of its pricing structures already in place for EBD services⁵⁰. Given that this charging structure is already in place, and for the reasons set out in the paragraphs below, we have concluded that the existing structure should be “frozen” for price control purposes. The relevant starting charges for calculation purposes will reflect the current relative differences in prices between the EBD charging bands currently in place.
- 3.296 We think that this approach is acceptable for EBD charges because we do not believe that BT has had an excessive incentive to concentrate price cuts (i.e. cuts only for certain charging bands) in competitive areas up to now. In the BCMR Statement (paragraph 6.18), contrary to the situation in the TISBO markets, we did not find sufficiently distinct variations in competitive conditions in low bandwidth AISBO markets to conclude that separate geographic markets exist. And since then, we have not had any specific complaints or concerns over the current EBD charging structure. The current differences in prices also appear to reflect different unit costs of providing EBD services to different locations (where density of customers drives down the costs).
- 3.297 Therefore, for the reasons set out above, we think that the current EBD charging structure would provide the appropriate starting point for start charges. We note however that in future the incentive to target further reductions to certain geographic areas based on variations in competitive conditions could exist. We think that the geographic discount approach should apply to any future discounts where these are targeted only to specific charging bands.

We apply a similar approach for both our TI and AI Baskets in the relevant geographic markets⁵¹. It is important to note that in addition to this charge control

⁵⁰ For example, BT suggested that its EBD prices arguably have a geographic pricing element in that it applies three different charging “bands” depending on location. At one end of the scale, Band A prices are applied in densely populated, mainly, urban areas. At the other Band C prices relate to less densely populated areas, mainly in rural locations.

⁵¹ For the avoidance of doubt, geographic markets where BT was found not to have SMP (e.g. high and very high bandwidth (155 Mbit/s) TISBO markets in the CELA) will not be subject to any charge control restrictions. Therefore, any price reductions which BT makes in the High and Very High Bandwidth CELA markets would not contribute in any way to its compliance with the charge control. BT will have to demonstrate its compliance with the charge control based on the prices it charges solely in SMP areas. Therefore, only the geographic discounts that BT applies to services within SMP areas subject to charge control would be subject to the “geographic revenue rule” explained above.

safeguard, BT would still have a duty to ensure that it continues to comply with its other *ex-ante* obligations and its general obligation to comply with competition law.

Our conclusions

3.298 Following from the above we conclude that:

- Although BT can offer geographic discounts; these should not contribute to meeting BT's charge control obligation.

BT's term discounts will not count towards meeting the cap

Our proposals

3.299 In the December Consultation (paragraphs 3.214 to 3.237), we proposed that, in principle, BT should have the freedom to offer term discounts under the charge control. However, we proposed that these discounts should not contribute towards compliance with the price cap. We did not believe that the required real price reductions should come with additional conditions.

3.300 In discussing term discounts, we also highlighted that such discounts may not always have benign effects on competition and might be considered discriminatory. But, we also highlighted that a number of Openreach's customers had apparently asked for term discounts.

3.301 In the December Consultation, we asked the following question:

Question 3.13 Do respondents agree with our proposed approach to discounts, in particular the proposed treatment of geographic and term discounts under the charge control?

Consultation responses

3.302 In respect of term discounts, BT argued that the exclusion of these discounts has the effect of preventing price innovations that satisfy customer demand. BT argued that term discounts are an efficient way of sharing the cost savings associated with longer-term contracts with customers. It highlighted that most US carriers offered term discounts for 60 month contracts and connection and installation charges are often waived for customers who sign contracts of 36 months or more. BT argued that restricting it from being able to count term discounts within the price control could result in costs (for BT and CPs) being higher than they would otherwise have been. BT argued that such savings could arise for example from:

- savings in transactional and sales costs;
- BT's ability to efficiently plan and manage its assets and inventory; and
- the potential to obtain lower prices from suppliers where it agreed to longer-term contracts.

3.303 BT did not agree however that the main beneficiary of the discounts would be BT's downstream operations. It argued that all customers seeking longer term contracts would be making a commitment and would be relinquishing their flexibility. This would apply equally to BT's downstream operations just as it would to another CP.

- 3.304 BT noted that it already had term discounts in place for a number of Ethernet services. BT highlighted that the December Consultation was silent about how we would treat existing charging structures under this approach. It noted that it already offers minimum terms offers in respect of its BES charges.
- 3.305 Three respondents were concerned that offering BT the flexibility to offer term discounts would directly harm competition. Colt, referring to Ofcom's overall cost recovery arguments, argued that this would not prevent BT from pricing anti-competitively. The respondent argued that competition law would be an insufficient remedy alone, as the damage to competition will already have occurred before a complaint could be made.
- 3.306 One other respondent welcomed our proposal to exclude term discounts from compliance with the charge cap. It suggests we should prohibit them outright on the grounds that they are unattractive to non-BT communications providers and would primarily benefit BT. The respondent argued that:
- whilst Ethernet prices were high, they have been subject to year-on-year price reductions, which negates any benefits of signing up to long-term deals;
 - there is not yet a migration product available to non-BT communication providers, therefore signing up to a longer term contract is not attractive if the CP is considering a move to 21CN, as it would involve a penalty payment to cease the long-term deal.
- 3.307 Another respondent agreed that BT's downstream arm would be less concerned about entering a long-term contract with BT's upstream business than other CPs. It is possible that BT could use term discounts to discriminate between its external and internal customers and this overrides any arguments that there is customer pressure to offer term discounts. The respondent argued that any long-run costs arising from reduced competition would outweigh short-run benefits of the discounts to customers. It thought that term discounts exceeding 3 years in length would breach BT's non-discrimination conditions. It therefore urged us to monitor such practices closely with a view to exercising our relevant powers. The respondent considered that where we permitted term discounts, they should not be allowed to contribute to meeting the price cap.

Our response

- 3.308 We have decided that any term discounts BT may decide to offer will not contribute towards meeting its charge control obligations.
- 3.309 The charge control requires overall reductions in the price of BT's services and BT should not be able to provide these cuts only where long-term contracts are signed. We are also concerned that BT might have an excessive incentive to offer these discounts if they count towards regulatory requirements.
- 3.310 BT argued that the exclusion of these discounts has the effect of preventing them offering this type of pricing scheme in the future. We do not accept this argument as we think that if, as BT claimed, such long-term deals can help create efficiencies and are demanded by its customers then they should be self-financing. Either they would have a positive impact on demand (i.e. to reduce the rate of migration of services to rivals) or, as BT claimed, they could reduce BT costs. Therefore, if BT can realise these benefits, we do not think that this would unduly restrict BT's incentives to offer these discounts.

3.311 In the December Consultation, we outlined why term discounts may sometimes raise competition concerns. In response, a number of stakeholders also expressed concern about any anti-competitive or discriminatory effects that could arise from BT offering such discounts. We therefore emphasise that, whilst BT is able to offer discount schemes which are discriminatory in effect, it is under an SMP condition imposed in the BCMR Statement not to discriminate unduly (in a way which could harm competition) and is of course also subject to competition law.

Our conclusions

3.312 Following from the above we conclude that:

- Although BT can offer term discounts, these should not contribute to meeting BT's charge control obligation.

BT's volume discounts will not count towards the cap

Our proposals

3.313 In the December Consultation (paragraphs 3.204 to 3.205), we explained the conclusions of the BCMR Statement in respect of volume discounts. In the BCMR Statement (paragraph 8.55), we concluded that we would have a general presumption that volume discounts (in particular so-called saw tooth discounts) would be in breach of an SMP requirement not to discriminate unduly, although we would have to judge each alleged breach on a case-by-case basis. Given this conclusion in the BCMR Statement, we did not consider further our approach to volume discounts in the December Consultation.

3.314 In the December Consultation, we asked the following question:

Question 3.14 Do respondents agree with our proposed approach to discounts, in particular the proposed treatment of geographic and term discounts under the charge control?

Consultation responses

3.315 One of the respondents referred to the conclusions in the BCMR Statement on volume discounts and the indication that BT should not be able to offer them. The respondent was concerned that this should not result in the price of services to mobile customers increasing as a result. The correct outcome would be to ensure that the regulated price is set equal to the current prices including any applicable volume discounts, irrespective of the actual volumes sold, as this would truly reflect the costs faced by BT.

Our response

3.316 In the BCMR Statement, we concluded that there would be a general presumption that certain volume ("saw-tooth") discounts would be discriminatory. The reason for this general presumption is that as BT is usually the largest user of its own wholesale services, it is likely that volume discounts on services such as PPCs would mainly benefit BT and allow it to undercut competitors in downstream markets.

3.317 However, one respondent, while welcoming the findings of the BCMR Statement, noted that the conclusion of the BCMR Statement would mainly affect mobile network operators ("MNOs") purchasing leased lines services (using the "Netstream"

services). It considered that, in the context of the LLCC, we should ensure that the overall revenues associated with purchasing leased lines used in mobile networks, i.e. Radio Base Station ("RBS") Backhaul do not increase once volume discounts are removed.

- 3.318 In Section 4, we explain that we will require BT to price RBS backhaul services in a consistent manner to PPCs. The same requirement will apply to services migrated from the Netstream tariff onto RBS services. The previous leased lines Netstream services sold to mobile operators used the same underlying PPCs inputs, so in principle BT's overall costs of provision to MNOs should not change fundamentally. However, we have not checked the overall margins of BT's Netstream tariffs relative to equivalent RBS backhaul services. In addition, not all RBS backhaul prices are going to remain unchanged, as there will be some re-balancing of TI prices services at the start of the charge control (which may also entail changes to the price of RBS services).
- 3.319 These factors may have some impact on revenues recovered from MNOs., so it may not necessarily be the case that the total revenues from Netstream and RBS services will be identical. However, based on available information provided to us on TI price changes, we do not envisage that there would be material changes in the overall revenues from sales to MNOs.

Our conclusions

- 3.320 Following from the above we have concluded that:

- We will operate under the presumption that volume discounts are unduly discriminatory.

Conclusions

- 3.321 In this section we set out our conclusions on the key principles underlying the charge control design for leased lines. In Sections 4 and 5 we discuss how we implement these principles when concluding on the charge controls for TISBO and AISBO services respectively.

Section 4

Charge controls for TI terminating and trunk segments

Introduction

- 4.1 In this section we set out our conclusions on the charge controls for TI terminating and trunk segments. In particular we discuss:
- the design of the charge control baskets;
 - the cost adjustments to BT's 2006/07 and 2007/08 base year data;
 - the one off adjustments to the level of the starting charges for some TI terminating and trunk services; and
 - the values of X for the baskets of services.
- 4.2 For each issue under consideration:
- firstly, we provide a brief summary of our proposals from the December Consultation;
 - secondly, we summarise the stakeholder responses; and
 - finally, we discuss our arguments in support of our conclusions.
- 4.3 At the end of this section we also discuss how we have ensured that these charge controls reflect our duties and pass the Communications Act tests.

Summary of our key conclusions

- 4.4 Our conclusions on the charge controls for TI terminating and trunk segments are as follows:
- We are implementing three charge control baskets. The principal TI terminating and trunk services are included in the "TI Basket". We are also implementing two smaller baskets: namely the "Equipment and Infrastructure basket" and the "Ancillary basket". More details are shown in Table 4.1 below.
 - On 3rd June 2009, BT pre-notified price changes to some TI terminating and trunk services. We are not introducing further adjustments to these prices with the exception of the 64 kbit/s and 2 Mbit/s external local end prices which will need to be reduced by the amount of new point of handover ("PoH") charges (see below). BT to introduce the new local end prices from 1st October 2009.
 - We are introducing separate PoH per circuit rental charges. These new charges replace the current local end uplift factor included in the rental price of external local ends. BT to introduce the new PoH charges from 1st October 2009.

- BT is to re-balance the price of some equipment and infrastructure charges from 1st October 2009.

Table 4.1 Our conclusions on the charge controls for TI terminating and trunk segments

Basket	Description	Value of X (after proposed starting charges adjustments)
TI	<p>Wholesale low bandwidth TISBO (≤ 8 Mbit/s) – connection and rental;</p> <p>Wholesale high bandwidth TISBO (> 8 Mbit/s and $\leq 34/45$ Mbit/s) – outside CELA – connection and rental;</p> <p>Wholesale very high bandwidth TISBO ($> 34/45$ Mbit/s and $\leq 140/155$ Mbit/s) – outside CELA – connection and rental; and</p> <p>Wholesale TISBO trunk (all bandwidths) – rental.</p>	<p>RPI – 3.25%</p> <p>RPI – 0% on the sub-basket of TI terminating charges.</p> <p>RPI + 5% on each charge (excluding PoHs)</p> <p>RPI - 0% on each PoH charge</p>
Equipment and Infrastructure	For a list of services included see Annex B to SMP Conditions G4, GG4, GH4 and H4 in Annex 9 of this Statement	<p>RPI-0%</p> <p>No individual charge allowed to increase more than 5% in nominal terms.</p>
Ancillary Services (TI)	For a list of services included see Annex C to SMP Conditions G4, GG4, GH4 and H4 in Annex 9 of this Statement	RPI-0%
RBS		Not to be charge controlled
SDSL		Not to be charge controlled
Accommodation services (BT Netlocate)		Not to be charge controlled

4.5 In the following paragraphs we discuss the rationale behind our conclusions in more detail.

We have included principal services in a single TI Basket

A combined TISBO/trunk basket with an RPI-0% sub-cap on TI terminating segments

Our proposals

- 4.6 In our December Consultation (paragraphs 4.3 to 4.41) we proposed a single basket (the “TI Basket”) which includes the following services:
- wholesale low bandwidth TISBO (≤ 8 Mbit/s) – connection and rental;
 - wholesale high bandwidth TISBO (> 8 Mbit/s and $\leq 34/45$ Mbit/s, outside CELA) – connection and rental;
 - wholesale very high bandwidth TISBO ($> 34/45$ Mbit/s and $\leq 140/155$ Mbit/s, outside CELA) – connection and rental; and
 - trunk (all bandwidths) – rental.
- 4.7 In addition we proposed three sub-baskets:
- a sub-basket for TI terminating services, which would be covered by a sub-cap of RPI-0%; and
 - sub-baskets for rental and connection services, each of which would be covered by a sub-cap of RPI-0%.
- 4.8 We asked stakeholders the following questions in relation to our proposed basket design:

Question 4.1 Do respondents agree with Ofcom’s proposal of a single TI Basket including TI terminating segments and trunk services?

Question 4.2 Do respondents agree with a sub-cap of RPI-0% on the sub-basket of TI terminating segments in the TI Basket?

Question 4.3 Do respondents agree with Ofcom’s proposal that sub-caps of RPI-0% are required for the sub-baskets of rental and connection charges?

Consultation responses

- 4.9 There were mixed responses from our stakeholders. Overall BT, C&W and another respondent agreed with our proposals for a single TI Basket that would include TI terminating and trunk segments. Another respondent disagreed with trunk segments being included in a single TI Basket.
- 4.10 BT disagreed with the sub-baskets we proposed on the grounds that these reduced the pricing flexibility allowed by a broad basket approach. Furthermore, according to BT, in a single TI Basket, the costs for different services may change at different rates and some re-balancing of prices may be both necessary and desirable. If sub-

caps were to be imposed, BT proposed to restrict the weighted average aggregate price change across the sub-baskets to be no more than +5% in nominal terms, or $RPI-X+5\%$ should the value of $RPI-X$ be positive in any year, whichever is higher.

4.11 C&W proposed different sub-baskets:

- a sub-cap for sub-2Mbit/s TI terminating services in the form of $RPI+X\%$ where $X>0$. This would allow BT to increase the price of these services gradually, if such an increase is indeed required (see further discussion on this at paragraph 4.177);
- a sub-cap for local end rental prices in the form of $RPI-X\%$ where X is equal to the value of X for the overall TI Basket; and
- a sub-cap for connection charges.

4.12 Another respondent proposed separating the trunk circuits and terminating segments into separate baskets. In its view, a combined basket would give BT too much flexibility to make adjustments to the relative prices which adversely affect any CP whose inventory mix was not typical of the market norm. Therefore, it believed the potential for adverse impact outweighed the shared costs justification for having a single TI Basket. It agreed with our proposed sub-baskets.

4.13 One stakeholder disagreed with the imposition of a charge control on principle, which they see as overly aggressive and which they believe could damage business connectivity providers who do not rely on wholesale inputs from BT. In its view reliance on a cost orientation obligation would be more appropriate as it would provide a clear indication of the efficient cost of network access. Should the imposition for a price control prevail, then it agreed with our proposal for a single TI Basket including TI terminating and trunk segments subject to an overall $RPI-0\%$. It also agreed with our proposed sub-baskets. Its proposed value of X (e.g. 0) was based on the fact that international benchmarks showed BT to be efficient and that any regulation imposed does not force BT and its efficient competitors to reduce prices below the efficient level of costs.

Our response

4.14 In the BCMR Statement (paragraph 8.93) we concluded that in principle it is appropriate to impose charge controls on some TI terminating and trunk services. In our view the imposition of charge controls on these services is still appropriate because (as we explained in Section 2, paragraphs 2.14) our primary objective is to prevent BT from setting excessive prices, whilst creating the right incentives for it to achieve efficiency gains, improved service quality and innovation. Charge controls and cost orientation obligations are complementary in that the former restricts BT's pricing flexibility at a basket level whilst the latter ensures that BT sets its individual prices within some reasonable bounds.

4.15 We are imposing a single TI Basket including TI terminating and trunk segments. For a full list of services in the TI Basket see Annex A to Conditions G4, GG4, GH4 and H4 in Annex 9 of this Statement. As discussed in our December Consultation our decision for a single basket is supported by the following:

- Efficient pricing and cost allocation issues tend to point to a combined basket;
- Wider market considerations tend to point to a combined basket;

- We are imposing sub-caps to mitigate potential competition concerns; and
- Charge control and cost orientation obligations are complementary.

Efficient pricing and cost allocation considerations tend to point to a combined basket

- 4.16 Efficient pricing and cost allocation considerations tend to point to a combined basket. In our December Consultation we considered three particular issues which, in our view, supported the use of a combined basket (paragraphs 4.10 to 4.14).
- 4.17 Firstly, we would need information on the way demand for PPCs responds to changes in price to determine an efficient pattern of common cost recovery which we discounted due to the high information and modelling requirements. A combined TI terminating segments and trunk basket permits the capture of benefits from setting relative prices in an (approximately) efficient way. A combined basket also allows BT to choose its prices to reflect better demand elasticities and respond to demand changes. Furthermore, given the magnitude of common costs, the potential gains from more efficient cost recovery within a single basket may be significant.
- 4.18 Secondly, in the BCMR Statement, we re-defined the boundary between TI terminating and trunk segments which would require us to re-attribute costs and revenues between the two if we were to make them subject to separate controls. Thirdly, although our market definition captures where the break is between trunk and TI terminating segments, this break may not map onto BT's current network components for costing purposes.

Wider market impacts tend to point to a combined basket

- 4.19 As discussed in our December Consultation, we are imposing these charge controls at a time when both BT and other CPs are either investing or planning to invest in future replacement services (i.e. 21 CN and Ethernet trunk). As discussed in Section 2, encouraging investment and ensuring certainty are two of our policy objectives in setting these charge controls. Although these markets are still in development and AI services are not necessarily seen as close substitutes to TI services yet, we need to think about how our choices over basket design could potentially impact on other markets.⁵²
- 4.20 Over time BT will want TI customers to migrate onto AI services to reduce costs. However there will be costs associated with this migration, which will tend to be higher as the pace of the migration quickens. On the other hand, BT may also face competitive pressures from other CP's AI services, which will tend to increase the incentive on BT to accelerate migration. The rate at which customers migrate will depend in part on the relative prices of TI and AI services. Therefore, BT will want to manage the migration process by adjusting the relative prices of TI and AI services and the increased flexibility offered by a single TI terminating segments/trunk basket may help BT to achieve this in an efficient manner.

⁵² Although in the BCMR Statement we found that traditional interface services were in a separate market to alternative interface markets, this does not mean that the two markets will be entirely independent. Migration will be likely to be an option for some TI users over the next few years.

We are imposing sub-caps to mitigate potential competition concerns

- 4.21 A combined TISBO and trunk basket would be appropriate if competitive conditions were the same for both markets. These conditions do not hold. However a single basket can still have advantages particularly if additional safeguards are in place.
- 4.22 In the wholesale market definition in the BCMR Statement, we discussed the complementary nature of TI terminating and trunk segments and the greater potential for competition in respect of trunk markets.⁵³ As many CPs have their own core networks, it will not always be the case that a CP will need to purchase trunk when they require a TI terminating segment (as they may be able to self-supply trunk). On the other hand, a CP purchasing trunk from a third party will also typically need to purchase at least one TI terminating segment.
- 4.23 However, given that trunk markets are potentially more competitive than TI terminating segments, we might be concerned that a combined basket provides scope for BT to price anti-competitively (“costless predation”). Under this approach BT may use increases in TI terminating prices to “fund” decreases in trunk prices, which a wider combined basket would not prevent. Concerns over anti-competitive reductions in trunk prices may point towards separate baskets.
- 4.24 To address the above concerns we will be implementing various sub-caps, which do not have any impact of the value of X for the main TI Basket:
- *We are imposing a sub-cap of RPI-0% on the sub-basket of TI terminating segments.* This will limit the extent to which BT will be able to fund decreases in trunk prices, with increases in TI terminating prices.
 - *We are imposing a sub-cap on the price of each service in the TI Basket (excluding PoH charges, see below), which limits BT’s ability to increase these prices to RPI+5% in any given year of the control.* In the light of responses which argued that we proposed too many overlapping controls which would unduly limit BT’s pricing freedom, we have reconsidered our proposals for RPI-0% sub-caps on the sub-baskets of rental and connections charges. However, other respondents continued to be concerned about the risk of rapid rebalancing of charges (offsetting increases and reductions) within the main basket. We instead propose a sub-cap of RPI+5% on each individual charge. The increased flexibility for BT to make changes in the balance of charges allowed by RPI-X% control on the overall basket is itself balanced by the application of the RPI+5% sub-cap to each charge, rather than to a basket, thereby preventing very large changes in individual charges. This is a minor change from our December Consultation and one which, on balance, better addresses the requirements of all stakeholders.
 - *We are proposing a sub-cap of RPI-0% on each new PoH charge* (discussion of the new charges included in paragraphs 4.145 to 4.165). This stricter cap on PoH charges (i.e. RPI – 0%, rather than PRI – 5%) is intended to address the concerns that BT could discriminate against external users of PPCs by raising the PoH charge. BT will not face PoH charges to the same extent as external parties.

⁵³ In the BCMR Statement, we explained that a CP requiring wholesale trunk segments will often purchase this with a TISBO segment. We also highlighted that trunk markets were prospectively more competitive than TISBO. In the case of the latter, access and backhaul elements are generally bottleneck services, whereas there is greater opportunity for CPs to realise economies of scale and scope in trunk markets and they are often able to self-supply trunk circuit segments.

- *We are not imposing separate sub-caps on sub-2mbit/s services and local end rentals as proposed by one stakeholder.* As discussed above, the increase in the price of each of these services is capped to RPI+5%.

Charge control and cost orientation obligations are complementary

- 4.25 The charge control and cost orientation conditions are intended to operate in a complementary way. The charge control condition, which applies to “an aggregate of charges”, allows flexibility to vary relative prices, but within limits set by the “basis of charges” condition (e.g. cost orientation condition) which applies to each charge. The inclusion of trunk services in the same basket as TISBO services in the new charge controls is therefore consistent with both obligations. It will allow BT to respond to changes in demand and cost conditions by varying relative prices of trunk and TISBO services, but BT will be prevented from setting an unreasonable charge for any trunk or TISBO service by the basis of charges obligation.

Our conclusions

- 4.26 In summary our decision is to implement:

- a single TI Basket including TI terminating and trunk segments.
- a sub-cap of RPI - 0% on the sub-basket of TI terminating segments.
- a sub-cap of RPI + 5% on each charge in the TI Basket (excluding PoH charges).
- a sub-cap of RPI – 0% on each new PoH rental charge.

A single basket for equipment and infrastructure charges subject to RPI-0%

Our proposals

- 4.27 In our December Consultation (paragraphs 4.24 to 4.31) we proposed to include equipment and infrastructure charges in a basket of their own, subject to an overall cap of RPI-0%. We also proposed that the price of each type of equipment should not be allowed to increase more than 5% in nominal terms in any given control year. We asked stakeholders the following question:

Question 4.4 Do respondent agree with Ofcom’s proposal to include equipment and infrastructure charges in a separate basket of their own (the “Equipment and Infrastructure basket”) and subject to an overall cap of RPI-0%? Do respondents also agree that each charge in this basket should not be allowed to increase more than 5% in nominal terms in any control year?

Consultation responses

- 4.28 All respondents agreed with our proposal to include equipment and infrastructure charges in a separate basket, subject to a safeguard cap of RPI-0%.
- 4.29 C&W disagreed with the level of the proposed sub-cap. In its view a more appropriate outcome would be to subject this basket to an RPI-X% charge control, where $X > 0$ leading to overall price decreases. This is because, in its view, current SDH technology is more compact, energy efficient and less costly than it was when the price controls were set in 2004 and they expect this trend to continue.

- 4.30 Another respondent, although supportive of our proposals for a separate basket, expressed a preference for the basket X to be linked to a suitable exogenous index. It has not however been explicit on what this index could be.

Our response

- 4.31 In our December Consultation we discussed the three options available to us for the treatment of equipment and infrastructure charges (paragraphs 4.24 to 4.31):
- *Cost pass-through mechanism.* We discounted this option on the grounds that BT will be guaranteed to recover all of its equipment and infrastructure costs and therefore will not have the correct incentive to minimise its costs by negotiating a better contract with its suppliers.
 - *Include in the overall TI Basket.* We discounted this option for several reasons. Firstly, the equipment prices are likely to follow BT's newly negotiated purchasing contracts, rather than the overall TI Basket X. Secondly, given the significance of the TI Basket revenues, this is unlikely to control equipment prices effectively. Thirdly, this approach would also be very complex to model due to the large number of individual equipment and infrastructure charges (where volume forecasts and cost elasticities would be required for each of them).
 - *Include in a basket of their own and subject to an overall cap of RPI-0%.* We preferred this option due to its improved incentive properties (when compared to cost pass-through mechanism) and our belief that it would be more efficient at controlling the prices of equipment and infrastructure (than being included in the overall TI Basket). In addition, we discussed various indexation options, which we rejected. Firstly, we rejected the option of using BT's negotiated purchasing contracts on the basis that if the outcome of these is closely linked to the proposals in the charge control, BT would not have the correct incentive to negotiate the best possible deal. Secondly, we also rejected the use of an exogenous index due to the difficulty of determining an appropriate one.
- 4.32 Having considered the consultation responses, our view is that an overall cap of RPI-0% (i.e. $X=0$) is the appropriate level of the charge control for this basket.
- Firstly, the overall accounting profitability of this basket in 2006/07 and 2007/08 is close to zero (see paragraphs 4.203 and 4.204 for our profitability analysis of this basket), which means that BT's return on this basket is below its WACC. This, together with the fact that volumes of TI services (and hence associated TI equipment and infrastructure) are forecast to decrease does not support the case for further decreases in equipment and infrastructure prices.
 - Secondly, BT incurs additional costs (to the pure equipment purchase cost) which may mean that although the equipment costs may be reducing the overall costs faced by BT may not be. This is discussed in more detail in paragraphs 4.203 to 4.208.
- 4.33 For a full list of equipment and infrastructure charges that are captured in this basket see Annex B of SMP Conditions G4, GG4, GH4 and H4 in Annex 9 of this Statement. We also note that if in the future BT were to introduce a new product or service wholly or substantially in substitution for an existing one in the basket, we would be able to exercise our power under these conditions to direct that the new product or service is included in this basket.

Our conclusions

4.34 Based on the above our decision is to:

- include equipment and infrastructure charges in a basket of their own; and
- subject this basket to a safe-guard cap of RPI-0%, where the price of individual products is not allowed to increase by more than 5% in nominal terms in any of the charge control years.

A single basket for ancillary services subject to RPI-0%

Our proposals

4.35 Ancillary services include other single payments that BT levies from other CPs and its own downstream operations, such as Excess Construction Charges (“ECCs”). In our December Consultation (paragraphs 4.32 to 4.34) we proposed to include ancillary services in a basket of their own subject to a safe guard cap of RPI-0%.

4.36 We asked stakeholders the following question:

Question 4.5 Do respondents agree that ancillary services are included in a basket of their own and subject to an overall basket cap of RPI - 0%?

Consultation responses

4.37 All respondents agreed with our proposals to include ancillary charges in a basket of their own subject to a safeguard cap of RPI-0%.

4.38 BT noted that the majority of ancillary services relate to services which are provided to BT Wholesale (“BTW”) from Openreach. Therefore, if the relevant revenues are deemed significant enough to apply a charge control on Openreach’s provision of the relevant services, then any regulation on ancillary services should require a price control that is no more onerous than the control applied, if any, to Openreach prices. We respond separately to the points raised by Openreach on this issue in Section 5, paragraphs 5.38 to 5.41.

4.39 C&W, although in agreement with our general proposals, was not convinced that the starting charges were reasonable. It noted that UKCTA has been working on this issue with Openreach and that Ofcom should take into account this work when setting the starting charges.

4.40 Another respondent pointed out that 2007/08 accounts would provide a more accurate reflection of the costs of ancillary services. This is because Openreach Ethernet services such as WES moved away from a served/non served pricing⁵⁴ model in January 2007, which may therefore account for the low numbers seen for

⁵⁴ “Non Served Premises” are defined as premises that have not previously had a fixed line telephone service. They would normally be uninhabited / unmanned, not governed by the conditions of the Health & Safety at Work Act (HSAW), or not comply with conditions as defined by local councils as habitable, including having toilet and welfare facilities. They tend to be sited in a street or footway or at a roadside and are normally unmanned and include payphone sites, roadside locations, traffic control system sites, mobile transmitters etc. In all instances, ECCs will apply as appropriate.

ancillary charges. This was followed by an increase in ancillary charges being levied by BT in both AI and TI markets.

- 4.41 One respondent raised a number of concerns regarding the apparent increase in the prevalence of ancillary charges and believes that Ofcom should investigate this development. It was of the view that we should undertake a comprehensive assessment of ancillary charges and equipment charges and act as appropriate to ensure that there is no scope for practices such as cross subsidisation to occur.

Our response

- 4.42 We note that we did not investigate the starting charges or the charging structure for ancillary services as part of the LLCC project. We also note that in relation to ECCs we have included a number of detailed clarification points in our BCMR Statement, summarised the steps already taken by BT and ongoing discussions between OTA2 and industry players.

- 4.43 In our BCMR Statement (paragraphs 8.505 to 8.513) we discussed how various issues relating to ECCs could be addressed and we summarised the steps already taken by BT:

- In relation to transparency we noted that it is possible for a CP to check the individual components of an ECC by querying an online system provided by BT.
- Regarding the issue of frequency we noted that this may be down to a failure on BT's part to fully communicate the change of policy in respect of served and unserved premises which it adopted some time ago, such that all non-standard construction charges were moved into 'excess' construction charges such that the connection charge only covers work which varies very little from site to site.
- Finally, in relation to process we noted that BT is putting in place various measures such as the "30/60/90" day plan in an effort to address industry concerns.

- 4.44 In our BCMR Statement we also re-iterated that we will continue to follow the work done in the area of ECCs (and other ancillary charges) by BT, by the Office of the Telecoms Adjudicator ("OTA2") and industry. We have no plans at this stage to mandate any particular regulation on ECCs, but will retain the power to do so under the new SMP conditions we are imposing on BT.

- 4.45 In the LLCC project we have, however, considered ways in which we can incentivise BT to minimise costs and achieve efficiency savings in the provision of ancillary services. Given the significance of the TI Basket revenues, we are of the view that inclusion of ancillary services in this basket is unlikely to control their prices effectively. In addition, we note that ancillary charges would be complex to model due to the large number of individual charges (where volume forecasts and cost elasticities would be required for each of them). The most appropriate and proportionate approach is to include ancillary charges in a basket of their own subject to a sub-cap of RPI-0%. This will limit the maximum charge that BT can levy on these services.

- 4.46 For a full list of ancillary charges that are captured in this basket see Annex C to SMP Services Conditions G4, GG4, GH4 and H4 in Annex 9 of this Statement. We also note that if BT were to introduce a new product or service wholly or substantially in substitution for an existing one in the basket, we would be able to exercise our

power under these conditions to direct that the new product or service is included in this basket.

- 4.47 Issues in relation to the costing of these services are dealt with in paragraphs 4.85 to 4.87.

Our conclusions

- 4.48 Based on the above our conclusions are to:

- include ancillary charges in a basket of their own; and
- subject this basket to a safeguard cap of RPI-0%.

We have excluded RBS, SDSL and BT Netlocate from the charge controls

Our proposals

- 4.49 In our December Consultation (paragraphs 4.36 to 4.38) we proposed to exclude the following services from the charge controls:

- Radio Base Station Backhaul Services (“RBS”);
- Symmetric Digital Subscriber Line (“SDSL”); and
- BT Netlocate.

- 4.50 We asked stakeholders the following question:

Question 4.6 Do respondents agree that RBS, SDSL and BT Netlocate should not be subject to our formal charge control?

Consultation responses

- 4.51 Most stakeholders agreed with our proposals not to subject RBS, SDSL and BT Netlocate to formal charge controls.
- 4.52 Although C&W agreed that, as the price of PPCs and RBS are linked, the latter could be excluded from the charge control, it also argued that the revenues and costs associated with these should be included in any assessment of the level of the charge control.
- 4.53 For another respondent its key concern was that we should include RBS costs and revenues in the calculation of the overall margins for the TI Basket, rather than whether regulatory remedies are required in relation to RBS. It also advised that we remain vigilant that the market characteristics for SDSL and BT Netlocate do not change materially over the charge control period.
- 4.54 A respondent disagreed with our proposals for excluding these services from the formal charge control. In its view exclusion of these services from the charge control would afford BT undue flexibility, which would create uncertainty and very likely lead to detrimental consequences for competition. In addition, it did not believe that the level of granularity in BT’s RFSs allows the contributions attributable to these services to be isolated accurately for the purposes of calculating the control

parameters. In summary, it proposed the inclusion of RBS, SDSL and BT Netlocate in the TI Basket.

Our response

4.55 In our December Consultation (paragraphs 4.35 to 4.41) we have discussed in detail why we proposed to exclude RBS, SDSL and BT Netlocate from our formal charge control. In the December Consultation, we proposed that it would be disproportionate to impose a charge control in relation to the above three services when taking the requirements of section 47 of the Act into consideration. In this case a charge control would not be the least intrusive means of securing the aim of remedying the competition concerns arising from BT's SMP position. In the following paragraphs we summarise our arguments and respond to stakeholders' specific issues.

RBS

4.56 In our December Consultation we did not propose to subject RBS to a charge control, as the price applied to each common component is the same for TI terminating segments and RBS⁵⁵. This will have largely the same end effect on the prices as that of subjecting these services to a formal charge control, as RBS services are made up using the same constituent TI terminating services (which are subject to a charge control). We aim for BT to continue to keep this link between RBS and PPC prices. Moreover:

- In our December Consultation we noted that inclusion of RBS in the TI Basket, could affect the weights ascribed to the other services in the same basket. We believe the effect of this on the values of X calculated for the TI Basket to be marginal. This is further supported by the sensitivity analysis we conducted which showed that the impact of including RBS is to increase the TI Basket X by around 0.1 percentage points.
- RGL's own calculations (in Table 8 of its report⁵⁶) have shown that the inclusion of RBS would affect the returns of the TI Basket only marginally. In 2006/07 inclusion of RBS increases the return on capital employed ("ROCE") from 16.0% to 17.2%, whilst in 2007/08 the ROCE decreases from 26.6% to 25.9%.

4.57 On the basis of the above, we concluded that a charge control on RBS would not be a proportionate remedy, as there are least intrusive means to resolve the competition concerns arising from BT's SMP position. We therefore decided not to impose a charge control on RBS.

SDSL

4.58 In our December Consultation we proposed that it would be disproportionate to subject SDSL to a charge control. This was supported by the fact that BT does not intend to support SDSL on its 21 CN and that it has given a number of voluntary commitments:

⁵⁵ BT is required not to unduly discriminate in relation to network access under its SMP obligations imposed in the BCMR Statement. That requirement applies for network access in relation to the markets in question (e.g. TI terminating segments at low, high and very high bandwidths and trunk segments at all bandwidths). Therefore, BT is already under an obligation not to unduly discriminate in this regard, for example in the way it prices common components for TI terminating segments and RBS services.

⁵⁶ http://www.ofcom.org.uk/consult/condocs/llcc/responses/RGL_report_for_UKCTA_-_Rev1.pdf

- that it will continue to supply SDSL services to meet reasonable demand until 2010;
- that it will not increase its prices for SDSL services more quickly than the rate of inflation (RPI-0%) for a period of two years following the publication of the BCMR Statement i.e. from 2008 to 2010; and
- that it will commit to a further two-year cap, the level of which would be agreed with Ofcom prior to 2011 and subject to the continuing viability of the service and the need to fully recover costs.

4.59 On the basis of the above, we concluded that imposing a charge control on SDSL would not be a proportionate remedy, as there are least intrusive means to resolve the competition concerns arising from BT's SMP position, including accepting voluntary commitments from BT. We therefore decided not to impose a charge control on SDSL.

BT Netlocate

4.60 In our December Consultation we proposed not to subject BT Netlocate to a formal charge control on the basis that:

- BT had recently decreased the price of Netlocate aligning it with Local Loop Unbundling ("LLU") co-mingling prices. The latter is also subject to a charge cap as decided in the OFFR Statement⁵⁷; and
- The new Ethernet accommodation services (Access Locate Plus) will supersede BT Netlocate.

4.61 On the basis of the above, we concluded that imposing a charge control on Netlocate would not be a proportionate remedy, as there are least intrusive means to resolve the competition concerns arising from BT's SMP position. We therefore decided not to impose a charge control on Netlocate.

Our conclusions

4.62 Based on the above our conclusions are that:

- RBS, SDSL and BT Netlocate are excluded from the charge controls.

We have reflected BT's revenue re-statement in its 2006/07 base year data

We have reflected BT's revenue re-statement for 2006/07

Our proposals

4.63 In our December Consultation we discussed the impact of BT's revenue re-statement for 2006/07 (paragraphs 4.42 to 4.49).

4.64 We commissioned Analysys-Mason to conduct an independent review of BT's calculations and supporting volume data. We noted that overall Analysys-Mason concluded that BT's re-statement of volumes and revenues appears to be

⁵⁷ <http://www.ofcom.org.uk/consult/condocs/openreachframework/statement/>

reasonable. A copy of its report was published alongside our December Consultation⁵⁸.

- 4.65 In our December Consultation, we further noted that the impact of the re-statement was more material on the TI Basket level and summarised the key material corrections affecting the numbers. The net effect of the re-statement was to reduce TI market level revenues by £125m in 2006/07, whilst at the basket level revenues were decreased by £269m in the same period.
- 4.66 We did not include any specific consultation questions on BT's re-statement of its revenues but invited stakeholders' comments generally to our December Consultation.

Consultation responses

- 4.67 Most of the stakeholders commented on the fact that we should be using 2007/08 RFS data in the calculation of our cost adjustments and modelling of the charge controls, as this is the most up to date and reliable information available.
- 4.68 C&W discussed in detail a number of issues relating to BT's RFSs which, in its view, further impacted on the reliability of the information used by us. In particular it was concerned that we did not fully resolve the "17 issues" Analysys Mason raised in its report.
- 4.69 Similar issues were also echoed in the responses of other respondents.

Our response

- 4.70 For the purposes of setting the leased lines charge controls we have sought to use the best information available to us. In order to achieve this we note the following:
- We have requested the data necessary to undertake our financial analysis and cost modelling under our formal information gathering powers. We note that if any data provided to us as part of a formal information request turned out to be false in any material particular BT would be guilty of an offence; and
 - We have asked BT to reconcile all data submissions back to RFSs where possible. Where this has not been possible we have undertaken sense checks to build confidence in the reliability of the data provided and asked BT for explanations where appropriate which they have put in writing to us.
 - On 25 August 2008 we commissioned Analysys-Mason to undertake an independent review of BT's restatement in 2006/07 and 2007/08. In its view BT's restatement was reasonable. The Analysys-Mason report was published alongside our December Consultation.
 - We have fully considered the 17 points raised by Analysys Mason in its report. In summary we do not consider any of these issues to have a material impact on our LLCC conclusions. BT cooperated fully and constructively in dealing with each point providing additional analysis and data as necessary. A few minor errors in the data were found and appropriate corrections were made in the financial analysis. For a summary of our responses to the specific points Analysys-Mason raised, see Annex 4.

⁵⁸ <http://www.ofcom.org.uk/consult/condocs/llcc/analysysmason.pdf>

- We have cross-checked our cost adjustments and starting charges analysis using 2007/08 cost data (see paragraphs 4.79 and 4.80). As for the charge control model we had reconciled our forecast total revenues and costs in 2007/08 to those in BT's RFSs before going out to consultation (see paragraphs A9.11 to A9.15 of our December Consultation). Therefore, the use of 2006/07 data, rather than the 2007/08 data in the December Consultation did not impact on our results.

Our conclusions

4.71 Overall our conclusion is that:

- we have used the best information available to us in setting the TI (and AI) charge controls.

We have implemented a number of adjustments to BT's base year data in 2006/07 and 2007/08

Our approach to cost adjustments to BT's base year data in 2006/07 and 2007/08

Our proposals

4.72 In our December Consultation we discussed the adjustments that we proposed to make to BT's 2006/07 base year CCA FAC costs (paragraphs 4.50 to 4.54 and Table 4.3) such that these were "relevant" for forward looking charge control and price setting purposes. In summary our proposed adjustments fall into four broad categories:

- *Type 1 – Exclusion of out of scope services:* We analysed the costs and revenues associated with services in the TI Basket. As a result we excluded costs (and revenues) associated with Site Connect, resilient circuits and other ancillary charges from the cost base of services in the TI Basket.
- *Type 2- Amendments to the reported cost data:* We made further adjustments to the RFSs to make sure that the costs reported matched the revenues.
- *Type 3 – Adjustments for forecast modelling:* These included adjustments which are required in order to modify RFS data to base year costs relevant for forecasting purposes (for example we excluded costs which are "one off" in nature). One example is the calculation of a smoothed holding gain/loss to include in the base year. Some of these adjustments also related to the consistent application of prior Ofcom price modelling decisions (e.g. the regulatory asset value or RAV and the exclusion of 21 CN related direct costs).
- *Type 4 – Implementation of new LLCC pricing proposals:* These included new Ofcom policy proposals in relation to the recovery of certain costs e.g. payment terms.

4.73 The overall effect of our proposed adjustments was to increase the TI Basket level ROCE from its re-stated 2006/07 level of 2% to 16%.

Consultation responses

- 4.74 Overall, all respondents agreed on the principle that “certain” adjustments may need to be made to BT’s base year costs to ensure that these represent the “appropriate” and “efficient” level of costs for forward looking charge control purposes. A common theme emerging from all responses was that we should use BT’s 2007/08 RFSs to determine the quantum of our proposed cost adjustments.
- 4.75 Other comments made by stakeholders related to:
- *Pension deficit contributions.* Whilst BT argued that contributions towards BT’s pension deficit should be included in the base year costs, other stakeholders, notably C&W and UKCTA argued for these costs to be excluded.
 - *Cost adjustments to be reflected in BT’s accounts.* UKCTA recommended that in our forthcoming review of BT’s regulatory financial statements we consider whether BT’s accounts should be amended to reflect some of the proposed cost adjustments and whether the format of the same accounts should be changed to better reflect the structure of the charge control baskets.
- 4.76 Consultation responses on the principle and quantum of individual cost adjustments are discussed further in the specific paragraphs below.

Our response

- 4.77 We have quantified our cost adjustments using BT’s 2007/08 and 2006/07 CCA FAC cost data as published in its relevant RFSs.
- 4.78 As for the specific points raised by stakeholders:
- *Pension deficit contributions.* Ofcom’s current policy position is that pension deficit contributions should not be taken into account when setting charge controls and this is the approach we followed in the LLCC. A separate Ofcom policy project will determine whether this position continues to be appropriate. In the meantime BT has provided the necessary explanations which confirm that these costs are not included in the cost base of the regulated services in scope of the LLCC charge controls.
 - *Cost adjustments to be reflected in BT’s accounts.* Only one of our proposed cost adjustments would need to be reflected in BT’s RFSs namely the matching of costs and revenues when accounting for the costs of 3rd party equipment. The remainder of the adjustments are only relevant for price control purposes and do not necessarily suggest a need for further improvements in BT’s regulatory accounts.

Our conclusions

- 4.79 Our overall conclusions of the adjustments required to BT’s base year costs in 2006/07 and 2007/08 are summarised in Table 4.2 below.
- 4.80 Overall the impact of the cost adjustments is to increase the TI Basket ROCE in 2006/07 from 2% to 16% and in 2007/08 from 11% to 19%. We note that the ROCE’s as calculated after our cost adjustments should be viewed as an underlying rate of profitability of the TI Basket which is more representative of the scope for future price reductions, rather than the true or actual level of profitability in that year.

Table 4.2 Final adjustments to BT's TI Basket costs in 2006/07 and 2007/08

Description of cost adjustment	Type	Cost adj. £m (2006/07)	Cost adj. £m (2007/08)
Exclusion of out of scope services (paragraph 4.84)	1	77	77
Exclusion of out of scope services		77	77
Exclusion of 3 rd party equipment and infrastructure costs (paragraph 4.98)	2	60	56
Third party customer local end equipment selling costs (paragraph 4.98)	2	6	6
Amendments to the RFSs		66	62
Holding gains/losses (paragraph 4.110)	3	78	(41)
Regulatory asset value (RAV) (paragraph 4.120)	3	9	6
Exclusion of 21 CN direct costs (paragraph 4.129)	3	17	29
Payment terms (paragraph 4.136)	4	16	4
Ofcom forecasting adjustments		120	(2)
Total net adjustments		263	137

We have excluded out of scope services from base year costs and revenues

Our proposals

- 4.81 In our December Consultation (paragraphs 4.55 to 4.56) we proposed to exclude the costs associated with services outside the TI Basket from our analysis of BT's base year costs for 2006/07. We therefore excluded the costs of Site Connect, resilient services and ancillary services from the cost base. We noted that RBS and SDSL were also not included in our TI Basket, but no further adjustments were required to the base year costs as these services are recorded separately in the RFSs.
- 4.82 We did not include any specific consultation questions on the exclusion of out of scope services but invited stakeholders' comments on the December Consultation in general.

Consultation responses

4.83 In their responses, four respondents (including C&W and UKCTA) raised the following issues in relation to the exclusion of out of scope services:

- *Ancillary services.* The respondents agreed, in principle, with excluding costs of services not included in the TI Basket. However, they remained concerned with the basis of the adjustment, which could have led to too many costs being excluded, leading to an understatement of the returns earned on TI services. It recommended that Ofcom considers how to best address this issue in our forthcoming review of BT's regulatory financial reporting requirements.
- *Mobile services.* The respondents argued that TI services sold to mobile operators (e.g. RBS and Site Connect) should be included in assessing the profitability of the TI Basket. Their argument is that inclusion of mobile services in the TI Basket will ensure that common costs are recovered across the relevant pool of services and the profitability of individual groups of services is not distorted by cost allocation issues. It was also concerned that leaving mobile service revenue and costs outside of the analysis would risk unjustified price increases.
- *Resilient circuits.* As for ancillary services, respondents remained concerned with the basis of this adjustment. To the extent that these services make a higher return than the TI Basket itself, there is an argument that excluding their costs, and revenues, understates the profitability for the services taken as a whole. It recommended that Ofcom considers how to best address this issue in our forthcoming review of BT's regulatory financial reporting requirements.

Our response

4.84 In response to issues raised by stakeholders we note the following:

Ancillary services

4.85 In our December Consultation, we proposed to exclude revenues and costs associated with ancillary services from the TI Basket and to include them instead in a separate "ancillary services" basket.

4.86 As ancillary service revenues were not reflected in the un-restated 2006/07 RFSs, we only needed to exclude the costs of these services from the TI Basket. Our approach to estimating these costs in 2006/07 is reasonable (see Annex 6, Table A6.5). These costs were estimated firstly by determining what percentage ancillary service revenues represented when compared to external PPC revenues and then by applying this percentage to the cost base of all TI Basket services.

4.87 Using this approach, the impact of this adjustment is to reduce base year costs by £15m in 2006/07 and £21m in 2007/08. For a more detailed explanation of this adjustment see Annex 6.

Mobile services

4.88 As explained earlier in this document, we excluded mobile services (e.g. RBS and Site Connect) from the TI Basket (and associated profitability analysis of this basket in 2006/07), given the requirement to supply these services on equivalent terms to PPC terminating segments (see paragraph 4.56). However, we also note that as our

charge control model is a component based model, to the extent that common components are used in the delivery of PPCs and mobile services these components are included in our model when forecasting the costs of PPC services in the TI Basket.

- 4.89 We also showed that although inclusion of mobile services could effect the weights ascribed to other services in the basket, the effect of this on the value of X calculated for the TI Basket is marginal (see paragraph 4.56). This is further supported by the analysis submitted by UCKTA showing the marginal effect including mobile services had on the TI Basket ROCE (an increase of 1.2 percentage points in 2006/07 and a decrease of 0.7 percentage points in 2007/08).

Resilient services

- 4.90 As discussed in our December Consultation, we excluded revenues and costs associated with resilient services from the TI Basket as these are in scope of the a TI Ancillary Services Basket.
- 4.91 We have followed this approach for both 2006/07 and 2007/08. We estimated the costs of these services to equal the revenues as identified in the RFSs in 2006/07 and 2007/08 (£34m and £29m respectively). For a more detailed explanation of this adjustment see Annex 6.

Our conclusions

- 4.92 Based on the above we conclude that:

- it is reasonable to exclude ancillary, mobile and resilient services from our TI Basket (and the corresponding profitability analysis); and
- we have applied a reasonable approach to estimating the costs of ancillary, mobile and resilient services to exclude from the TI Basket.

We have excluded 3rd party equipment and PoH equipment and infrastructure costs from the TI Basket

Our proposals

- 4.93 BT recovers the customer specific cost of equipment, fibre and copper used to provide a physical link between the LSE and the customer premises through a series of equipment & infrastructure connection charges.
- 4.94 In our December Consultation (paragraphs 4.57 to 4.59) we noted that the revenues and costs associated with these services are within the scope of the Equipment and Infrastructure basket and we therefore proposed to exclude them from the TI Basket. The effect of this adjustment was to reduce reported costs in 2006/07 by £60m.
- 4.95 We also noted that BT incurs costs in selling third party customer local end equipment & infrastructure which, as explained above, do not fall within the scope of the TI Basket. As BT does not account for these services separately from local end rentals we assumed that these selling costs are also reflected in the local end rental cost base. We therefore excluded an estimate of these costs (£6m) from the local end rental cost base in 2006/07.

Consultation responses

- 4.96 UKCTA noted that it agreed with the principle of this adjustment as third party customer infrastructure services are not included in the TI Basket but, as noted in the Regulatory Accounts for 2007/08, costs for these services are included in the total costs related to the services which they support.
- 4.97 However UKCTA was concerned that the adjustment is significant and there is a risk that BT has estimated incorrectly the costs associated with these services, thereby giving an incorrect return for the TI Basket. This issue reduced the transparency and usefulness of the RFSs. UKCTA recommended that Ofcom considers how best to address this in its forthcoming review of BT's regulatory financial reporting requirements.

Our response

- 4.98 As discussed in our December Consultation there are three issues relating to the way in which BT accounts for the costs and revenues associated with 3rd party and PoH equipment and infrastructure in the 2006/07 RFS cost data:
- The costs and revenues associated with 3rd party equipment and infrastructure are reported within the services in the TI Basket, even though for our purposes they should be accounted for separately in the Equipment and Infrastructure basket. Therefore we excluded the relevant costs and revenues from the TI Basket.
 - BT recovers the cost of 3rd party equipment and infrastructure upfront in connection charges whilst its accounting policy is to capitalise and depreciate these assets (over their useful economic life). This gives rise to a mismatch between the timing of the recognition of the revenues and costs in the financial statements. As part of our analysis of starting charges we adjusted for this issue to make sure that costs and revenues are recognised on the same basis.
 - BT incurs selling costs in relation to third party customer equipment and infrastructure, which should be included in the Equipment and Infrastructure basket. As part of our analysis we excluded these costs to avoid double recovery.
- 4.99 Our analysis indicated that the level of third party equipment and infrastructure costs to be excluded in 2006/07 was £60m and in 2007/08 was £56m (see Annex 6). We note that our estimate for this adjustment is comparable to the value estimated by RGL for UKCTA of £56m in 2007/08.
- 4.100 As for the associated selling costs, BT provided us with an estimate of its selling costs for equipment & infrastructure it provided both to external parties and to itself in 2006/07, which was £6m (which we assumed to be the same in 2007/08).
- 4.101 We discuss these further in Annex 6.

Our conclusions

- 4.102 In the light of the above we conclude that the correct treatment is:

- to exclude the costs of equipment and infrastructure costs from the TI Basket. The impact of this adjustment is to reduce BT's costs in 2007/08 by £56m.

- to exclude the associated selling costs. The impact of this adjustment is to reduce the costs of the TI Basket in 2007/08 by £6m.

4.103 For a more detailed account of our analysis see Annex 6.

Our projections of holding gains and losses take into account the effect of asset price inflation only

Our proposals

4.104 The holding gains and losses in BT's base year data comprise of two elements: the "price" holding gains/losses and the "other" holding gains/losses. In our December Consultation (paragraphs 4.60 to 4.62) we proposed to implement two adjustments when recalculating the value of the holding gains/losses to include in our base year costs:

- *We proposed only to take into account the "price" element of the holding gains/losses.* A price holding gain (loss) relates to the increase (loss) in value of an asset as a result of a change in its price. We have not based our forecast of BT's future costs during the period of the charge controls on BT's actual holding gains/losses in the base year. Rather we have estimated future holding gains/losses by applying the projected rate of asset price change to the projected capital employed. We further proposed to re-calculate the price element by using the historic five year average in the trend of real asset price changes as a proxy for future asset price changes.
- *We excluded "other" holding gains/losses.* Other holding gains/losses typically arise as a result of BT changing its valuation methodologies. When forecasting BT's future costs, we have proposed to exclude other holding gains/losses altogether on the basis that these are one off events. This will ensure that our own asset valuation is consistent with the holding gains/losses we allow.

4.105 The net effect of our proposed adjustment (excluding BT's actual holding losses for 2006/07 and replacing these with our estimates of forward looking price holding gains/losses) was to decrease base year costs in the TI Basket by £78m.

4.106 We asked stakeholder the following question:

Question 4.7 Do respondents agree that holding gains/losses should be recalculated for the TI Basket of services by using the historic five year average in the trend of real asset price changes? Do respondents agree that no allowance should be made for "other" holding gains/losses in the TI Basket of services?

Consultation responses

4.107 BT in its response:

- agreed that for the purposes of setting future prices it is appropriate to recalculate the holding gains and losses using a long-term estimate of future asset price changes. It also agreed that using an historic five year average in calculating the trend of real asset price changes is a sensible methodology for predicting future price changes as it is transparent and unambiguous.

- noted that it is important that these calculations disaggregate between access fibre cable and copper cable.
- did not agree that no allowance should be made for “other” holding gains/losses. It proposed that we amend our historic five year averages used in determining the forward looking trend in asset price changes to take into account the fact that assets have been re-valued: a) under the Modern Equivalent Asset (“MEA”) principles because of technological advances and b) due to the revision of indices used. In particular BT noted that Main Exchange, Other Network Equipment, Motor Transport, Land and Buildings, Computer and O&M assets will be valued on an HCA basis going forward. Therefore, for these assets there will no longer be a nominal holding/gain loss calculated (e.g. this will be zero). Instead there will only be a real holding gain/loss calculated assuming an inflation rate of 2% (based on Bank of England’s inflation target).

4.108 In UKCTA’s view, the size and volatility of this adjustment merits further attention. It requested Ofcom to consider reviewing in further detail this aspect of BT’s Regulatory Accounts.

4.109 Another respondent agreed with the principle of both of our adjustments. However, it noted that the use of real historical asset price trends as a proxy for future changes may be inherently unreliable. For example, in relation to assets supporting TI services, which are becoming obsolescent, it stated that it would have expected vendors to apply larger discounts to maintain their sales channels.

Our response

4.110 In our December Consultation, we discussed BT’s holding gains/losses as they related to 2006/07 and we have now updated our analysis using 2007/08 data:

- *Price movements in the underlying assets experienced in the year (“price” holding gain/loss).* A real holding gain (loss) is the additional value (loss) that accrues to the holder of an asset as a result of an increase (decrease) in its price relative to the prices of goods and services in the general economy. In 2006/07 BT RFSs included a nominal holding gain of which £6m related to the TI Basket. The equivalent figure at the TI Basket level using 2007/08 RFS data is a holding gain of £22m.
- *Other holding gains/losses in the year (“other” holding gain/loss).* This typically arises as a result of BT changing its valuation methodologies. In 2006/07 BT RFSs included a nominal holding loss of £716m (of which £88m related to the TI Basket), which is mainly due to BT reducing the estimated economic life of duct (from 60 to 40 years) and writing-off the net replacement cost of duct assets over 40 years old. The equivalent figure at the TI Basket level using 2007/08 RFS data is a holding gain of £15m.

4.111 The above analysis highlights not only the volatility in the absolute amounts, but also the direction of these adjustments, particularly for “other” holding gain/losses. We have concluded that it is appropriate to make an allowance for the pricing holding gains/losses in our model. We have estimated the amounts to be allowed by using the historic five year average in the trend of real asset price changes as a proxy for future asset price changes. Moreover:

- We agree that our assumptions on real asset price changes should disaggregate between access fibre and copper cable, as these two assets have markedly

different asset price trends. Our assumptions are consistent with those in the OFFR Statement i.e. we assumed copper prices change at 2.3% in nominal terms and fibre prices change at -2.7% in nominal terms during the charge controls.

- We do not agree that we should amend our forward looking trends in asset price changes to take into account the fact that assets may have been re-valued in the past (including revaluations under the MEA principles because of technological advances). This is because asset revaluations are intrinsically one off in nature. In addition, we also do not agree that we should amend our forward looking asset price changes to reflect potential MEA adjustments because these are intrinsically difficult to forecast with sufficient reliability.
- We do not agree that because BT has chosen to value certain asset groups (main exchanges, other network equipment, motor transport, land and buildings, computer and O&M) on an historic cost basis then this is relevant for price control purposes. This valuation method is explained in BT's "Detailed Valuation Methodology" document which supports its annual RFS publication. BT state that the historic cost method is used where the asset is of low value or has a short residual life or has minimal impact on regulated areas of BT. It is a pragmatic approach where the burden of sourcing robust data and carrying out potentially complex accounting calculations outweighs the benefits of a more precise calculation. These asset groups will be affected by price changes over time and we believe it is reasonable to allow for small real price changes even though their impact may be small.
- We believe that using historic asset price changes is the best available proxy for the future. Most of BT's assets (other than the transmission assets) will not be subject to obsolescence during the period of the charge controls and in this respect past performance should be a reasonable basis for forecasting future cost trends.

4.112 The impact of our adjustment is to reduce base year costs by £78m in 2006/07 and to increase costs by £41m in 2007/08.

Our conclusions

4.113 Taking the above in consideration we conclude that:

- we should project only the price movements in the underlying assets experienced in the year ("price" holding gain/loss) and use the historic five year average in the trend of real asset price changes.

4.114 For a more detailed discussion of our calculations see Annex 6. For a comparison of the asset values as proposed by us in our December Consultation, as proposed by BT and as used in our decisions see Annex 7, Table A7.8.

We have taken into account the RAV for pre-97 access copper and duct

Our proposals

4.115 In our December Consultation (paragraphs 4.63 to 4.68) we proposed to apply the RAV adjustment to the TI services within the charge control, in order to prevent any under or over-recovery resulting from the change in the accounting treatment of the pre-97 copper access assets (duct and copper cable). We have used BT's RAV

model as submitted to Ofcom in order to determine the value of the RAV adjustment which we then allocate to the relevant access copper cable and duct assets.

4.116 The effect of this adjustment was to reduce the total costs of the TI Basket in 2006/07 by £9m.

4.117 We asked stakeholders the following question:

Question 4.8 Do respondents agree that the RAV adjustment should be applied to the base year costs of the TI Basket?

Consultation responses

4.118 BT disagreed with our proposed RAV adjustment on the following grounds:

- There were specific reasons for applying the adjustment to copper access services which are not relevant to TI services. The adjustment was made previously on specific copper access services because Ofcom found that allowing BT to charge wholesale prices consistent with CCA principles could result in an over-recovery of costs. This was due to the fact that BT's copper access services were price controlled on an HCA basis up until 1997, but on a CCA basis thereafter. This position does not arise in the case of TI services. PPCs were first launched in August 2001 and terminating segments have been subject to price controls based upon CCA principles ever since. Trunk elements were considered prospectively competitive at the close of the 2003/4 Leased Line Market Review and had a cost-orientation obligation placed upon them. Unlike copper access services, PPCs have therefore never been price regulated under an HCA regime. There has therefore been no switch over from HCA to CCA, which was the justification for the 2005 RAV adjustment.
- In addition, the policy change as it applied to copper access services explicitly stated that the copper access network was not likely to attract investments from competitors in the medium term. Again, such a situation does not exist for fibre-based services (the predominant type of PPCs) where Ofcom has said that it wishes to see as much infrastructure competition as possible.
- The RAV adjustment itself is not consistent with the Ofcom policy of setting charges using "forward looking long run incremental costs".
- Were Ofcom to remain of the view that such RAV adjustments should still apply, then these should only be made to PPCs delivered by copper lines (sub 2Mb/s services and the proportion of 2Mb/s Local Ends that are delivered over copper). This means that the adjustment should apply to only a small fraction of the assets involved in TISBO provision and, given that the RAV adjustment unwinds over time anyway, by 2010/11 the adjustment itself will be insignificant against the likely forecasting error.

4.119 Other respondents agreed with the adjustment in principle.

Our response

4.120 Since 2005 we have determined charges for copper access products on Openreach's Regulated Asset Value ("RAV") which is different from the asset value disclosed in Openreach's RFSs. The difference relates to Openreach's Copper and Duct assets.

In the RAV, the assets which were purchased before 1997 are valued on a Historical Cost ("HCA") basis indexed by inflation. This provides a lower valuation than the RFSs where the same assets are valued on a Current Cost ("CCA") basis. The deduction to bring the RFS figure to the RAV figure is the RAV adjustment.

4.121 As discussed in our December Consultation (paragraphs 4.63 to 4.68) applying the RAV adjustment to the TI Basket of services is justified as:

- It was always our intention to consider the RAV adjustment in relation to PPC services. The RAV was used to set the price ceilings of WLR⁵⁹ and LLU⁶⁰ in 2006 and 2005 respectively, but not when setting the last PPC charge controls in 2004. In the Statement "Valuing Copper Access" ("2005 Cost of Copper Review")⁶¹ Ofcom further noted that:

"Some Partial Private Circuits (PPCs) also use metallic pairs in the final drop to the customer. Ofcom does not intend currently, however, to re-examine the existing PPC price controls as a result of this statement as to do so given that the price controls were imposed quite recently (in September 2004) would seem disproportionate. However, Ofcom will take account of this statement when the PPC price controls are next examined."

- Although BT was not required to offer (wholesale) PPCs until 2001, it is reasonable to assume that before 1997 the charges for retail leased lines services it did offer were recovering at least their HCA costs. This is because when price controls were introduced, the returns earned on PPCs were calculated to be in excess of the regulated cost of capital and, if anything, the competitive conditions faced by BT before 1997 would have allowed for significantly greater pricing freedom. Provided BT behaved rationally with its pricing decisions pre 1997, then it would have recovered its HCA costs.
- Failing to account for the RAV adjustment in the value of pre-97 access duct and cable consumed by TI terminating segments, would lead to an over-recovery in the value of these assets.
- For consistent economic regulation, assets should be valued on a similar basis for all the services that consume those assets. Using different valuation approaches would risk distorting relative prices and decisions based on those prices.
- Finally, we believe that, even with the RAV adjustment, BT should be able to comply with its cost orientation obligation (which requires it to set prices based on forward looking long run incremental costs plus an appropriate mark up) and charge control obligations. As the charge control is based on a forecast of FAC, including an allowance for all relevant common costs, it is highly unlikely that BT would be required by the control to price all services in the basket at or below actual incurred DLRIC (it is, however, theoretically possible if the cost projections are badly wrong or if BT fails to make expected efficiency gains), and therefore it is expected that BT will comply with both the charge control on average charges and the cost orientation condition. This is not affected by the RAV adjustment, given its small magnitude. In addition, in the event that a charge is below the DLRIC floor, we would then have to consider whether that charge is in fact

⁵⁹ <http://www.ofcom.org.uk/consult/condocs/wlrcharge/statement/statement.pdf>

⁶⁰ http://www.ofcom.org.uk/consult/condocs/llu/statement/llu_statement.pdf

⁶¹ <http://www.ofcom.org.uk/consult/condocs/copper/value2/statement/>

unreasonable or anti-competitive (the “second order” part of the cost orientation test).

4.122 We also confirm that, as noted by BT, we have applied the RAV adjustment to PPCs delivered over copper lines only. The impact of this adjustment is to decrease base year costs in 2006/07 by £9m and in 2007/08 by £6m.

Our conclusions

4.123 Based on the above we conclude that:

- it is reasonable to apply the RAV adjustment to PPC services delivered over copper lines only.
- the impact of this adjustment is to decrease TI Basket costs in 2007/08 by £6m.

4.124 For a more detailed account of our calculations see Annex 6.

We have excluded costs incremental to 21CN

Our proposals

4.125 In our December Consultation (paragraphs 4.69 to 4.71) we proposed to exclude the incremental costs associated with BT's 21CN investment as it related to services in the TI Basket. The impact of our proposed adjustment was to decrease the costs of the TI Basket in 2006/07 by £17m.

4.126 We asked stakeholders the following question:

Question 4.9 Do respondents agree that the direct costs relating to 21 CN should be excluded from the 2006/07 base year costs of the TI Basket?

Consultation responses

4.127 Most stakeholders agreed with our proposals.

4.128 BT agreed with our proposal to exclude 21CN related direct costs from our base year costs as long as legacy investment levels in the cost model of the hypothetical network reflect those of sustainable networks. BT proposed that we adjust upwards the value of legacy assets (and associated depreciation) to represent capital expenditure that would have taken place in the absence of a decision to invest in 21CN.

Our response

4.129 As discussed in our December Consultation (paragraph 4.69 to 4.71), BT provided detailed analysis of 21CN costs attributed to TI terminating and trunk segments. These can be categorised as “direct” costs such as employee salaries and “indirect” costs such as accommodation and transport costs. BT estimated the total 21CN costs relating to the TI Basket of services in 2006/07 to be £39m of which only £17m are direct. In determining our cost adjustment we proposed to only exclude costs which are directly attributable to 21CN, as BT would have incurred the indirect costs under any circumstances. We still believe this is the correct approach:

- Under the technologically neutral approach to modelling, we have forecast the costs of services irrespective of the underlying technology that is used to deliver them. Under this approach it would be inconsistent for us to continue to include technology specific investment costs by BT (such as incremental 21CN costs).
- In our technologically neutral approach to modelling, we have assumed levels of capital expenditure sufficient to support an ongoing hypothetical network. Our assumed capital expenditure is the sum of two distinct elements (see Annex 9, Tables A9.5 and A9.6 from our December Consultation for a more detailed description of these and the algorithms we used in the model):
 - “Steady state” capital expenditure: This is an estimate of the capex required under steady state conditions (e.g. assuming constant service volumes).
 - “Additional” capital expenditure: The second element is the capex that would be required as a result of changes in future service volumes. Additional capex, by definition, is equal to zero in our base year. In subsequent years we calculated this in proportion to the change in the volume forecasts and assumed cost volume elasticities.
- We have checked our base year input data to ensure that costs associated with our hypothetical networks are not unduly depressed as a result of BT’s investment in 21CN. In a steady state, assets will on average be halfway through their economic lives, so in a mature market you would expect the Net Replacement Cost to Gross Replacement Cost (“NRC/GRC”) ratio to be around 50%. An NRC/GRC ratio which is significantly less than 50% may indicate that assets are being run down and not being replaced. The NRC/GRC ratio in our model across the TI and AI Baskets is around 45% in 2006/07 and 44% in 2012/13. We have therefore not made any further adjustments to the NRC/GRC ratio of the assets in our model.
- We have not included, within the model assumptions, the efficiency gains BT will derive from moving to 21 CN. Both the estimated value and the timing of these potential efficiency savings are unknown. We have therefore included a level of efficiency savings that are representative of the hypothetical ongoing network. For a detailed description of our assumed efficiency savings see Annex 7, paragraph A7.117.

4.130 The impact of our adjustment is to decrease base year costs in 2006/07 by £17m and in 2007/08 by £29m.

Our conclusions

4.131 Based on the above we conclude that:

- it is reasonable for us to exclude the incremental costs associated with 21 CN costs from the TI Basket; and
- the impact of this adjustment is to decrease TI Basket costs in 2007/08 by £29m.

4.132 For a detailed account of our calculation see Annex 6.

We have amended the value of debtors

Our proposals

4.133 In our December Consultation (paragraphs 4.72 to 4.74) we proposed to amend debtors to reflect contractual payment terms. The effect of this adjustment is to decrease the 2006/07 costs in the TI Basket by £16m.

4.134 We asked stakeholders the following question.

Question 4.10 Do respondents agree that the debtors in the TI Basket should be amended to reflect contractual payment terms?

Consultation responses

4.135 BT disagreed with our proposal to amend debtors' days to reflect strict contractual terms. In its view it would be more appropriate to reflect their actual experience in dealing with customers when determining the value of this adjustment. In effect BT made the following specific proposals:

- On connections, we should assume an average of 15 days delay between a new connection and an invoice being raised on the monthly billing cycle. Therefore the 31 day average assumed by us for connections should be increased to 46 days.
- On rentals, we should assume an average of 15 days rentals added to the first month's rental (as connections will not always be provided on the same day as the monthly billing cycle). This adds one additional day to the notional debtor (assuming a PPC life of three years). Therefore, the 16 day average assumed by us for rentals should be increased to 17 days.
- On both connections and rentals, we should assume an additional 17 days for disputed invoices. Therefore, the average debtor days assumed for connections should be 63 days and for rentals should be 34 days.

Our response

4.136 Following BT's response to our December Consultation we have decided to reflect BT's monthly billing cycle when adjusting the value of debtors as per its RFSs:

- For rentals, we have assumed 16 days to represent the average interval for services billed monthly in advance.
- For connections, we have assumed 46 days to represent the average interval between a new connection and when payment falls due. BT invoices connections on its monthly billing cycle, rather than billing for the service the day after connection, adding an average of 15 days to the 31 days gap between service and payment assumed for 2006/07 in our December Consultation.

4.137 On the other hand we disagree that the debtors' calculations should reflect disputed invoices, as this would not give BT the correct incentives to minimise its costs.

4.138 The impact of this adjustment is to reduce base year costs by £16m in 2006/07 and by £4m in 2007/08.

Our conclusions

4.139 Our conclusions are that:

- it is reasonable for us to amend debtors to recognise that BT has a monthly billing cycle (but exclude an allowance for disputed invoices) ;and
- the impact of this adjustment is to decrease TI Basket costs in 2007/08 by £4m.

4.140 For a detailed account of our calculations see Annex 6.

We have introduced separate Point of Handover (“PoH”) charges

We have introduced separate PoH charges

Our proposals

4.141 In our December Consultation (paragraphs 4.75 to 4.83) we estimated the PoH costs to be recovered to have been £11m in 2006/07. We proposed to recover these costs via separate charges calculated on the same basis as the current local uplift factor on external local end rental charges. We proposed new PoH charges.

Table 4.3 3rd party PoH rental charges

Services	Price per external circuit/ per annum (£)
64 kbit/s	110
2 Mbit/s	180
34/45 Mbit/s	930
140/155 Mbit/s	1,800

4.142 We asked stakeholders the following questions:

Question 4.11 Do respondents agree that 3rd party PoH costs should be recovered via separate per circuit PoH charges included in the TI Basket?

Consultation responses

4.143 C&W raised a number of issues with regards to the local end adjustment factor and our proposals relating to it:

- In its view, BT has misunderstood Oftel’s approach in the Phase II Determination (the “2002 PPC Direction”) in 2002⁶². The adjustment was made to address the overheads associated with the PoHs, the ratio of equipment costs was used to

⁶²

http://www.ofcom.org.uk/static/archive/oftel/publications/broadband/leased_lines/ppc1202/direction.htm

set the level of the adjustment, and therefore, it should be the overheads associated with the local end that should be increased and not the whole cost (and hence price).

- In its view, the costs associated with 3rd party PoHs should be spread over all external (including mobile services) and BT's internal use of these to ensure cost minimisation and a level playing field.
- It proposed that only efficiently incurred costs should be recovered.
- In its view, the correct charging mechanism can only be decided once Ofcom has decided on the level of costs to be recovered and which parties should contribute towards them. For example, if the amount of costs to be recovered is kept at current levels and only external circuits are deemed to contribute, then it is important for Ofcom to update the charging regime in such a way to create the correct investment incentives for CPs such that they can minimise their costs.

4.144 Other respondents made the following points:

- One noted that PoH charges should continue to be included in the main TI Basket, as they relate to other TI services and they are purchased together.
- Another disagreed with our proposals for separate PoH charges and expressed a preference for the *status quo* to continue.
- A third one although supportive of our proposals, it encouraged Ofcom to implement a regime which is transparent and easy to monitor.

Our response

4.145 BT currently recovers certain PoH costs through an adjustment to the price of 3rd party local end rental charges levied to CPs (the "local end adjustment"). As the local end adjustment factor was set in 2002, and since then neither the methodology nor the underlying costs have been revisited, in reaching our conclusions we have considered the following:

- We have checked BT's estimates of the additional PoH costs to be recovered;
- We have applied the six principles of cost recovery to PoH costs; and
- We have considered alternative ways to recover these costs in the future.

We have checked BT's estimates of PoH costs

4.146 In reaching our conclusions, we completed a number of checks on BT's estimate of the PoH costs to be recovered. These are summarised in Annex 5 (and they were also discussed in our December Consultation, Annex 7):

- We ascertained what costs are incurred in supplying a PoH link and how BT currently recovers these. Table A5.2 clarifies the types of costs which are recovered in the new PoH charges and those recovered in the current local end uplift.
- BT estimated the quantum of the costs to be recovered. To this end, BT prepared a detailed cost model which quantifies the ongoing maintenance and other costs

associated with ensuring this equipment is operational, based on its estimates of the type and quantity of PoH boxes. Table A5.3 gives a high level breakdown of costs to be recovered via the PoH rental charges. (Table A7.3 in our December Consultation).

- We have received a confidential copy of this model. We paid particular attention to the methodology applied and the key assumptions used in estimating the costs to be recovered. In summary our conclusion is that the methodology applied by BT and the total cost they estimate for third party PoHs appears to be reasonable.

4.147 As detailed in Annex 5 BT has estimated the total level of PoH costs to be recovered to be £11.7m (compared to £11.1m in our December Consultation). . Using BT's latest 2007/08 volumes and FAC cost estimate we recalibrated the individual charges we set out in the December Consultation to limit BT's total recovery for PoH costs to £11.7m. Following from the above, we concluded that the level of PoH costs to be recovered is reasonable.

We have applied the six principles of cost recovery to PoH costs

4.148 When deciding whether we should amend the current approach to recovering these costs we have taken into account the six principles of cost recovery which are⁶³:

- Cost causation – costs should be recovered from those whose actions cause the costs to be incurred at the margin;
- Cost minimisation – the mechanism for cost recovery should ensure that there are strong incentives to minimise costs;
- Distribution of benefits – costs should be recovered from the beneficiaries especially where there are externalities;
- Effective competition – the mechanism for cost recovery should not undermine or weaken the pressures for effective competition;
- Practicability – the mechanism for cost recovery needs to be practicable and relatively easy to implement; and
- Reciprocity – where services are provided reciprocally, charges should also be reciprocal.

4.149 In general, we often give prominence to the principle of cost causation, on the basis that it is economically efficient for third parties to pay for those costs which they directly cause to be incurred. However, while we often take cost causality as a starting point, consideration of wider set of cost recovery principles is justified as there may be grounds to depart from the main principle of cost causality in specific circumstances. This may relate, for instance, to very practical implementation issues to wider cost recovery considerations such as competition effects or externalities.

⁶³ These principles derive from the six principles of cost recovery that the Monopolies and Mergers Commission (the "MMC") (now the Competition Commission) adopted in its 1995 enquiry; see the MMC's report entitled "Telephone number portability: a report on a reference under section 13 of the Telecommunications Act 1984".

http://www.competition-commission.org.uk/rep_pub/reports/1995/374telephone.htm

- 4.150 **Cost causation** – This principle suggests that PoH costs should be recovered from those whose actions cause the costs to be incurred at the margin. BT does not use PoHs in the delivery of internal end-to-end PPCs. These costs are primarily driven by other CPs wishing to purchase PPCs which, in turn, requires them to interconnect with BT's network and incur the PoH costs. Therefore it would be contrary to the principles of cost causation if these costs were also allocated to internal local ends.
- 4.151 We note that in some circumstances BT may be incurring similar costs (for example when providing the platform interface between its core network and other platforms such as its IP-VPNs). BT informed us that PoH costs for internal use by BT Global Services ("GS") are not part of the PPC PoH costs in the RFSs. All PoH equipment (internal and external) is booked to the SDH Class of Work ("CoW") from which costs are apportioned into the RFSs using volumes for each service. As volumes are collected for external PoHs, but not internal, it is only costs of external PoHs that are included in the RFSs and that form the basis of our analysis.
- 4.152 Mobile services which may be using PoHs are not included in the analysis provided by BT. However BT has informed us that PoH costs are also recovered in relation to mobile services.
- 4.153 **Cost minimisation** – This principle would require that the mechanism in place for cost recovery of PoHs should ensure that there are strong incentives to minimise these costs. In the case where PoH costs were only recovered from external CPs BT may not have the correct incentives to minimise such costs. However, there are mitigating circumstances against this:
- We have established that BT itself incurs these costs in interfacing its core networks with GS's IPVPN platform. Therefore, BT should have some incentive to minimise the costs it incurs. As discussed above these costs are included in the cost stack of the relevant BT downstream operations which is outside the scope of the TI charge controls.
 - Even if BT faced these costs, we recognise that it would not necessarily have an incentive to minimise costs, if it can pass these through to its customers. We believe including the associated PoH revenues and costs in the TI Basket will provide BT with incentives to minimise costs. In addition our sub-caps will limit any increases in the individual PoH charges to RPI - 0% in any given year.
- 4.154 **Distribution of benefits** – PoH costs should be recovered from the beneficiaries especially where there are externalities. Some stakeholders claim that PoH costs should be recovered from all CPs, including BT, because the customers of all providers benefit from being able to connect to other networks for the distribution of both voice and data. Although this may be true in the case of services such as Product Management, Policy and Planning ("PPP") where we recognised that all CPs, including BT, benefit from wider interconnection we do not believe this argument is applicable to PPCs. This is because the value of PPCs lies in connectivity between defined business sites, not wider interconnectivity.

In some previous cases, we had also decided to recover system set up costs from all customers including BT's. For example, the costs of the systems needed to enable number portability were recovered from all customers, on the grounds that all customers would benefit from an increase in competition resulting from the introduction of number portability. As PoH costs are incurred on a per operator/per circuit basis we note that this argument does not apply. Per operator or customer costs are generally recovered from the operator or customer concerned.

- 4.155 **Effective competition** – The mechanism for PoH cost recovery should not undermine or weaken the pressures for effective competition. Some stakeholders note that PoH charges mean that the price paid by other CPs for PPCs is in effect higher than that paid by BT's downstream operation, which in turns puts them at a competitive disadvantage. We agree that this may be the case. However, this is mitigated to a certain extent. Firstly, BT itself faces similar costs in some of its downstream markets. Secondly, we are subjecting PoH revenues to a sub-cap. Finally, we have also considered potential future steps that stakeholders could take to minimise and eventually avoid these costs (see paragraph 4.161 below).
- 4.156 **Practicability** – The mechanism for PoH cost recovery needs to be practicable and relatively easy to implement. We have taken account of this principle when evaluating various alternatives to the recovery of PoH costs which we discuss in more detail in paragraph 4.160 below.
- 4.157 **Reciprocity** – Where services are provided reciprocally, charges should also be reciprocal. This is not applicable for PoHs.
- 4.158 Below we discuss various alternatives to the recovery of PoH costs, where we have taken into account the principles of cost recovery discussed above, specifically that the cost recovery approach should be practical to implement and promote effective competition.

We have considered different ways to recover PoH costs

- 4.159 In our December Consultation (paragraphs 4.78 to 4.80) we discussed two ways in which we could recover these costs and expressed a preference for implementing Option 2:
- *Option 1: Keep the status quo* of applying an uplift to the external local end price, but update the uplift factor. The main advantage is that there will be no disruption to the status quo.
 - *Option 2: Introduce a separate charge* averaged across bandwidths and calculated on the same basis as the uplift factor. The main advantage of this approach is that it will increase transparency in the RFSs and allow better monitoring of cost recovery for PoHs and 3rd party local ends.
- 4.160 There are also other alternatives:
- *Introduce more granular charges.* This method would require a separate charge for each type of handover, including a different charge for migrated circuits. The prices would reflect the bandwidth of the PoH box used to handover traffic, the amount of sharing with other services, the distance and whether the circuits were ISH, CSH or migrated. The recovery of costs would be accurate. However, this approach would add substantially to transaction costs as each variation would need to be listed on BT's price lists and billing engines. In addition, disruptions to services will occur when reconfiguring the PoHs. This approach would be highly impractical to implement.
 - *Introduce average prices, distinguishing between CSH and ISH.* This method would average the bandwidth related costs, but would distinguish between whether a circuit was handed over using CSH and ISH. This method would ensure that CPs that built their network close to BT's exchanges were not cross subsidising operators with more distant networks. The small proportion of PoH

costs which are distance related and the small percentage of circuits delivered over ISH means that there is limited benefit in distinguishing between CSH and ISH PoHs.

- *Introduce a cost recovery mechanism that would incentivise migration to new, aggregated PoHs.* Under this approach, circuits handed over new PoHs would not attract the separate new PoH charges we are imposing. This would incentivise CPs to migrate to the new efficient PoHs as it would allow them to reduce (and ultimately avoid) the new PoH rental charges.

4.161 Of the three further alternatives we discussed above, BT has proposed to implement the third one. We expect BT to implement this within three months following the implementation of the charge controls. The implications associated with this are as follows:

- There will be set up costs associated with implementing the new approach such as system development costs (principally by BT, but also other CPs) and additional costs that CPs will bear resulting from the re-arrangement of these circuits.
- The impact of this approach, if implemented in the future, on our LLCC decisions is minimal: it would have no impact on the value of X that we set for the TI Basket. However the new PoH charges may need to be re-set (we will expect these to decrease as old equipment is retired) and the rental charge for the new aggregated PoH rentals will increase (to reflect the full cost of maintaining the equipment at BT's exchanges and bearer costs).
- The safeguard cap of RPI - 0% on each PoH charge will protect users in the meantime, until the new mechanism is implemented by BT. The safeguard cap will allow more flexibility to introduce a new more efficient charging structure than a uniform percentage uplift on the price of a local end.

We have recalculated the 3rd party PoH rental charges

4.162 In Annex 5 we describe BT's estimate of the POH costs not otherwise recovered through other charges. It reflects 2006/07 circuit volumes & information for indirect costs drawn from its regulatory accounting system for 2006/07. The total PoH costs to be recovered are £11.7m and reflect an increase of £0.6m over the £11.1m we included in our December Consultation. This reflects the inclusion of selling, general & administrations costs in the total as well as a more systematic & granular methodology than the previous estimate.

4.163 We have then applied the same methodology discussed in our December Consultation (Annex 7, paragraphs A7.29 to A7.30) to derive the new individual per circuit/per annum PoH rental charges. In terms of the total sum to be recovered this decision is equivalent to updating the current local end adjustment to reflect the latest costs for POH and third party local end rentals. Using BT's latest 2007/08 volumes and FAC cost estimate we recalibrated the individual charges to limit BT total recovery to this estimate. This approach resulted in the charges listed in Table 4.4 below.

4.164 As explained in Section 7, paragraph 7.30, we require BT to implement these new charges on 1st October 2009.

Our conclusions

4.165 Based on the above our conclusions are that:

- 3rd party PoH costs should be recovered via separate new PoH charges as set out in Table 4.4;
- these charges are included in the TI Basket and each charge is subject to a sub-cap of RPI – 0%; and
- BT is required to introduce these new charges from 1st October 2009.

4.166 The PoH charges we are implementing are:

Table 4.4 3rd party PoH rental charges

Services	Price per external circuit/ per annum (£)
64 kbit/s	100
2 Mbit/s	170
34/45 Mbit/s	860
140/155 Mbit/s	1,600

We are amending the starting charges of some services

We are amending the starting charges of some TI services

Our proposals

4.167 In our December Consultation (paragraphs 4.84 to 4.88) we proposed:

- implementing BT's suggested price-rebalancing for some TI terminating and trunk segments;
- providing the price rebalancing proposed by BTW was introduced, we would not require any further one-off changes when the proposed controls are introduced;
- ensuring that the prices for TI terminating and trunk services within the scope of the proposed charge control should not increase in nominal terms between the implementation of the charge control and 1 October 2009; and
- bringing the prices of all the services in the TI Basket within the appropriately measured DLRIC floors and DSAC ceilings, within 12 months of the implementation of the charge control. At the time we proposed that BTW should review its charges during 2009/10 in the light of the latest available DSAC/DLRIC information, and rebalance prices where required to bring them within the appropriately measured floors and ceilings. In this context, we noted that the onus was on BTW to comply with its regulatory obligations.

4.168 BT's proposed price amendments are shown in Table 4.5 below.

Table 4.5 BT's pricing proposals as presented in our December Consultation

Services	Current Price (£) ⁶⁴	Proposed Price (£)
64 kbit/s link ⁶⁵	62.81	125.62
64 kbit/s local end (external)	289.67	579.34
64 kbit/s enhanced maintenance	40.31	80.62
2 Mbit/s local end (external)	691.92	833.76
2 Mbit/s trunk	102.24	46.83

4.169 We asked stakeholders the following questions:

Question 4.12 Do respondents agree with the proposed approach towards prices for the TI Basket of services during the period to 30 September 2009?

Consultation responses

4.170 All stakeholders welcomed the proposed price decreases for 2 Mbit/s trunk. Some of their more specific comments are summarised below.

4.171 BT did not put forward any alterations to the price re-balancing proposal for TI services that we had discussed in our December Consultation. BT has however noted the following:

- It would expect Ofcom to backdate the charge controls to 1st October 2008, when the last charge controls ended.
- BT disagreed with the requirement to keep the level of charges within the DSAC and DLRIC values can be absolute.

4.172 C&W expressed its understanding that there is pressure to increase the price of sub 2Mbit/s PPCs. In its view the issue is about the extent of the increases and the speed with which they are implemented. It raised the following issues in relation to BT's proposed re-balancing:

- It questioned the extent of the proposed price increases based on issues around the reliability of BT's RFSs. In particular it queried whether the sub-2 Mbit/s trunk revenues were included in the RFSs and whether the volumes of sub-2 Mbit/s circuits were correct.
- If price increases are required these should be phased in gradually. This is because the arrangements for pass through of costs are complex and vary from contract to contract.

⁶⁴ Current price for local ends is external price only.

⁶⁵ Higher bandwidth main link prices are expected to increase pro-rata (a full list of proposed prices is included in Annex D to the proposed conditions G4, GG4, GH4 and H4). For purposes of the analysis presented in this section savings are calculated by multiplying 64 kbit/s equivalent circuit volumes by the price differential being proposed.

- Local end rentals should be harmonised for all internal and external usage.
 - Trunk prices should be reduced towards the level of terminating km charges. Ofcom should first focus on 2 Mbit/s trunk charges, followed by 45 and then 155 Mbit/s.
- 4.173 Another respondent proposed that we should not put as much emphasis on the use of LRIC “floors and ceilings” in order to justify BT’s re-balancing proposals. In its view DSAC and DLRIC values are highly unreliable and not subjected to the required scrutiny. Ofcom should therefore apply a discount to the relative importance of the LRIC second order test until such time as confidence in their accuracy can be assured.
- 4.174 MBNL commented on the fact that the charge control needs to be amended to reflect the lower costs of subsequent lines. Its concern was that if the price set is the same for the further lines as it is for the first line, as is the case currently, BT appears to be earning excessive profits on all additional lines.
- 4.175 A stakeholder made a comparison of the proposed regulated PPC prices in the UK with three other EU Member States and against the European Commission’s (“ECs”) best practice guidelines. This benchmarking suggested that BT’s prices for new circuits are remarkably higher than those of its European counterparts and still well above the ECs best practice at the start of this control.
- 4.176 Another stakeholder suggested that all charges should be within the floors and ceilings from the beginning of the charge control and BT should not be given a grace period. To do otherwise would undermine the authority of the charge control and cost orientation obligations and grant BT an undue benefit.

Our response

- 4.177 As described in Section 3, we have generally preferred RPI-X regulation using “glide paths”, under which charges are brought into line with costs over a number of years, to one-off adjustments to starting charges. This is because the use of glide paths leads to greater stability and predictability (by avoiding sudden changes to charges), and also because they improve cost reduction incentives by allowing BT to keep unanticipated efficiency gains for a longer period. However we also recognise that in some cases one-off adjustments to starting charges may be required, if, for example, these charges are materially out of line with the underlying costs of provision. If prices are too high or too low, there are additional risks of static and dynamic inefficiencies (for example inefficient entry). Under these circumstances our preference may be tipped towards one-off adjustments.

We benchmarked BT’s unit costs

- 4.178 We have taken into account EC’s recommendation on the pricing aspects of wholesale leased lines part circuits⁶⁶ (the “EC Leased Lines Recommendation”). As requested in this recommendation we ensured that the prices of wholesale TI terminating and trunk in scope of the charge controls reflected the costs of the underlying network elements including a reasonable rate of return (see paragraphs 4.180 to 4.184).

⁶⁶ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32005H0268:EN:NOT>

4.179 In addition, as part of the NERA efficiency study we benchmarked BT's costs against appropriate comparator companies, principally the US Local Exchange Carriers ("LECs"). The results of this study are discussed in more detail in paragraphs A7.59 to A7.122 of Annex 7 of this Statement. This study concluded that in 2006/07 BT was 2.0% to 6.8% ahead (e.g. more efficient) of the decile. We therefore concluded that we have taken into consideration an efficient level of costs when setting the charge controls for TI terminating and trunk services.

BT notified the one off reductions to trunk prices

4.180 On 3rd June 2009 BT notified the new 2 Mbit/s trunk prices which will become effective from 1st September 2009. The notified price of this service is listed in Table 4.6 below, and it is at the level we had discussed in our December Consultation. By decreasing the price of this service to the 2007/08 DSAC values as per BT's RFSSs, the prices are better aligned with the underlying costs of provision. We are not introducing any further amendments to the price of this service.

4.181 We do not think it is appropriate for the charge controls to impose a rigid structure on the relative prices of different PPC services, in particular trunk circuits at 45 Mbit/s and 155 Mbit/s. BT is better placed to make the appropriate pricing decisions to recover common costs efficiently within the complementary constraints of the overall TI charge controls (which requires TI Basket aggregate charges to be decreased by 3.25% in each year of the control) and BT's cost orientation obligations.

BT notified the one off price increases

4.182 On 3rd June 2009 BT notified the one off increases to the prices of some sub 2 Mbit/s and 2 Mbit/s circuits which will become effective from 1st September 2009. The notified prices are listed in Table 4.6 below, and these are at the levels we had discussed in our December Consultation.

4.183 We are not introducing further amendments to these charges. By increasing the price of these services up to the level of the 2007/08 DLRIC values as per BT's RFSSs, the prices are better aligned with the underlying costs of provision, and give CPs the correct pricing and investment incentives.

- The price increases are not phased in. If price increases were to be phased in over the control period, BT's ROCE on the TI Basket will be below its WACC (due to the one off nature of the decreases in trunk discussed above). In addition as we are imposing a sub-cap of RPI+5% on each charge, BT's ability to phase in price increases over the charge control period would be severely restricted.
- BT also notified increases to the price of 2 Mbit/s local ends. In our view these price increases are justified to ensure that the price of these services is better aligned with the underlying costs of provision.

4.184 We are not introducing any further amendments to the price of these services (with the exception of the 64 kbit/s and 2 Mbit/s local end rental prices, see paragraph 4.185 below).

We require BT to harmonise the price of external local ends

4.185 As we are introducing separate PoH charges (see paragraph 4.145) we will require BT to reduce the price of 64 kbit/s and 2 Mbit/s external local end rentals by the amount of the new PoH charges (e.g. there will no longer be a local end adjustment

applied to the price of external local ends). The price of internal and external local ends will be the same and will be set at the level as shown in Table 4.6 below.

- 4.186 These new charges will become effective from the 1st October 2009. See Section 7 (paragraph 7.30) for the detailed discussion.

We will not be changing the structure of charges

- 4.187 It is our view that it would not be appropriate, as part of setting charge controls, to impose a rigid structure on charges. Given a total pot of costs, and subject to appropriate safeguards to prevent anti-competitive or excessive charges, it is up to BT to structure prices to recover costs efficiently. BT will also be able to respond to market conditions by offering some types of discount scheme.
- 4.188 However, as part of setting the charge controls, we have imposed a number of safeguards such as a sub-cap of RPI-0% on the sub-basket of TI terminating segments and a sub-cap of RPI+5% on each charge (RPI-0% on the new PoH charges). These will limit the extent of the restructuring of individual charges during the control period. In Section 3 we have also set out our conclusions with regards to geographic and term discounts (that BT can offer, but will not count towards the meeting of the charge controls) which will ensure that the controls do not create an artificial incentive to offer certain types of discounts (see paragraphs 3.288 to 3.319).

We will not be backdating the starting charges or charge controls

- 4.189 We will not be backdating the starting charges or charge controls to 1st October 2008.
- 4.190 We have concluded that it is not within the scope of these charge controls to require BT to bring the remainder of charges within appropriately measured DSAC and DLRIC. BT has an obligation to ensure that it complies with all its SMP obligations at all times and it is not within the scope of this Statement to examine BT's compliance. In setting these charge controls we therefore do not conclude on whether BT's charges are cost orientated or not.

RBS prices are also impacted

- 4.191 On 12 June 2009, BT also notified the new RBS prices which will become effective on 10th September 2009. As discussed in paragraph 4.56, common components between RBS and TI terminating segments are priced at the same level. Therefore the one off changes in the prices of some TI terminating and trunk services discussed above (and listed in Table 4.6) also impacted the price of RBS services. Overall the re-balancing of RBS service prices is revenue neutral when using 2008/09 forecast volumes.
- 4.192 In addition to these starting charge adjustments, we also have estimated the revenue impact if RBS prices followed the price path implied by the overall TI Basket (i.e. RPI-3.25%). Our estimates suggest that the likely revenues recovered from external sales of RBS circuits in the last year of the control would be reduced in real terms by nearly £15m (assuming no other changes such as changing volumes demanded)⁶⁷. Therefore, MNOs should see some significant savings in RBS backhaul prices over the charge control period.

⁶⁷ To derive this figure we have assumed that prices would decline by RPI-3.25%, which is the final value of X for the TI Basket.

The charge control levels do not raise any competition concerns

- 4.193 Some respondents argued that there could be potentially adverse impact on competition from other providers of wholesale leased lines could arise if we set BT's prices too low (i.e. below a level which would allow a reasonable return on investment). However, we have designed our charge control to ensure that by the end of the charge control period, the charges BT levies for its leased lines services are broadly in line with what we would expect if BT were to operate in effectively competitive wholesale markets.
- 4.194 We do not think that the average reductions in charges required by our charge control would unduly deter efficient competitors from entering the market (i.e. where OCPs can provide similar leased lines services at lower cost). We have based our modelling on our best forward looking view of BT's costs of providing those services taking into account forecast volumes and efficiency gains. In addition, to ensuring that we have set average prices at an appropriate level, our charge controls would be complemented by wider regulatory obligations such as cost orientation to make sure that BT's pricing is not anti-competitive.

Our conclusions

4.195 Following from the above we require:

- BT to reduce the price of local ends by the amount of the new PoH rental charges, as set out in Table 4.6 below (these are also listed in Annex D to Conditions G4, GG4, GH4 and H4 of Annex 9 of this Statement); and
- BT to introduce these charges from 1st October 2009.

Table 4.6 Final TI terminating and trunk prices to be implemented.

Services	Current Price (£) ⁶⁸	Price as notified by BT on 3 rd June 2009	Final Price (£)
64 kbit/s link ⁶⁹	62.81	125.62	125.62
64 kbit/s local end	289.67	579.34	479.34
64 kbit/s enhanced maintenance	40.31	80.62	80.62
2 Mbit/s local end	691.92	833.76	663.76
2 Mbit/s trunk	102.24	46.83	46.83

⁶⁸ Current price for local ends is external price only.

⁶⁹ Higher bandwidth main link prices are expected to increase *pro-rata* (a full list of proposed prices is included in Annex D to the proposed conditions G4, GG4, GH4 and H4). For purposes of the analysis presented in this section savings are calculated by multiplying 64 kbit/s equivalent circuit volumes by the price differential being proposed.

We have mandated one-off adjustments to the starting charges of some equipment

Our proposals

- 4.196 In our December Consultation we discussed our proposals to include Equipment and Infrastructure charges in a basket of their own subject to a safe guard cap of RPI+0%.
- 4.197 In addition we discussed BT's proposals with regards to the prices of equipment at the start of the control (paragraphs 4.89 to 4.96 in our December Consultation and Table 4.9). BT proposed to:
- increase the price of 64 kbit/s Network Terminating Units ("NTUs");
 - increase the price of products requiring new blown fibre;
 - decrease the price of products with high returns to offset the price increases. For example such products include 2 Mbit/s Access on HDSL on existing copper; and
 - increase the price of some In Span Handover ("ISH") high bandwidth Add Drop Multiplexers ("ADMs").
- 4.198 Finally, we proposed that the price of any equipment would not be able to increase by more than 5% in nominal terms. This approach would enable BT to re-balance the prices of equipment further following the conclusion of its negotiations with their equipment suppliers, whilst capping the amount by which any particular equipment price could be increased.
- 4.199 We asked stakeholders the following question:

Question 4.13 Do respondents agree with the proposed one-off adjustments to the starting charges of equipment prices as proposed by BT?

Consultation responses

- 4.200 C&W disagreed with the proposed one off changes to the prices of equipment, especially the proposed increases to the price of ISH PoHs, whilst its own experience was that prices are generally decreasing. It also believed that overheads included in the cost of equipment and Infrastructure charges are too high, specifically copper/fibre costs, equipment maintenance costs and selling costs.
- 4.201 Another stakeholder proposed that we require further information from BT regarding the progress of its negotiations with its equipment suppliers before coming to a conclusion of this subject.
- 4.202 Another respondent believed that further adjustments should be made to starting charges as necessary to ensure that they are within the stipulated floors and ceilings from the outset of the control period.

Our response

- 4.203 As discussed in our December Consultation, our analysis is based on bottom up cost stacks for each type of equipment prepared by BT based using 2007/08 volumes and 2008/09 prices. For a detailed discussion of the methodology we applied see Annex 6.
- 4.204 We have now cross checked our analysis using 2007/08 volume data. Overall the conclusion of our analysis is unchanged from our December Consultation and the profitability of this basket continues to be close to zero.

Table 4.7 Return by bandwidth of the equipment and infrastructure basket for after BT price re-balancing

	64 kbit/s		2 Mbit/s		34/45 Mbit/s		140/155 Mbit/s		PoH	Total
	Int	Ext	Int	Ext	Int	Ext	Int	Ext	Ext	
Revenue (£m)	3.9	1.4	13.6	22.3	2.3	1.6	1.8	0.6	1.9	50.3
Profit (£m)	(0.8)	(0.3)	(0.1)	(0.6)	0.7	0.3	0.0	0.1	(0.2)	(0.8)
RoS (%)	(17%)		(2%)		32%		(2%)		(2%)	(1%)

In our view price increases are justified

- 4.205 There is no evidence of systematic discrimination in the rebalancing of prices, the overall external return on sales improves from -4% to -1% which is the same as the rebalanced internal return on sales (previously +1%).
- 4.206 In respect to specific stakeholder concerns:
- Whilst the adjustments are estimates, they are based on assumptions that in our opinion appear reasonable and which are consistent with the RFSs. Even though some high one-off charges are required on certain types of equipment, this does not impact the overall reliability of the cost basis. This is because the biggest element of these costs, the cost to BT of buying in the equipment from its suppliers, is (tempered by its negotiating ability) generally outside of its control.
 - Our analysis has indicated that although some input costs are decreasing, other input costs are increasing. In addition, BT should still be allowed to make a return on providing equipment. In connection with items BT is intending to rebalance upwards, these currently are sold at a loss. Given that installation costs are expected to increase, the rebalancing to allow BT to achieve a positive return on sales appears justified.
- 4.207 As explained in Section 7, paragraph 7.30, we require BT to implement these new charges on 1st October 2009.

Our conclusions

4.208 Following from the above we:

- require BT introduces the new prices for equipment and infrastructure as set out in Table 4.8 below (these charges are also included in Annex D to Conditions G4, GG4, GH4 and H4 of Annex 9 of this Statement);
- BT introduces these new charges from 1st October 2009.

Table 4.8 BT equipment prices as determined in these charge controls

Bandwidth	Product Description	Current Price (£)	Proposed Price (£)
64 Kbit/s	NTU 64K-256K on existing copper	437.35	604.67
64 Kbit/s	NTU 128K-640K on 2M Infrastructure	776.53	950.24
64 Kbit/s	NTU 320K-640K on existing copper	541.13	622.94
2 Mbit/s	2M Access HDSL on existing copper	1,221.24	1,133.54
2 Mbit/s	4x2 Access at existing site	3,873.19	4,258.11
2 Mbit/s	34/45M ASDH NTE Existing Site*	12,682.57	7,048.78
2 Mbit/s	34/45M ASDH NTE Expansion Unit*	8,339.07	2,901.16
2 Mbit/s	Additional Charge to provide new fibre infrastructure	1,817.47	2,191.94
140/155 Mbit/s	SMA-16 no trib, dual fibre 1550nm, existing site*	120,995.53	71,301.01
PoH equipment			
ISH PoH	SMA-16 ADM single STM-16 handover (1300nm)	54,521.59	57,423.43
ISH PoH	SMA-4 ADM with single STM-4 handover (1300nm)	21,664.78	26,088.86

4.209 For details of our calculations see Annex 6.

We have firmed up on the values of the key assumptions underpinning the cost forecasting of TI terminating and trunk services

We have finalised our input assumptions

4.210 In Table 4.9 below we summarise the final key assumptions we have used when forecasting BT's future operating and capital costs.

Table 4.9 Key input parameters used in the LLCC model

Parameter	Description	Range of assumption in our December Consultation	Assumption used to calculate final value of X
Service volume forecasts (see paragraph 4.216)	Volume forecasts for the individual TISBO services in scope of the TI Basket	2007/08 actual volumes projected forwards to 2012/13 using BT's growth rates + ±10%	BT's Q4 2009/10 forecasts, projected forward to 2012/13 in a manner designed to provide consistency with the OFFR Statement
Future efficiency gains (see paragraph 4.225)	BT efficiency savings in operating costs in every year of the next control period	1% to 3% per annum	2.5% per annum
Weighted average cost of capital ("WACC") (see paragraph 4.234)	BT's WACC used to calculate the return on capital employed (ROCE) which is added into the cost stack of individual services	10.25% to 11.75%	11%
Asset volume elasticities ("AVEs") (see paragraph 4.242)	% change in the across replacement cost of assets for a 1% change in volume	Weighted average of 0.39 to 0.66	Weighted average of 0.39
Cost volume elasticities ("CVEs") (see paragraph 4.242)	% change in the values of operating costs for a 1% change in assets	Weighted average of 0.24 to 0.5	Weighted average of 0.24
Asset price changes (see paragraph 4.249)	% change in asset prices	Varies by asset category	Varies by asset category

We have used BT's volume growth forecasts

Our proposals

4.211 In our December Consultation (paragraphs 4.101 to 4.109) we proposed using the actual volumes for TI terminating and trunk segments in BT's RFSs in 2007/08 and

applying BT's wholesale growth forecasts from there on. We also discussed the methodology BT adopted and the assumptions it used when forecasting volumes.

4.212 We asked stakeholders the following consultation question:

Question 4.14 Do respondents agree with the volume forecasts used in the LLCC model for the TI Basket of services? If not, please provide your views on the future volume forecasts of services within scope of the charge control.

Consultation responses

- 4.213 C&W disagreed with the proposed volume forecasts. In its view the level of the assumed migration between TI and AI markets was too high. Given BT's track record and technical issues relating to CPE, it believed a 70% migration figure was not achievable and this should be revised downwards to 50%.
- 4.214 Another respondent also disagreed with the volume trends. It stated that it is currently experiencing an average decrease of 32% per annum across all <1Mbit/s bandwidths and 44% for 64Kbit/s and 128kbit/s circuits. Conversely, it was still enjoying growth in the 2Mb bandwidths with a 14% increase in the past year.
- 4.215 One stakeholder believed that the volume forecasts used in the LLCC model for the TI Basket of services overstate both the rate at which usage of TI services will decline and the extent to which migration from PDH/SDH to Ethernet services will occur. The two main reasons it offered in support of this view was the superior transmission characteristics of SDH/PDH technology (which cannot yet be replicated using Ethernet) and the economic downturn (which will impact investment plans and slow down any planned migration).

Our response

- 4.216 In our December Consultation (paragraph 4.106 to 4.109) we discussed BT's high level trends in its volume forecasts. In reaching our conclusions we have taken into consideration consultation responses and further information disclosed by BT:
- BT has shared its latest Q4 Group Volume Forecasts which showed that any loss of market share at the retail level translates in volume increases at the wholesale level;
 - Although as part of its 21CN Strategy BT has decided to extend the life of its DPCN platform it still expects most of the users to have migrated away to other services such as Ethernet; and
 - We have compared our aggregate TI volume forecasts to those included in the OFFR Statement. This comparison showed that our volume forecasts for TISBO services in 2012/13 are consistent with those in the OFFR Statement.
- 4.217 Following from the above we have decided not to introduce any amendments to the volume forecasts in our December Consultation.

Figure 4.1 BT's forecasts for total volumes of local ends

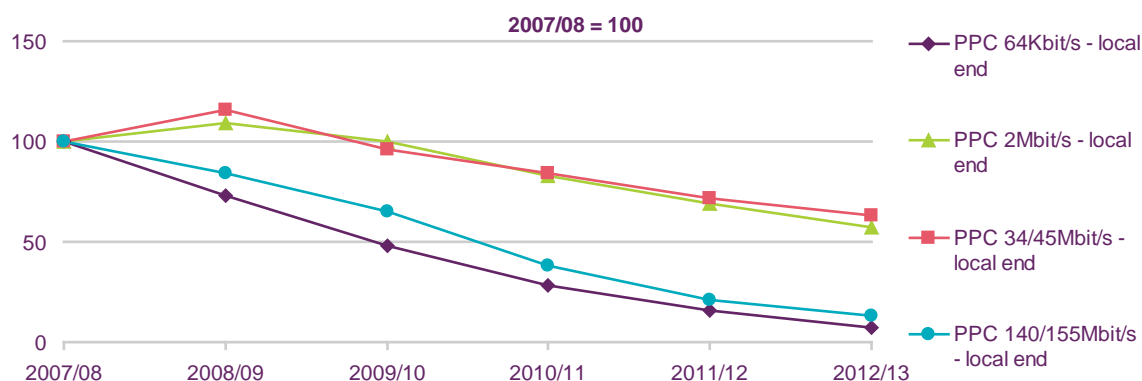
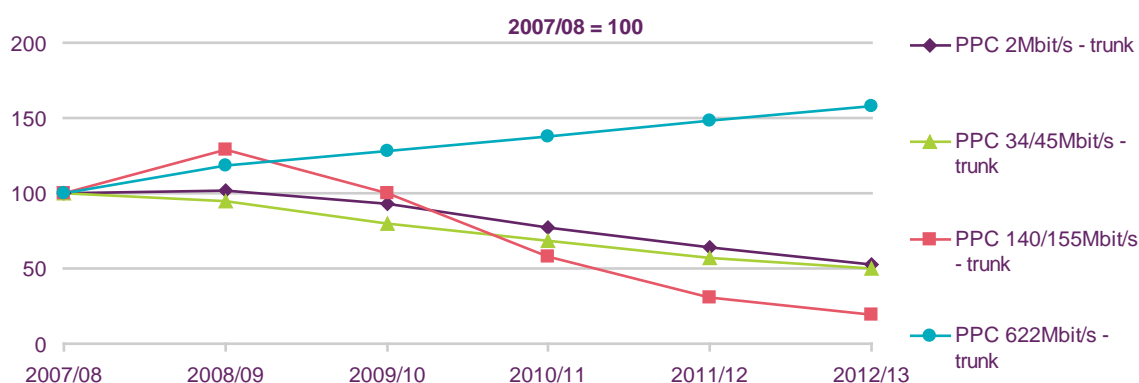


Figure 4.2 BT's forecasts for total volumes of trunk



4.218 As shown in the above graphs, we assume total TI terminating segment volumes fall by around 10% to 40% p.a. (CAGR) within the control period. For a more detailed discussion of the volume growth forecasts see Annex 7.

Our conclusions

4.219 Following from the above we conclude that it is appropriate to:

- use BTW's volume forecasts as per the December Consultation.

We have assumed BT's forward looking efficiency gains are 2.5% p.a.

Our proposals

4.220 In our December Consultation (paragraphs 4.110 to 4.113) we proposed that BTW's forward looking efficiency gains are in the range of 0% to 5% p.a.

4.221 We asked stakeholders the following consultation question:

Question 4.15 Do respondents agree with Ofcom's proposed efficiency assumption range of 0% to 5% when forecasting BT's future costs in the TI Basket?

Consultation responses

- 4.222 BT disagreed with our proposed range of efficiency for the TI Basket. Based on its analysis and Deloitte's evaluation of efficiency trends, it believed that the appropriate efficiency challenge should be towards the bottom end of our range. In its view, this should be based on a frontier shift of between 0% to 2% p.a., less an allowance for BT's current level of efficiency being above the level of the top decile. BT argued that this implies that Ofcom should use a maximum figure of 1% per annum as an efficiency challenge for the TI Basket.
- 4.223 One respondent stated that it would have expected BT's efficiency gains to be considerably more than 0-5% as BT makes more use of its 21 CN that allows it to take advantage of economies of scope. The respondent highlighted that PPC circuits will use components of 21CN moving forward when it is made available during 2009.
- 4.224 Another respondent argued that we should consider a narrower range for efficiency for forecasting BT's costs. This is because the NERA study suggested that BT is already reasonably efficient and, as the TI market is in decline, it would be difficult for BT to achieve additional efficiency improvements.

Our response

- 4.225 The future efficiency gains we assume in the LLCC model measure the amount by which BT's operating costs are expected to fall annually within the control period. There are two factors which determine BT's future efficiency savings (for a detailed discussion of our final approach see Annex 7):
- The catch-up factor which measures BT's efficiency relative to other comparator companies. Our conclusion, based on the NERA study, is that BT is between 2.0% to 6.8% above the decile.
 - The frontier shift which calculates BT's underlying productivity gains. Combining various assumptions as described in detail in Annex 7 (paragraphs A7.51 to A7.117) our analysis indicates that BT's future efficiency gain is 2.5% p.a.
- 4.226 In deriving the final value of efficiency for the TI Basket we note the following:
- We based our analysis on the costs of BT's whole network (including core). We did not attempt to split our analysis of efficiency between BT's access and core networks. This is because, as summarised in the OFFR First Consultation⁷⁰, the LECs provide a good comparable benchmark to BT as a whole. However this benchmarking exercise does not work when we undertake the same analysis with parts of BT. In addition, TI terminating segments and trunk also use BT's core network and therefore an efficiency gain based on analysing the costs of BT's whole network is more appropriate.
 - We did not make any adjustments for potential efficiency gains derived from lower capital and operating costs that BT is expected to experience from moving to its 21CN platform (as explained in Section 3). Under the technologically neutral approach to modelling, we forecast the costs of a hypothetical ongoing network, which excludes specific 21CN related up-front investment costs and associated potential savings. Therefore, we did not adjust our final efficiency assumptions for potential increases in efficiency from moving to 21CN.

⁷⁰ <http://www.ofcom.org.uk/consult/condocs/openreach/>

- Although BT is ahead of the decile we did not allow for “catch down” in our final efficiency assumption. In analyses for previous charge controls, we have used the tenth percentile of US LECs, ranked by efficiency, as the benchmark efficient firm and, where BT was less efficient than this benchmark, assumed that BT catches up to this level over the period of the charge control. The benchmarking studies now suggest that BT may be more efficient than the firm at the tenth percentile. However, we did not allow for a catch down in our final efficiency assumptions. This is because the purpose of basing the benchmark on the top decile of LECs is to allow for the possibility of data error, rather than to generate a precise estimate of the efficient level of costs. The decile rather than, for example, the most efficient firm is used so that we can be certain that we are comparing against an achievable level of efficiency.
- Although by NERA’s estimate BT is ahead of the decile, it is not the best performing company. The fact that the TI market is in decline does not mean that BT cannot achieve further efficiency improvements. Although BT is ahead of the decile, it is not the best performing company. In addition the frontier itself can move over the charge control period. Indeed, the NERA evidence does not suggest that the most efficient companies (including those at or above the decile) have been unable to make efficiency gains over the period. So there is still a strong case for BT to achieve significant efficiency savings in the future.

Our conclusions

4.227 Following from the above we conclude that:

- The efficiency for the TI Basket is 2.5% p.a. over the charge control period.

We have assumed a WACC of 11%

Our proposals

4.228 In our December Consultation (paragraphs 4.114 to 4.117) we proposed that an appropriate value for BT’s cost of capital for TI terminating and trunk services should be the higher range of WACC as proposed by the OFFR Second Consultation i.e. 10.25% to 11.75%.

4.229 We asked stakeholders the following consultation question:

Question 4.16 Do respondents agree with the range of WACC proposed for services in scope of the TI Basket?

Consultation responses

- 4.230 BT disagreed with our proposed range for WACC. In its view a more appropriate figure is 13.3%.
- 4.231 C&W proposed the use of the lower WACC for access services, as the cost of PPCs are driven by the underlying costs of duct shared with LLU. There may be a case for using BT Group WACC for TI trunk services, but not the remainder.
- 4.232 Another respondent also argued for the TI WACC to be at the bottom of our proposed range if not lower. When adjustments are made such as removing provisions for bad debt, the small number of customers to support, the stability of the

product design and revenue streams, it believed that the risks involved in delivering these services are lower than assumed.

- 4.233 One stakeholder on the other hand suggested that the level of WACC applicable to BT services is too low. In its view this will result not only in BT under recovering its costs, but could also have a significant detrimental impact on competing infrastructure providers if the “benchmark” level of charge is below a reasonable level. It also commented on the fact that our assumed ranges for the values of beta and ERP are too low. It therefore suggested that we reconsider the range of WACC with a view to increasing it to reflect the current economic circumstances.

Our response

- 4.234 As discussed in Section 3, paragraph 3.259 to 3.282, Ofcom’s practice is to set ‘X’ so that the value of BT’s rate of return projected by the LLCC model for the last year of the price control is equal to the cost of capital. This approximates to the workings of a competitive market in which excess profits are gradually eroded by competition.
- 4.235 We did not set BT’s WACC as part of the LLCC (and therefore did not consider the values of beta and ERP used in setting the WACC), as this was decided in the OFFR Statement. The OFFR Statement has amended Openreach’s WACC to a value of 10.1% (pre-tax nominal). As a result, their estimated range for the WACC for the “rest of BT” (including core) is 11% (pre-tax nominal).
- 4.236 It is the value of WACC for the “rest of BT” that we used in setting the value of X for the TI Basket. We are of the view that TI Baskets of services should be classified within BT’s core network for the purposes of an assessment of risk levels. Since these services are mostly bought by SME and corporate customers of BT, future demand for these services, particularly in the case of the demand for new circuits, is likely to be more closely correlated with the economy-wide level of economic activity than other access services. This view is in line with our policy decision as outlined in our 2005 Cost of Capital Review⁷¹.

Our conclusion

- 4.237 Following from the above we conclude that:

- the WACC for the TI Basket is 11%.

We have used the AVE/CVE assumptions as per the 2004 PPC Charge Control Statement

Our proposals

- 4.238 In our December Consultation (paragraphs 4.118 to 4.120) we proposed to use the AVE and CVE values as per the 2004 PPC Charge Control Statement (the “2004 PPC Statement”) for similar asset types and keep these values constant over the period of the next charge control.
- 4.239 We asked stakeholders the following consultation question:

⁷¹ http://www.ofcom.org.uk/consult/condocs/cost_capital2/statement/final.pdf

Question 4.17 Do respondents agree with Ofcom's assumptions on AVEs and CVEs when forecasting the costs of the TI Basket?

Consultation responses

- 4.240 Although BT originally provided Ofcom with higher AVE and CVE values for the TI Basket, in its response agreed with our proposed approach.
- 4.241 Only one respondent disagreed with our approach. It is of the view that BT's (higher) values are more appropriate than those proposed by Ofcom. This is further supported by its own internal modelling work which also indicates that higher values are more reasonable than those proposed by Ofcom. It therefore urged Ofcom to reconsider its approach to AVEs and CVEs

Our response

- 4.242 AVEs and CVEs measure the percentage change in capital and operating costs for a 1% change in volumes. BT submitted revised estimates for its AVEs and CVEs by using the cost volume relationships for the relevant classes of assets as per its LRIC model (see Annex 7, Table A7.5 on modelling). Therefore in setting the proposed charge controls we considered the options of using:
- the AVE/CVE values used in the 2004 PPC Statement. These result in a weighted average (across all AI and TI cost components) AVE of 0.39 and CVE of 0.24.
 - the AVE and CVE values re-calculated by BT for the proposed charge control. These result in a weighted average (across all AI and TI cost components) AVE of 0.59 and CVE of around 0.5.
- 4.243 We do not agree with BT's re-calculated AVEs and CVEs. We do not agree with BT's approach to calculating AVEs and CVEs based on its LRIC model, because the LRIC of a product or service may include any fixed costs incurred in its provision, while the AVEs and CVEs relates to costs changes arising from changes in volumes (between non-zero output levels) rather than the decision to provide the service or not.

Our conclusions

- 4.244 Following from the above we conclude that:

- it is appropriate to use AVEs and CVEs used in the 2004 PPC Statement in setting our charge controls and keep these values constant over the period of the control.

We have used the five year historic average change in real asset prices

Our proposals

- 4.245 In our December Consultation (paragraphs 4.121 to 4.122) we proposed to use the average of BT's historic five year trend in real asset prices changes (e.g. between 2002/03 and 2006/07) and hold these constant over the period of the control.
- 4.246 We asked stakeholders the following question:

Question 4.18 Do respondents agree with Ofcom's proposal to use the average historic five year trend in asset price changes as proxy to future prices when forecasting costs of the TI Basket?

Consultation responses

4.247 BT agreed that our approach is reasonable. However, it thinks that we have underestimated the extent to which real asset price trends are falling. It provided new estimates for the real asset price trends to take account of the relevant price and valuation changes that were booked to "other" unrealised holding gains /losses that were excluded from the price trend data previously calculated (see Table A7.8 in Annex 7).

4.248 Other stakeholders have broadly agreed with our approach.

Our response

4.249 There are ten asset categories relevant to the provision of TI terminating and trunk segments,⁷² as reflected in BT's RFSs. The asset price change assumption is the amount by which each of the asset types changes in price during the control period.

4.250 We propose to use the average of BT's historic five year trend in real asset prices changes (e.g. between 2002/03 and 2006/07) and hold these constant over the period of the control.

4.251 As for BT's suggested improvements, and consistent with our approach on the AI Basket:

- We accept applying separate values to copper cable and fibre. However our assumptions are consistent with those in the OFFR Statement i.e. we assume copper prices change at 2.3% in nominal terms and fibre prices change at -2.7% in nominal terms during the charge controls.
- We do not agree that because BT has chosen to value certain asset groups (main exchanges, other network equipment, motor transport, land and buildings, computer and O&M) on an historic cost basis then this is relevant for price control purposes. This valuation method is explained in BT's "Detailed Valuation Methodology" document which supports its annual RFS publication. BT state that the historic cost method is used where the asset is of low value or has a short residual life or has minimal impact on regulated areas of BT. It is a pragmatic approach where the burden of sourcing robust data and carrying out potentially complex accounting calculations outweighs the benefits of a more precise calculation. However, these asset groups will be affected by price changes over time and we believe it is reasonable to allow for small real price changes even though their impact may be small.

4.252 See Annex 7, Table A7.8 for a list of asset price changes we used in our model.

Our conclusions

4.253 Following from the above we conclude that:

⁷² These are: cable, duct, local exchange, main exchange, transmission, other network equipment, motor transport, land & buildings, computers & OM and other.

- it is appropriate to use BT's historic five year trend in real asset price changes and keep these constant over time.

We have re-allocated common costs from the TI to the AI Basket

Our proposals

4.254 In our December Consultation (paragraphs 4.123 to 4.127) we proposed to re-allocate non marginal costs from the TI Basket to the AI Basket.

4.255 We asked the following consultation question:

Question 4.19 Do respondents agree with Ofcom's approach of re-allocating fixed costs from the TI services to the AI services?

Consultation responses

4.256 BT expressed concern that this could have a negative impact on the incentive for customers to migrate onto other services. However BT accepted, that the extent to which this is offset by a lower control on AI services means that, overall, fixed costs should be recovered across both baskets combined.

4.257 Another respondent noted that the proposed re-allocation of fixed costs from TI to AI services would not be required if the charge controls were set using a LRIC + EPMU approach. It therefore strongly encouraged Ofcom to set charge controls on the basis of LRIC + EPMU. However, in the event that Ofcom proceeds with its proposed methodology, it believed that it is necessary to re-allocate fixed costs from the TI services to the AI services.

4.258 Most other stakeholders agreed with our proposals.

Our response

4.259 In forecasting the future costs of the services in the TI (and AI) baskets, we need to take into account likely customer migration between TI and AI services. BT's narrow definition of costs components, in which most components are defined in a technology-specific way, tends to understate the potential for assets to be re-used as migration occurs.

4.260 At its core, the LLCC model forecasts the costs of components which make up the TI (and AI) basket of services. The cost of a particular service is then determined in proportion to the components it uses. As currently constructed the cost components defined by BT are in the majority of cases service specific⁷³. Therefore, as service volumes decline so will the volumes of components associated with these services which in turn will result in material increases in the unit costs of these components.

⁷³ For example a 34/45 Mbit/s local end service uses one 34/45 Mbit/s local end component. This component is not used by any other service. The costs of this component include around 34% fibre, 20% duct and the remainder made up of various other assets (the percentages are based on the proportion of the gross replacement costs of the assets apportioned to this component) and operating costs. In the event of service volumes declining, so will the associated volume of this component resulting in a material increase in the unit cost. However the fibre and duct can be utilised to provide other services and therefore these costs can be recovered elsewhere.

- 4.261 As part of the independent review conducted on our model, Analysys-Mason suggested an approach to circumvent the issue discussed above. Analysys-Mason's approach was based on an analysis of the marginal costs of components and the attribution of non-marginal costs in proportion to these. This resulted in a greater proportion of non-marginal costs being recovered from AI services as the volume of these grows and avoids the rapid increases in TI unit costs which would result from a constant amount of fixed costs being recovered from an ever-smaller volume of TI services.
- 4.262 In practice, in order to implement the Analysys-Mason proposal, we had to develop a method of re-allocating non-marginal costs from the TI Basket to the AI Basket. This approach is consistent with the spirit of the Analysys-Mason method and is reasonable given that we are calculating the value of X based on the total basket level costs, rather than at an individual service level. This approach resulted in 62% of TI non-marginal costs being allocated to the AI Basket.

Our conclusions

- 4.263 Following from the above we conclude that:

- it is appropriate to allocate 62% of non-marginal fixed costs from the TI Basket to the AI Basket.

Our charge controls for TISBO terminating and trunk services reflect our duties and meet the Communications Act tests

- 4.264 In this Section we set out our conclusions on a number of matters relevant to deciding on the level and design of the charge controls:
- We implement a single basket for TI terminating and trunk segments;
 - We implement the necessary adjustments to BT's 2007/08 cost data as per its RFSs to determine the level of costs more appropriate for forecasting purposes;
 - We determine that no further adjustments are required to the starting charges of some TI terminating and trunk segments in addition to those notified by BT on 3rd June 2009;
 - We set the value of key assumptions to calculate the value of X.
- 4.265 We are satisfied that this regulation secures our policy objectives and duties discussed in Section 2, as well as meets the Communications Act tests and our reasoning for this view is set out below.

Schedules 1, 2, 3 and 5 (Conditions G4, GG4, GH4 and H4)

The aims and effects

- 4.266 The new Conditions G4, GG4, GH4 and H4 require BT to ensure that its charges for some TI terminating segments and trunk do not increase by more than RPI minus/plus a value of "X" that varies according to each relevant basket and individually controlled services. The various baskets/sub-baskets and services with their respective values for "X" are set out in these Conditions. Our conclusions on basket design (including the need for sub-caps) are set out above

- 4.267 For the first year of the control, i.e. from 1 October 2009 to 30 September 2010, BT is required to align certain starting charges for TI services with the charges specified in Annex D of each of the new Conditions G4, GG4, GH4 and H4.
- 4.268 Ofcom's reasons for imposing this particular form of control and the values for "X" are also set out above. Our current policy aim is that prices should move towards the underlying FAC by 2012/13.
- 4.269 Conditions G4, GG4, GH4 and H4 also contain mechanisms to deal with, by means of directions, any material changes (other than to a charge) made by BT to any product or service subject to the charge controls, in addition to any directions we may give from time to time to amend the list of services covered by the baskets set out in these Conditions.
- 4.270 Finally, Conditions G4, GG4, GH4 and H4 require that BT records, maintains and supplies data to Ofcom in relation to performing the percentage change calculation. Such data is required to be provided within three months of the end of each control year. It is essential for BT to be required *ex ante* to supply this data to ensure that we can effectively monitor compliance with the controls. To comply with this obligation, we expect that BT proactively adheres to the arrangements to provide data and to provide robust and appropriately sourced information for this purpose.

Our duties and policy objectives

- 4.271 We discuss our duties and objectives specific for this review in detail in Section 2 of this Statement. Our opinion of the likely impact of implementing the proposals (as discussed throughout this Statement) is that the performance of our general and specific duties under section 3 and 4 of the Act is secured or furthered by our decision to adopt the charge controls.
- 4.272 As described in Section 2, we consider that our proposed charge controls on TI terminating segments and trunk services secure our general duties under Section 3(1) of the Act, namely that charges for these wholesale services are set at a level that enable communications providers to compete downstream. Existing charge ceilings have promoted competition in this way to the clear benefit of consumers. Our review confirms that such controls are necessary to sustain this level of competition. This in turn enables greater choice of services (at cheaper prices) for citizens and consumers in terms of choice, price, quality of service and value for money.
- 4.273 We have had particular regard to the requirement to promote competition and to secure efficient and sustainable competition for the benefit of consumers, which are relevant to both sections 3 and 4 of the Act. We have placed particular emphasis on the promotion of competition, which we consider is likely to be the most effective way of furthering citizen and consumer interests in the relevant markets.
- 4.274 More specifically, our charge controls will ensure that under 3(2)(b) of the Act, they ensure the availability throughout the UK of a wide range of electronic communications services. In setting our charge controls, we have set the charge control in a flexible manner, with appropriately wide baskets to give BT pricing flexibility to encourage take-up of its services. We have also used a technology neutral approach. This means that BT has incentives to introduce efficient technologies and services under the charge cap. As discussed in Section 3, in setting BT's WACC, we have also had regard to the impacts of setting too low a WACC on

BT's investment incentives. These features of the charge control should combine to ensure an appropriately wide range of leased lines services;

- 4.275 We have also targeted our intervention where we consider it necessary, including by seeking the least intrusive regulatory measures to achieve our policy objectives. To this end we have decided not to subject RBS, SDSL and BT Netlocate to formal charge controls (see in particular paragraph 4.49 onwards).
- 4.276 In addition to the overarching objective referred to above, we have taken into account further objectives, including:
- *Prices*: to ensure that services are available at prices that are reasonably related to the efficient costs of supply, preferably as a result of effective competition; and
 - *Investment and innovation*: to promote efficient investment in the development of new and innovative service. In particular, in setting our charge controls we have used CCA FAC data as per BT's RFSs in 2007/08 which are audited and are the latest information available to us. CCA FAC also allows a reasonable contribution to common costs. In setting our charge controls we have also assumed a reasonable return on BT's assets.

Powers under Section 87 and 88

- 4.277 As discussed in Section 2, we rely on powers under section 87 of the Act in setting Conditions G4, GG4, GH4 and H4. We refer in this regard to our assessment in the BCMR Statement as the obligations under this Condition remain based on the competition problems already identified.
- 4.278 Section 88 of the Act states that Ofcom should not set a price control condition except where it appears to it from the market analysis that there is a relevant risk of adverse effects arising from price distortion and it also appears that the setting of the condition is appropriate for the purposes of:
- promoting efficiency;
 - promoting sustainable competition; and
 - conferring the greatest possible benefits on the end-users of the public electronic communications services.
- 4.279 In setting Conditions G4, GG4, GH4 and H4, section 88 also requires that we must take account of the extent of the investment in the matters to which that Condition relates to BT.
- 4.280 In our opinion, Conditions G4, GG4, GH4 and H4 satisfies those matters, since without it there is a real risk of adverse effects arising from price distortion by BT as it might fix and maintain some or all of its prices at an excessively high level or margin squeeze. These concerns were identified by Ofcom in its SMP analysis in the BCMR Statement.
- 4.281 We consider that the charge controls are appropriate for the purpose of promoting efficiency:
- In the absence for competitive pressures, we believe that BT would have limited incentives to seek to reduce its costs of providing wholesale leased lines

services. But, in setting the charge controls, we are also using an RPI-X formulation, so that BT is encouraged to achieve greater efficiency in the costs of providing wholesale services by requiring it not to increase its charge by more than a fixed amount each year. In coming to a view of the likely efficiency of BT's costs, we have also looked at a range of evidence including benchmarks from other markets (section 88(4) of the Act) and we have had regard to the appropriate cost accounting methods (section 88(4)(b));

- The RPI-X also provides incentives for BT to seek further efficiency savings by allowing it to keep any returns associated with efficiency gains over and above those forecast when the charge control is set. The benefits of lower costs can then be passed onto consumers;
- The broad baskets will allow BT to recover common costs in the most efficient manner.

4.282 We also consider that the charge controls are appropriate to ensure sustainable competition and conferring the greatest possible benefits on users of public electronic communication services. This is based, in particular, on our experience in the evolution of the market as set out in the BCMR Statement:

- The market analysis conducted in the BCMR Statement, suggests there is sufficient risk that BT might fix or maintain some or all of its prices at an excessively high level (Section 7 of the BCMR Statement). Preventing excessive pricing via an RPI-X type charge control will promote sustainable competition.

4.283 When setting the charge controls we have also taken into account the need to ensure that BT has the correct incentives to invest and innovate. We have considered the risk that the charge control might deter investment. However, we consider that we have taken this into account in three key respects.

- First, in modelling BT's likely costs, we have built in a reasonable return on capital employed to provide an adequate return on BT's investment, and we have tended to adopt reasonably conservative assumptions.
- Second, we have purposely adopted an RPI-X form of charge control so that it can reward investment in new and more efficient technologies (as BT can keep any efficiency savings associated with new and more efficient ways of providing leased lines services).
- Third, a key investment risk relates to BT's proposed migration in its 21CN. However, our charge controls explicitly account for this by adopting a technology neutral approach. This means that the projections of BT's costs which inform our choice of X values reflect only cost reductions which a reasonably efficient operator could be expected to make in normal circumstances, if it continued to invest in and maintain its existing-technology network. We have not taken account of additional efficiency gains arising from the adoption of new 21CN network technology.

4.284 It then follows that, if BT is able to achieve cost savings over and above those we have assumed in setting our charge control by investing and introducing a new network with a lower cost base this will mean a higher level of profitability. In other words BT will be able to earn a rate of return above its cost of capital.

4.285 As a general principle, we think that we have based our charge control on a balance between potential risk and rewards. As the charge control is set for a fixed duration, BT can benefit under the control if it manages to increase market share or if outturn costs are lower than anticipated when the charge control was set. Similarly, in accepting the potential upside benefits of the charge control package, this also means that BT will accept a degree of downside risk.

We have conducted the Section 47 tests

4.286 As discussed in Section 2, any SMP condition must also satisfy the tests set out in section 47 of the Act, namely that it must be:

- objectively justifiable in relation to the networks, services or facilities to which it relates;
- not such as to discriminate unduly against particular persons or a particular description of persons;
- proportionate as to what the condition is intended to achieve; and
- In relation to what it is intended to achieve, transparent.

4.287 We are satisfied that this test is met.

4.288 As regards objective justification, BT's SMP in the relevant markets allows it to set charges unilaterally and that, in the absence of any controls, this would have adverse impacts on both the ability of companies to compete in the downstream provision of leased lines services and on consumer choice and value for money. Our charge controls have been structured to deliver the lowest possible charges to competitors for the wholesale services, while ensuring that BT is able to recover costs, including a reasonable return on investment.

4.289 In our December Consultation, in addition to discussing qualitatively the possible costs and benefits of a charge control, we modelled quantitatively the potential welfare gains associated with a charge control relative to no control. Although this quantification was intended to give a sense of the "order of magnitude" of the charge control benefits, it suggested significant benefits of a charge control relative to no charge control.

4.290 We based our welfare modelling in the December Consultation on the mid-points of our proposed ranges for the value of X of RPI-0 to RPI-7% for the TI Basket. Our indicative welfare analysis suggested potential welfare benefits (relative to no charge control) over the duration of the charge control of £643 million for the TI Basket. A similar calculation of the indicative net welfare benefits of a safeguard cap (i.e. RPI-0%), suggested a net welfare benefit of £636 million and £592 million for the TI Basket.

4.291 We did not receive any comments on our impact assessment welfare analysis and there was general acceptance of our proposal for a charge control. As we have now concluded on our value of X for the TI Basket, which is – 3.25%, and this value is within the range proposed in the December Consultation for the TI Basket, we have not updated the quantitative analysis of welfare gains here. But our conclusion that there is likely to be a significant welfare benefit remains.

- 4.292 The structure of the controls are such that BT has an incentive to continue to seek efficiency gains and is able to benefit from efficiency achieved that are in excess of that anticipated in the review.
- 4.293 The controls are also objectively justifiable in that the benefits of RPI-X price controls are widely acknowledged as an effective mechanism to reduce prices in a situation where competition does not act to do so.
- 4.294 Secondly, the charge controls will not discriminate unduly against a particular person or particular persons because any CP (including BT itself) can access the services at the charge levels fixed. The charges are set to ensure a fair return and price level for all customer groups. In any event, Ofcom considers that they do not discriminate unduly against BT as the controls address BT's market position, including its ability and incentive to set excessive charges for services falling within the controls.
- 4.295 Thirdly, the charge controls are proportionate because BT's obligations apply to the minimum set of charges required for the delivery of bottleneck services. They are focused on ensuring that there are reasonable prices for those access services, which are critical to the development of a competitive market. BT is, however, allowed to recover a reasonable return on investment. BT will also have incentives to continue to invest and develop its access network. Moreover, the maximum charges BT is allowed to set over the period of the control has been formulated using information on BT's costs and a consideration of how these costs will change over time.
- 4.296 We therefore consider that the charge controls pursue our policy objectives and the means employed to achieve those terms are both necessary and the least burdensome to address effectively the concerns we have set out.
- 4.297 Finally, for reasons discussed above, we consider that the charge controls are transparent. Their aims and effect are clear and they have been drafted so as to secure maximum transparency. The texts of the Conditions themselves have also been published with this Statement. Their intended operation is also aided by our explanations in this Statement. We have also set out their likely impact on charges for the duration of the controls.

Section 5

Charge controls for AI services

Introduction

- 5.1 In this section we set out our conclusions on the charge controls for AISBO services. In particular we discuss:
- the design of the charge control baskets;
 - the cost adjustments to BT's 2006/07 and 2007/08 base year data;
 - one off adjustments to the starting charges for some AISBO services; and
 - the values of X for the baskets of services.
- 5.2 For each issue under consideration:
- firstly, we provide a brief summary of our proposals from the December Consultation;
 - secondly, we summarise the stakeholder responses; and
 - finally, we discuss our arguments in support of our conclusions.
- 5.3 At the end of this section we also discuss how we have ensured that these charge controls reflect our duties and meets the Communications Act tests and our reasoning for this view.
- 5.4 We also note that our analytical approach and modelling methodology is applied consistently between TI and AI services. We therefore refer to the relevant parts in Section 4 where appropriate, rather than repeating our justifications.

Summary of our key decisions

- 5.5 Our conclusions for the charge controls on AISBO services are summarised below.
- We are implementing three charge control baskets. The legacy WES, BES and the new networked versions of these products are included in the "AI Basket". We are also implementing two smaller baskets: namely the "Accommodation services basket" and the "Ancillary services basket". More details are shown in Table 5.1 below.
 - We require Openreach to decrease the price of the standard 1 Gbit/s BES rental service by 17% and introduce this new charge from 1st August 2009.
 - Over the 3-year period from 1 October 2009, we require Openreach to comply with the price caps set out in Table 5.1 below.

Table 5.1 High level conclusions on the charge controls for AISBO services

Basket	Description	Price caps and sub-caps (after proposed starting charge adjustments)
AI	Wholesale low bandwidth AISBO (≤ 1 G bit/s) – connection and rental Including the new services: Ethernet Backhaul Direct Bulk Transport Link Ethernet Access Direct (for a full list of products see Annex A to Condition HH4 in Annex 9 to this Statement)	RPI – 7.00% ⁷⁴ RPI + 5% (sub-cap on each charge) RPI – 0% (sub-cap on sub- basket of BES)
Accommodation Services (AI)	Access Locate AI Accommodation Administration Fee (for a full list of products see Annex B to Condition HH4 in Annex 9 to this Statement)	Nominal price increase of 3% in 2009/10 RPI + 4.5% in 2010/11 Controlling Percentage $\pm 10\%$ (sub-cap on each charge) (as decided in the OFFR Statement) RPI-0%
Ancillary Services (AI)	(for a full list of products see Annex C to Condition HH4 in Annex 9 to this Statement)	RPI-0%

5.6 We note that the value of X for the AI Basket is net of the credit we have estimated for Openreach introducing newer and cheaper networked Ethernet services. Our policy arguments in support of this credit are summarised in Section 3, paragraphs 3.227 to 3.241 and our calculations are detailed in Annex 2. We have estimated the level of this credit to be 2.26% in each year of the charge controls.

5.7 In the following paragraphs we set out the detailed arguments in support of our conclusions.

⁷⁴ The value of X for the AI basket is net of the AI credit for migration which we estimated to be 2.26% (Annex 2).

We have included principal services in a single AI Basket

We have included principal services in a combined AI Basket with appropriate sub-caps

Our proposals

5.8 In our December Consultation (paragraphs 5.3 to 5.7) we proposed a single charge control basket (the “AI Basket”) for the principal AISBO services provided by Openreach in the low bandwidth AISBO market. This basket included:

- Low bandwidth AISBO (≤ 1 Gbit/s) – connection and rental services.

5.9 We also proposed to include in this basket the new Ethernet networked services, namely Ethernet Backhaul Direct (“EBD”) and Bulk Transport Link (“BTL”), which Openreach launched on 20 May 2008. Other new AI products, such as Ethernet Access Direct (“EAD”), will also fall within the scope of the AI Basket.

5.10 We proposed to apply a number of sub-caps as follows:

- A sub-cap on each of the WES and BES services separately, which requires BT to limit price increases in each of the WES and BES sub-baskets to RPI-0%.
- Sub-caps of RPI-0% on the sub-baskets of connection and rental services, applicable across all the services in the basket. This was to ensure that any changes in the balance of costs recovered between connection and rental charges are capped and OCPs are protected against sharp price increases for particular services.

5.11 We asked stakeholders the following questions:

Question 5.1 Do respondents agree with Ofcom’s proposal of a single AI Basket with separate sub-caps of RPI-0% on each of the sub-baskets of WES and BES services? Do respondents also agree with the sub-cap of RPI-0% on each of the sub-baskets of connections and rentals?

Consultation responses

5.12 BT agreed with our proposal for a single AI Basket. However, instead of the sub-caps we proposed, it proposed giving individual price guarantees on the existing suite of WES and BES connection and rental products whereby the nominal charges for these services would not increase by more than RPI+5% in each year of the controls.

5.13 C&W proposed a further RPI-X sub-cap for WESLA services, so as to keep the pricing differential between WES and WESLA. A sub-cap with a modest downward pricing trajectory will create the correct investment incentives and alternative providers who make use of Local Access are able to commercially replicate the WES products.

5.14 Another respondent noted that our proposals on basket design are insufficient to prevent price discrimination in favour of services used internally by Openreach. It proposed two alternatives:

- Imposing separate price controls on BES and WES (being its preferred option); or

- Imposing a higher value of X on the sub-baskets of BES and WES.
- 5.15 Colt expressed concern regarding the inclusion of the new networked Ethernet services in the same basket as the current traditional services. In its view Openreach could game this basket by offsetting “predatory pricing” on WES/WEES services with higher profits on BES and its replacements. In addition, it was worried about the complexity of the average price calculation proposed for all services and the fact that monitoring of the charge controls would be very difficult.

Our response

5.16 The BCMR Statement (paragraph 8.93) concluded that we consider that in principle it is appropriate to impose a charge control on AISBO services up to and including 1 Gbit/s. We have consulted on this separately and we are still of the view that a charge control is appropriate.

5.17 The main advantages associated with having a single AI Basket are that:

- *It allows for uncertainty over the deployment of the next generation Ethernet backhaul products.* On 20 May 2008 Openreach launched the first of its next generation backhaul products namely EBD and BTL. The migration path from legacy WES and BES products to these newer products is still uncertain, as are the associated costs of provision. The inclusion of these “new” and “legacy” products in the same basket is consistent with our technology neutral approach to cost modelling, and avoids the need for us to rely on cost forecasts for the new services. In addition, we also do not need to rely on assumptions about the speed of migration from the old to the new services or to take a definitive view on the allocation of common costs amongst the various services.
- *It provides Openreach with pricing flexibility to manage the process of migration to 21CN products and more generally to respond to changing market conditions.* The implementation of broad baskets will give Openreach some freedom to determine the pricing differentials between 20CN and 21CN products, which will affect the speed of migration between them. This will be important if the migration process is to be managed efficiently.
- *It prevents further gaming by Openreach and reduces the complexity of the modelling needed.* If we were instead to model separately the costs of WES and BES services, and those of the new networked products, the results could be very sensitive to the assumed rate of migration to the new products. This is because the assumptions of the model mean that reductions in the output of a service due, for example, to migration will cause its unit cost to rise. However, if the value of X applying to WES and BES services were allowed to rise in response to projections of falling volumes of these services, an artificial incentive to forecast the migration of customers from WES and BES could be created. Under our approach, the value of X would be set as if all services continued to be provided using a single hypothetical ongoing network and there is no need to forecast the rate of migration. In this way the modelling process is simplified.

In addition, because the value of X is independent of the rate of migration, Openreach would wish to migrate to the new networked services only if this were the cost-minimising solution. At the same time, it would be possible for WES and BES charges to reflect movements in costs within the overall control, as rises could be offset by reductions in the charges for new networked services. By contrast, a cap that applied to WES and BES only could prevent charges for

these services reflecting costs, in the event that significant migration to new services occurred.

5.18 However, in order to ensure that Openreach does not use its pricing freedom in a discriminatory manner we are implementing a number of safe-guard caps which do not impact the value of X for the AI Basket:

- *We are implementing sub-caps which will cap price increases on each charge in the AI Basket to RPI + 5% in any given control year.* Openreach argued that we had proposed too many overlapping controls which would unduly limit its pricing freedom. In light of those responses, we have reconsidered our proposals for sub-caps on the sub-baskets of rentals and connections. However, other respondents continued to be concerned about the risk of rapid rebalancing of charges (offsetting increases and reductions) within the main AI Basket. Having considered these two conflicting views, we are no longer proposing RPI – 0% sub-caps on a basket of connections and rentals and instead, we have concluded that we impose a cap of RPI + 5% on each individual charge. This will give Openreach increased flexibility to make some changes in the balance of charges (up to a maximum of RPI + 5% in any year) but this is then balanced by the application of the sub-cap to each charge, rather than to a basket, thereby preventing very large changes in individual charges. It is our view that this is, on balance, a more appropriate way forward which takes all stakeholder concerns into account.
- *Openreach is required not to unduly discriminate in relation to network access under its SMP obligations imposed in the BCMR Statement.* That requirement applies for network access in relation to the markets in question (e.g. AISBO services up to and including 1 Gbit/s). Therefore, to the extent that a network component falls within this market and used by different services, BT is already under obligation not to unduly discriminate in this regard. This will ensure that there is no discrimination in the way in which Openreach prices common components used by different Ethernet services.
- *We retain the sub-caps of RPI – 0% on the sub-basket of BES.* This will ensure that, due to the low revenue weight of BES services in the AI Basket (18% in 2007/08) and the fact that BES is only sold externally, Openreach does not concentrate price increases entirely on this service.
- *We do not require an additional sub-cap of RPI-0% on WES services.* We have now decided to remove this sub-cap that we proposed in our December Consultation. This is because any discriminatory behaviour between WES and BES pricing should be prevented by the SMP obligation not to unduly discriminate in relation to network access. In addition individual price increases will be capped at RPI+5% and subject to the overall AI Basket X, which will restrict BT's pricing flexibility. We believe this is an appropriate course of action, which in balance, takes into consideration all stakeholder responses.

5.19 For a full list of services in the AI Basket see Annex A to SMP Conditions HH4 in Annex 9 of this Statement. We also require Openreach to price Street Access services in a consistent manner to other AISBO services which are in the charge control.

Our conclusions

5.20 Overall taking the above into account we conclude that we:

- implement a single AI Basket including the legacy WES/BES services and new networked Ethernet services in scope of the charge controls;
- impose sub-caps of RPI+5% on each charge in the basket; and
- impose a sub-cap of RPI-0% on the sub-basket of BES services.

We have subjected Ethernet accommodation products to the same regulation as LLU co-mingling products

Our proposals

5.21 In our December Consultation (paragraphs 5.08 to 5.14) we proposed the following:

- Include Ethernet accommodation products in a basket of their own, subject to an RPI-X% price cap;
- Retain consistency with the regulation on LLU accommodation services as proposed in the OFFR Second Consultation, by applying the same price cap on Ethernet accommodation services as the one proposed for LLU accommodation services i.e. RPI-X% (with X probably close to zero); and
- Price-regulate the additional charges. With regards to the additional new charge (e.g. the Access Locate administration fee) we proposed that this should be subject to a cap of to RPI - 0%.

5.22 We asked stakeholders the following question:

Question 5.2 Do respondents agree with Ofcom's proposal of linking the regulation of the Ethernet accommodation and LLU accommodation products in the manner described and the overall price of RPI-X% (with X probably close to zero) proposed on the Ethernet accommodation products?

Consultation responses

5.23 Openreach agreed that the controls proposed for LLU co-mingling products in the OFFR Second Consultation should also underpin the controls for the Ethernet accommodation products. In addition Openreach noted the following:

- We need to take into account the difference in the duration of the proposed controls for LLU and Ethernet Accommodation (the former being a two year control).
- Openreach does not agree with Access Locate Plus being included in the Ethernet Accommodation basket. This product is provided on reasonable commercial terms in accordance with BT's Undertakings which enables CPs to house a wide range of equipment that is used beyond LLU or Backhaul purposes. It is Access Locate that is the product Openreach launched to meet the need of Ethernet CPs for accommodation and which meets the relevant SMP obligations in the BCMR Statement.

5.24 All other stakeholders who commented on this matter agreed with our proposals.

Our response

- 5.25 For the reasons discussed in our December Consultation and having taken all stakeholders' comments into account, we have concluded that Ethernet accommodation services should be included in a basket of their own. The main advantage of this approach would be that the resulting control will be more effective in capping the price of these services.

We retain consistency with regulation on LLU co-mingling prices

- 5.26 Our approach will retain consistency with the regulation on LLU co-mingling services as set out in the OFFR Statement. We therefore impose a charge control on Ethernet accommodation services in the AI Accommodation Basket which is the same as those imposed on co-mingling products in the OFFR Statement:
- Ethernet accommodation services (Access Locate) will be subject to the same price constraints as LLU co-mingling services. The OFFR Statement set the controlling percentage to 3% nominal terms in 2009/10 and RPI + 4.5% in 2010/11. The OFFR Statement has also imposed an inertia clause which limits the movement in any price changes to within +/- 10% in nominal terms in any given year of the control to prevent large year on year movements in the prices; and
 - For compliance monitoring purposes Openreach will need to take into account all of the relevant volumes, which will include the use of these services by LLU and non-LLU customers (e.g. Ethernet services such as WES/BES).
- 5.27 We recognise the fact that the LLU co-mingling price controls are set for the next two years (up to and including 2010/11) and will expire one year earlier than the AISBO charge controls. For the period following the expiration of the LLU co-mingling price controls, we will consider exercising our power under Condition HH4 to direct Openreach to amend the charges for its AISBO accommodation products.
- 5.28 As for the Accommodation Administration Fee, this is going to be subject to a safeguard cap of RPI-0% over the charge controls.

Access Locate Plus is not subject to a charge control

- 5.29 Access Locate Plus will allow CPs to locate equipment listed under Annex 4 of the Undertakings namely broadband servers, video servers, PPCs and Multi Service Interconnect Links ("MSILs"). Access Locate Plus will supersede the current BT Netlocate product used by CPs and offered by BT Wholesale. For OCPs to be able to buy this product they will first need to buy Access Locate. The other characteristic of this product is that prices are agreed on a be-spoke basis between Openreach and the relevant CP.
- 5.30 Access Locate Plus is used to support services other than PPCs and Ethernet and therefore is not subject to the SMP obligations imposed as part of the BCMR Statement. On this basis, we have not included it in the AI Accommodation basket.
- 5.31 For a full list of services in the AI Accommodation basket see Annex B to SMP Condition HH4 in Annex 9 of this Statement.

Our conclusions

5.32 Overall taking the above into account our conclusions are to:

- include a separate basket for Ethernet Accommodation Services (including Access Locate) subject to a controlling percentage of 3% in 2009/10 and RPI + 4.5% in 2010/11;
- exclude Access Locate Plus from the Ethernet Accommodation Basket;
- require Openreach to price accommodation products and services common to the AI accommodation basket and LLU co-mingling the same; and
- subject Access Locate Administration Fee to a safeguard cap of RPI-0% in each year of the control.

We have included ancillary services in a basket of their own

Our proposals

5.33 In our December Consultation (paragraphs 5.15 to 5.16) we proposed to charge control Ethernet ancillary services, by including these services in a basket of their own subject to RPI-0%.

5.34 We asked stakeholders the following question:

Question 5.3 Do respondents agree with Ofcom's proposal to include ancillary charges in a basket of their own subject to RPI-0%?

Consultation responses

- 5.35 BT disagreed with our proposals. In its view these service charges (particularly Excess Construction Charges, "ECCs") should continue to be controlled via a cost orientation obligation. Furthermore, Time Related Charges ("TRCs") should be excluded from price control regulation altogether as a significant proportion of TRC work is on the customer-side of the Network Terminating Equipment ("NTE") and therefore not part of the regulated product set. BT considered that in the event that Ofcom proceeded with a separate basket for ancillary services, it should be limited only to those TRCs which relate to the regulated SMP product set.
- 5.36 Colt noted that this is an area where costs seem to be increasing, where ECCs are being levied against new connections to AI services. It therefore stated that it would have expected ECCs to form part of the circuit connection costs of AI (WES/BES) services. Its concern was that Openreach could use the ancillary services basket to cross subsidise connections.
- 5.37 Another respondent broadly agree with our approach, although its concern was that the proposed starting charges will permit over-recovery from an early stage in the control period. For example, they noted that for Ethernet Access Direct ("EAD") product, single fibre working will be used, and ECCs are being raised on the basis of historical working practices and do not fully reflect the efficiencies that are already apparent.

Our response

- 5.38 We decided not to impose an obligation on BT to amend the starting charges of ancillary services as part of the charge controls. However, due to the importance of ancillary services, in particular ECCs, to the provision of standard Ethernet services we have sought ways in which BT could minimise the costs of providing these services. To this effect we think it is appropriate to include ancillary charges in a basket of their own subject to a sub-cap of RPI-0%. We believe this will ensure that CPs are protected against excessive price re-balancing and will provide Openreach with the correct incentives to minimise costs. Although cost orientation could help achieve these objectives to some extent, in itself it will not be as binding a cap as a charge control when a) the gap between the floor and ceiling can be quite large, b) the floors/ceilings for the products in consideration are not known (or published) making it difficult for CPs to monitor compliance and c) the floors/ceiling test in itself is only a first order test.
- 5.39 We also note that Openreach has introduced a pricing policy change in respect of served and un-served premises which it adopted some time ago (which we discussed in our BCMR Statement, paragraph 8.507). This change resulted in all non-standard construction charges being moved into “excess” construction charges such that the connection charge only covers work which varies very little from site to site⁷⁵. In relation to how ECCs are recovered, it is our view that BT is better placed to decide how to best structure its charges. However our basket design will ensure that CPs are protected against any material re-balancing in the structure of such charges.
- 5.40 For a full list of services in the AI Ancillary Services basket see Annex C to Condition HH4 in Annex 9 of this Statement.

Our conclusions

- 5.41 Overall taking the above into our consideration our decision is to:

- include ancillary services in a basket of their own subject to a price-cap of RPI-0%.

We have adjusted Openreach’s base year costs for 2006/07 and 2007/08

We think it is appropriate to make a number of adjustments to BT’s base year data in 2006/07 and 2007/08

Our proposals

- 5.42 As for TI services, we needed to make a number of adjustments to the costs of AI services to ensure that costs and revenues are matched and the level of costs is appropriate for forward-looking price setting purposes. In summary, our proposed adjustments fell into four broad categories:

⁷⁵ Typically this involves pulling an existing fibre from the cable room to the location of the Network Terminating Unit (“NTU”) and connecting the NTU to it. We do not in principle object to this approach and, in fact, believe that charging for such variable elements separately is likely to lead to better pricing transparency than would be possible if the standard connection charge incorporated a component to cover average construction charges. In the BCMR Statement we requested BT to produce documentation which clearly states its policy in respect of the charging of construction activities for new provides and what charges are, and are not, included in the standard connection charge

- *Type 1 – Exclusion of out of scope services:* We analysed the costs and revenues associated with services in the AI Basket. As a result we excluded costs associated with ancillary services and resilience.
- *Type 2- Amendments to the reported cost data:* We made further adjustments to the RFSs to make sure that the costs reported matched the revenues.
- *Type 3 – Adjustments for forecast modelling:* These included adjustments which were required in order to modify RFS data to base year costs relevant for forecasting purposes (for example we excluded costs which are “one off” in nature). One example was the calculation of a smoothed holding gain/loss to include in the base year. Some of these adjustments also related to the consistent application of prior Ofcom price modelling decisions (e.g. the exclusion of 21 CN related costs).
- *Type 4 – Implementation of new LLCC pricing proposals:* These included new Ofcom policy proposals in relation to the recovery of certain costs e.g. payment terms.

5.43 The overall effect of our cost adjustments was to increase the AI ROCE from 27% to 41% in 2006/07.

Consultation responses

5.44 Overall all respondents agreed with the principle that certain adjustments may need to be made to BT's base year costs to ensure that these represent the “appropriate” and “efficient” level of costs for forward looking charge control purposes. A common theme emerging from all responses is that we should use BT's 2007/08 RFSs to determine the quantum of our proposed cost adjustments.

5.45 Other comments made by stakeholders related to the pension deficit contributions. Whilst BT argued that contributions towards BT's pension deficit should be included in the base year costs, other stakeholders, notably C&W and UKCTA, argued for these costs to be excluded.

5.46 Consultation responses on the principle and quantum of individual cost adjustments are discussed in the paragraphs below.

Our response

5.47 We have cross-checked our cost adjustments using BT's 2006/07 and 2007/08 RFSs. As for our position on the pension deficit costs please see paragraph 4.78, in Section 4, which is also applicable to AI services.

5.48 Overall, the impact of the cost adjustments is to increase the AI Basket ROCE in 2006/07 from 27% to 41% and in 2007/08 from 29% to 37%. We note that the ROCEs as calculated after our cost adjustments should be viewed as an underlying rate of profitability of the AI Basket which gives an indication of the scope for future price reductions, rather than the true or actual level of profitability in that year.

Table 5.2 Final adjustments to BT's costs in 2006/07 and 2007/08

Description of cost adjustment	Type	Cost adj. £m (2006/07)	Cost adj. £m (2007/08)
Exclusion of out of scope services (paragraph 5.49)	1	6	16
Exclusion of out of scope services		6	16
Transmission equipment costs (paragraph 5.51)	2	2	4
Amendments to the RFSs		2	4
Holding gains/losses (paragraph 5.54)	3	26	(25)
Regulatory asset value (RAV) (paragraph 5.59)	3	-	-
Exclusion of 21 CN direct costs (paragraph 5.66)	3	5	17
Payment terms (paragraph 5.72)	4	4	0
Ofcom forecasting adjustments		35	(8)
Total net adjustments		43	12

We have excluded out of scope services

5.49 As AI ancillary services are included in a basket of their own subject to RPI-0% (see paragraph 5.41), we excluded associated costs from the cost base of the products in the AI Basket. The impact of this adjustment is to reduce base year costs in 2006/07 by £6m and in 2007/08 by £16m.

5.50 For details of our final calculations see Annex 6.

We have re-calculated equipment costs

5.51 As we noted in our December Consultation (paragraphs 5.27 to 5.29), the transmission equipment costs for AISBO services are recovered through upfront circuit connection charges. The aim of this cost adjustment is to amend the timing mismatch between the revenues and costs reported in the RFSs where:

- The revenues associated with this equipment are all recognised in the circuit connection revenues that BT levied from customers upfront; whilst

- For accounting purposes the assets are capitalised and depreciated over the life of the underlying equipment.
- 5.52 In order to compare the prices of these services to the underlying costs of provision we need to ensure that revenues and costs are recognised on the same basis. In order to achieve this we proposed to replace the total depreciation costs in the accounts relating to transmission equipment with an estimate of BT's expenditure (based on contract prices).
- 5.53 The impact of this adjustment is to decrease base year costs in 2006/07 by £2m and in 2007/08 by £4m. For details of our calculations see Annex 6.

We have recalculated holding gains and losses

- 5.54 As discussed in our December Consultation (paragraphs 5.30 to 5.31) in determining the base year costs we have re-calculated the holding gains/losses included in the AI Basket. As explained in relation to the TI Basket (Section 4, paragraph 4.110), the absolute amounts of the actual holding gains/losses can result in a high degree of volatility and can also include amounts which relate to changes which are one off in nature (e.g. change in the valuation methodology of assets). Our adjustment therefore includes a degree of smoothing to overcome these issues. As for the TI Basket, we have concluded that it is appropriate to make an allowance for the pricing holding gains/losses in our model. We have estimated the amounts to be allowed by using the historic five year average in the trend of real asset price changes as a proxy for future asset price changes.
- 5.55 The impact of this adjustment is to decrease costs by £26m in 2006/07 and to increase costs by £25m in 2007/08. For details of our calculations see Annex 6.

We have not taken into account the RAV for pre-97 access copper and duct

Our proposals

- 5.56 In our December Consultation (paragraphs 5.32 to 5.34) we proposed not to apply the RAV adjustments to AISBO services, given that future investment is most likely to be in this area and the fact that current Ethernet services are delivered over fibre. We also noted that AISBO services are all on fibre and are unlikely to be using pre-97 duct.
- 5.57 We asked stakeholders the following question:

Question 5.4 Do respondents agree with Ofcom's proposal not to take the RAV adjustment into consideration when adjusting Openreach's base year costs for 2006/07?

Consultation responses

- 5.58 C&W agreed with our proposals, although it stated that this was only on the grounds that the adjustment itself was immaterial.

Our response

- 5.59 Since 2005 we have determined charges for copper access products on Openreach's Regulated Asset Value ("RAV") which is different from the asset value disclosed in Openreach's RFSs. The difference relates to Openreach's Copper and Duct assets.

In the RAV, the assets which were purchased before 1997 are valued on a Historical Cost (“HCA”) basis indexed by inflation. This provides a lower valuation than the RFSs where the same assets are valued on a Current Cost (“CCA”) basis. The deduction to bring the RFS figure to the RAV figure is the RAV adjustment.

5.60 As discussed in our December Consultation, we do not need to adjust Openreach’s base year costs in the AI Basket in 2006/07 and 2007/08 to take into account the RAV as:

- *Current Ethernet services are entirely on fibre.* Therefore the RAV adjustment in relation to the access copper cable is not relevant for services in the AI Basket.
- *Ethernet services make less use of pre-97 duct.* Ethernet services were introduced post August 1997, and it is therefore likely that they will use pre-97 access duct to a lesser extent than other services (for example TI services).
- *Most future investment is likely to be in new fibre services.* Unlike TI services, it is likely that there will be a significant amount of future investment by Openreach and potentially other CPs in infrastructure used to provide Ethernet services. It is important for us to set the correct pricing signals (by setting prices which reflect the replacement cost of the assets) to encourage efficient future investment in this area.
- *We recognise that this approach is different from the approach followed in relation to charges for TI services.* In principle, to the extent that TI prices are relatively low as a result, the demand for TI services may be increased relative to that for AI services. However, the evidence set out in the BCMR Statement suggests that customer responsiveness to price differentials between TI and AI services is limited, and this is reflected in the conclusion that AI and TI services are sold in different markets. Any distorting effect is therefore likely to be small.

5.61 For a detailed account of this adjustment and how it related to the TI Basket see Section 4, paragraph 4.120.

Our conclusions

5.62 Based on the above discussions our final conclusion is to:

- not to take into account the RAV when determining the base year costs for AI services in 2006/07 and 2007/08.

We have excluded costs incremental to 21 CN

Our proposals

5.63 In our December Consultation (paragraphs 5.35 to 5.36) we proposed to exclude direct costs relating to 21 CN from the AI Basket. The impact of our adjustment was to decrease the base year costs in the AI Basket by £5m in 2006/07.

5.64 We asked stakeholders the following question:

Question 5.5 Do respondents agree with Ofcom’s proposal to exclude 21 CN “direct” costs from Openreach’s base year costs for 2006/07?

Consultation responses

5.65 Stakeholder responses are summarised in detail in Section 3, (paragraphs 3.180 to 3.182):

- Although Openreach agreed with our proposals, they also proposed that their base year costs for 2006/07 need to be replaced by an equivalent legacy investment that would have taken place “but for” Openreach’s strategy of investing in EBD.
- Colt was concerned that in allowing Openreach to continue to price services based on the costs of old technology, whilst it uses lower cost 21CN networks, Ofcom will, in effect, allow BT to depart from a “cost orientation” regime which will have material impacts in downstream competition.
- Sky noted that although our approach incentivises and rewards Openreach for adopting new, more efficient Ethernet services, in practice, it also increases the risk of Openreach making excessive returns. In its view, the costs of next generation Ethernet will be considerably cheaper than current generation Ethernet due to the shared, aggregated nature of these services.

Our response

5.66 As we discussed in our December Consultation, the appropriate treatment is to exclude direct costs associated with 21 CN investment from the cost base of services within the scope of the AI Basket because:

- *Under the technologically neutral approach to modelling, we forecast the costs of services irrespective of the underlying technology that is used to deliver them.* Therefore we model the costs of a “hypothetical” ongoing network which, for simplicity, is based on the costs of the current network i.e. an ongoing WES/BES network. Although this approach could, in principle, give rise to over-recovery we do not think this will be material over the next charge controls as the forecasts do not assume a high level of migration between “legacy” and “new” products. Our analysis of the potential savings that Openreach could achieve over the next charge control has revealed that the level of such savings is small, being in the region of 2.26% (see Annex 2 for more details).
- *We are not including, within the model assumptions, the further efficiency gains BT will derive from moving to 21 CN.*
- *Our model assumes an “ongoing” hypothetical network, where we build in an explicit allowance for future capital expenditure requirements.* We therefore reject Openreach’s claim that the base year capital costs should be uplifted to take into account the investment that would have taken place “but for” the current investment in EBD. In a steady state, assets will on average be halfway through their lives, so in a mature market you would expect the Net Replacement Cost to Gross Replacement Cost (“NRC/GRC”) ratio to be around 50%. An NRC/GRC ratio which is significantly less than 50% may indicate that assets are being run down and not being replaced. Firstly, the NRC/GRC ratio across all Ethernet assets in 2006/07 is at around 53% which shows that an upward adjustment to the value of the asset base is not justified. Secondly, as mentioned, our model takes into account the additional capital investment which would have been required as a result of volume growth (in fact the NRC/GRC ratio for Ethernet assets at the end of the charge control period is 57%).

- *We also note that these costs relate to direct 21CN investment in the core.* The adjustment in 2007/08 also takes into account the level of direct investment Openreach made for the new networked Ethernet products.
- *Finally our approach will not allow Openreach to depart from its cost orientation obligations.* Openreach is required to comply with both its charge control and cost orientation requirements and the two conditions are complementary in nature. The charge control will require Openreach to reduce its charges across the weighted average AI Basket as required by the value of X, in addition to complying with its cost orientation obligations.

5.67 We note that the impact of this adjustment is to decrease the base year costs in the AI Basket by £5m in 2006/07 and by £17m in 2007/08. For a detailed account of our arguments and how these relate to the TI Basket see Section 4, paragraph 4.129.

Our conclusions

5.68 Based on the above discussions our final decision is to:

- exclude direct “21CN” investment costs from the AI Basket in the base year. The impact of this adjustment is to decrease base year costs in 2007/08 by £17m.

We have amended the value of debtors to reflect contractual payment terms

Our proposal

5.69 In our December Consultation (paragraphs 5.37 to 5.38) we proposed to amend notional debtors to reflect contractual payment terms. The impact of this was to decrease the base year costs in the AI Basket by £4m in 2006/07

5.70 We asked stakeholders the following question:

Question 5.6 Do respondents agree with Ofcom’s proposal to amend debtors when adjusting Openreach’s base year costs for 2006/07?

Consultation responses

5.71 Only Openreach disagreed with our proposals. In its view the figure for debtor days included in our modelling should reflect a realistic view of what can be achieved in practice by Openreach or by another CP. By using the strict contractual terms, it was believed that we had understated the true costs faced by Openreach, which it actually incurs and cannot reasonably avoid or control. It therefore proposed that we take into account its monthly billing cycles and disputed invoices and, overall, use 40 debtor days for modelling the costs of AI services.

Our response

5.72 Following BT’s response to our December Consultation we have decided to reflect BT’s monthly billing cycle when adjusting the value of debtors as per its RFSs:

- For rentals 16 days represents the average interval for services billed monthly in advance.

- For connections 46 days represents the average interval between a new connection and when payment falls due. BT invoices connections on its monthly billing cycle, rather than billing for the service the day after connection, adding an average of 15 days to the 31 days gap between service and payment assumed for 2006/07 in our December Consultation.
- 5.73 On the other hand we disagree that the debtors' calculations should reflect disputed invoices, as this would not give BT the correct incentives to minimise its costs.
- 5.74 The impact of this adjustment is to reduce base year costs by £4m in 2006/07 and by £0m in 2007/08. For an account of the arguments and how these impact the costs of the TI Basket see Section 4, paragraph 4.136.

Our conclusions

5.75 Our conclusions are that:

- we will amend the value of debtors to reflect Openreach's monthly billing cycle; and
- the impact of this adjustment is to decrease AI Basket costs in 2007/08 by £0m.

5.76 For a detailed account of our calculations see Annex 6.

We mandate further price reductions to Ethernet services

We require OR to further decrease the price of 1 Gbit/s BES rental services

Our proposals

- 5.77 In our December Consultation (paragraphs 5.41 to 5.49) we noted that Openreach had announced substantial price cuts to its point to point Ethernet services which became effective on February 2009. Some of the key changes introduced were⁷⁶:
- WES /WEES 10 Mbit/s connection charges reduced by up to 33%.
 - WES/WEES 100 Mbit/s reduced to the same price as 10Mb products for both connection and rental, representing a reduction of up to 65% for connection and up to 16% for rental.
 - WES/WEES 1000 Mbit/s connection charges reduced by up to 62% and rental by up to 33%.
 - BES 10 Mbit/s connection charges reduced by 19%.
 - BES 100Mbit/s reduced to the same price as BES 10 Mbit/s for connection and rental, representing a reduction of up to 65% for connection and up to 26% for rental.
 - BES 1Gb/s product connection reduced by up to 62% and rental by up to 31%.

⁷⁶ For a full description of the proposed price changes go to http://www.openreach.co.uk/orpg/news/productbriefings/ethernet/downloads/briefing_ETH072_08.pdf

- 5.78 We did not propose further one-off adjustments to the starting charges for the services within the AI Basket, in addition to those introduced by Openreach. However, in our December Consultation we proposed:
- that BT ensures the prices for AI services within the scope of the proposed charge controls should not increase in nominal terms between the implementation of the charge control and 1 October 2009; and
 - that BT brings the prices of all the services in the AI Basket within the appropriately measured DLRIC floors and DSAC ceilings, within 12 months of the implementation of the charge controls. At the time we proposed that Openreach should review its charges during 2009/10 in the light of the latest available DSAC/DLRIC information, and rebalance prices where required to bring them within the appropriately measured floors and ceilings. In this context, we noted that the onus was on Openreach to comply with its regulatory obligations.
- 5.79 We asked stakeholders the following question:

Question 5.7 Do respondents agree that there should be no further one off adjustments to the start charges for services in scope of the AI Basket and that prices should be brought within the DLRIC floors and DSAC ceilings within the 12 months of implementation?

Consultation responses

- 5.80 Openreach agreed with our proposals not to introduce further one off adjustments to the prices of AI services. However, Openreach disagreed with our proposal requiring it to bring all of the remaining AI prices within the DLRIC floor and DSAC ceilings. It saw this “as a mechanical application of the cost orientation rule”, which is only supposed to be a first order test and which they see as not being appropriate in the context of AISBO products which represents a dynamic, evolving and complex portfolio involving considerable investment and operational risk.
- 5.81 C&W noted that Ofcom needs to evaluate the pricing gradient for higher bandwidth services, in particular 1 Gbit/s BES services. It proposed that either the starting charges should be revised or BES services should be subjected to a sub-cap of RPI-X (where $X > 0$) which will put BES pricing into a downward trajectory.
- 5.82 Another respondent also requested further one price cuts to the starting level of regulated AISBO prices, in particular BES. In its view BES prices, even after Openreach’s voluntary price cuts, were still above DSAC and at these levels they would fail the first order cost orientation test.
- 5.83 Colt disagreed with our proposals to allow Openreach a 12 month period (from the introduction of the new charge controls) in which to bring the remainder of its regulated AISBO prices within the relevant floors and ceilings. In its view the starting point of the charge control should ensure that the charges are within the proposed ceilings and floors.
- 5.84 One stakeholder noted that it is of paramount importance for Ofcom to:
- Investigate BT’s previous and ongoing compliance with its cost orientation obligation, taking the necessary action as appropriate;
 - Investigate the possible discrimination issue applying to BES; and

- Revisit its starting charge proposals such that BT's charges are within the stipulated floors and ceilings from the outset.

Our response

5.85 We need to balance various conflicting considerations when deciding on whether to propose further one off adjustments to the starting charges for AISBO services within the scope of the new controls. As described in Section 3, paragraph 3.227 to 3.241, we have decided to adopt RPI-X regulation using "glide paths", under which charges are brought into line with costs over a number of years, to one-off adjustments to starting charges. This is because the use of glide paths leads to greater stability and predictability (by avoiding sudden changes to charges), and also because they improve cost reduction incentives by allowing BT to keep unanticipated efficiency gains for a longer period. This approach is consistent with previous charge controls imposed in the past.

5.86 In reaching our conclusions we have considered whether:

- There are some arguments for not implementing further one off adjustments to starting the charges for some AISBO services; and
- There are arguments which support further price cuts.

There are some arguments for not making further one off adjustments to the starting charges for AISBO services

5.87 In our December Consultation we discussed a number of arguments which pointed towards not requiring further one off adjustments to the starting charges of AISBO services:

- *Openreach have already introduced substantial price cuts to its Ethernet portfolio which became effective on 1st February 2009. The effect of these price cuts is to decrease the AI Basket ROCE in 2007/08 by around 15% (see Annex 6).*
- *We want to give Openreach confidence that it will be allowed to benefit from the efficiency gains which are expected to result from its 21CN investments. This may be necessary to give Openreach appropriate incentives to invest in new technologies like 21CN, where the benefits may only accrue some time after the initial costs have been incurred.*
- *The RPI-X form of control will ensure that the average price across the AI Basket is reduced further in each year of the control. In the absence of one off reductions to start charges the value of X will be higher and therefore average prices will decrease by a bigger amount in real terms in each year of the control. This means that customers will ultimately still benefit from the same reductions in prices, although these will occur more gradually and over a longer period of time than if one-off cuts had been imposed.*

Our view is that the arguments for further price cuts are stronger

5.88 In deciding whether to apply further starting charge adjustments we have weighed up dynamic and static efficiency considerations. As noted in Section 3, where BT is subject to repeated charge controls, if at the end of each control we automatically adjusted prices to costs then this could dampen BT's incentives to make cost savings through time.

5.89 However, in our December Consultation we also discussed that the case for making one off adjustments to starting charges is generally stronger where:

- *Charges were previously not regulated.* The 2003/4 Market Review concluded that AISBO services were a nascent market and that imposing a charge control at that time was inappropriate and could impede market development, so these services were made subject to cost orientation obligations under SMP. It is only now that we are proposing to subject these services to a formal charge control.
- *Some charges are materially out of line with the underlying costs of provision.* When setting price controls there is a judgement to be made on how we align prices with the underlying costs of provision. We need to make a trade off between the efficiency and investment incentives of glide paths and the increased static efficiency gains achieved by one off adjustment to start charges. It is generally (statically) efficient for the price of a service to reflect the costs of producing it. Prices which signal the relative costs of different services will ensure that choices between these services are not distorted and that resources are allocated to the services which users value.

Given our assessment of the overall high returns on AI services, we also think that a glide path would entail very high values of X to bring prices in line with forecast costs by the end of the control. There is a risk that if prices remained high this could prompt inefficient entry into the AISBO market and harm to consumers in the form of persistently high prices. Hence, where a provider has SMP and in the absence of regulatory controls has set charges materially above cost, a glide path which reduces charges over an extended period might be considered to allow that provider to continue to set charges too high.

5.90 Taking the above and stakeholder concerns into consideration, it is our view that there are strong arguments for further price cuts to the price of 1 Gbit/s BES services of the order of 17%. We have estimated the required price cuts by:

- Comparing the aggregate connection and rental prices over the contract life of an AISBO circuits (assumed to be three years) to the aggregate of our adjusted DSAC values for these services. We have chosen DSAC as our benchmark for the comparison as we believe that prices above this level may run a high risk of causing distortions, for example encouraging inefficient entry. We note that this consideration is without prejudice to cost orientation.
- Excluding term discounts which are currently on offer on BES services. As described in paragraph 3.320, we do not consider that term discounts should count towards meeting the charge control requirements and therefore we did not think it would be appropriate to include these in the estimate of further price cuts.

5.91 We believe this approach will improve static efficiency (by reducing prices towards costs), without damaging the case for dynamic efficiency gains:

- We want to incentivise efficient investment in new and innovative products such as “bandwidth hungry” broadband services. A number of LLU operators use BES and their bandwidth requirements are likely to grow in the near future, as broadband speeds improve. They are also likely to consider moving to EBD services over time. Currently BES products account for a material portion of the cost stack for LLU (15%-20% in average exchanges, this proportion increasing to

30%-50% in marginal exchanges). Lower prices for high bandwidth BES products may therefore have a role to play in stimulating the development of higher speed broadband services.

- We want to promote infrastructure based competition. Infrastructure based competition is likely to lead to greater product and price innovation for end customers. Our proposals aim to decrease the price of 1 Gbit/s BES prices, whilst still keeping a healthy differential with the local access products.
- BT has recently announced an ambitious NGA programme which will increase demand for backhaul capacity to support high speed broadband services. This will contribute to what is likely to be a sharp increase in demand for Ethernet based backhaul services (such as LLU) over the next few years which would increase the size of the static inefficiency caused by prices which are well in excess of costs.

The charge control levels do not raise any competition concerns

- 5.92 A potentially adverse impact on competition from other providers of wholesale leased lines could arise if we set Openreach's prices too low (i.e. below a level which would allow a reasonable return on investment). However, we have designed our charge control to ensure that by the end of the charge control period, the charges Openreach levies for its leased lines services are broadly in line with what we would expect if Openreach were to operate in effectively competitive wholesale markets.
- 5.93 We do not think that the average reductions in charges required by our charge control would unduly deter efficient competitors from entering the market (i.e. where OCPs can provide similar leased lines services at lower cost). We have based our modelling on our best forward looking view of BT's costs of providing those services taking into account forecast volumes and efficiency gains

Our starting charge adjustments are without prejudice to BT's cost orientation obligations

- 5.94 The starting charge adjustments we have made are the ones where we can see clear efficiency arguments for immediate reductions to prices and that we think would not be adequately tackled via a glide path. These adjustments are without prejudice to BT's cost orientation obligations. In formulating the starting charge adjustments for AI services, we have taken an initial view of how BT would be required to comply with its cost orientation requirement. This is not a definitive position in relation to BT's compliance with its cost orientation obligation, but it does reflect our interpretation of the requirement based on the information currently available.

The price decreases on 1 Gbit/s BES services will come into effect on 1st August 2009

- 5.95 As discussed in Section 7, paragraph 7.30, we have decided that the new charges for 1 Gbit/s BES services will become effective on 1st August 2009.

Our conclusions

- 5.96 Based on the above discussions our final decision is to:

- require Openreach to reduce the price of BES 1 Gbit/s rental services by 17% and introduce this new charge from 1st August 2009.

We have firmed up on the values of the key assumptions underpinning the cost forecasting of AI services

We have finalised our assumptions for forecasting future costs

5.97 In Table 5.3 below we summarise the final assumptions we have used when forecasting Openreach's future operating and capital costs.

Table 5.3 Key input parameters used in the LLCC model

Parameter	Description	Range of assumption in our December Consultation	Assumption used to calculate final value of X
Service volume forecasts (see paragraph 5.104)	Volume forecasts for the individual AISBO services in scope of the AI Basket	2007/08 actual volumes projected forwards to 2012/13 using BT's growth rates + ± 10%	BT's latest 2009/10 forecasts, projected forward to 2012/13 in a manner designed to provide consistency with the OFFR Statement.
Future efficiency gains (see paragraph 5.114)	BT efficiency savings in operating costs in every year of the next control period	1% to 3% per annum	2.8% per annum
Weighted average cost of capital ("WACC") (see paragraph 5.123)	BT's WACC used to calculate the return on capital employed (ROCE) which is added into the cost stack of individual services (As per the OFFR Statement and same value as TI Basket)	10.25% to 11.75%	11%
Asset volume elasticities ("AVEs") (see paragraph 5.133)	% change in the gross replacement cost of assets for a 1% change in volume	Weighted average of 0.39 to 0.66	Weighted average of 0.39
Cost volume elasticities ("CVEs") (see paragraph 5.133)	% change in the values of operating costs for a 1% change in assets	Weighted average of 0.24 to 0.5	Weighted average of 0.24
Asset price changes (see paragraph 5.139)	% change in asset prices	Varies by asset category	Varies by asset category

We have used Openreach's volume growth forecasts

Our proposals

- 5.98 In our December Consultation (paragraphs 5.54 to 5.64) we proposed to apply Openreach's volume growth forecasts to the actual volumes in the RFSs in 2007/08. These volume forecasts are based on an Openreach methodology whereby Openreach requires CPs to supply Ethernet product forecasts (by product type and bandwidth) on a regular basis. Openreach takes these forecasts, together with a comparison against its own market analysis, and creates a two year forecast, with projections up to five years. This forecast is used to align capabilities for the delivery and maintenance of their product set, as well as for driving product development roadmaps. Openreach uses a similar approach for forecasting internal volumes.
- 5.99 We asked stakeholders the following question:

Question 5.8 Do respondents agree with the volume forecasts used in the LLCC model for AI Basket of services? If not, please provide your views on the future volume forecasts of wholesale services in scope of the charge control.

Consultation responses

- 5.100 Openreach commented on the fact that the downside risk to the volume forecasts are now greater than the upside (as a result of economic uncertainties) and has provided new forecasts for 2008/09 and 2009/10. It has also requested Ofcom to adjust the actual volumes in the 2007/08 RFSs for some minor discrepancies (see Annex 7).
- 5.101 Two respondents (C&W and another) believed Openreach may have over-estimated the rate of migration from TI to AI services.
- 5.102 Colt proposed we engage third party consultants to prepare an independent volume forecasts for leased lines services. It was concerned that Openreach have an obvious incentive to manipulate the volume forecasts to justify higher or lower prices.
- 5.103 Another respondent provided detailed comments on our volume forecasts. In its view the volumes for legacy WES/WEES and BES products will drop off considerably following launch of Openreach's EAD products. In addition, it also considered that the volumes of 10 Mbit/s WES products will drop off to a greater extent than we forecast. Conversely it expects to see continued growth in demand for 100 Mbit/s WES products. It agreed with the forecasts of "Other bandwidths" and WESLA.

Our response

We have amended the Ethernet volume forecasts

- 5.104 Openreach has provided volume forecasts for AISBO services within the scope of the charge control up to 2012/13. These volumes are broken down into circuits provided internally to BT, and circuits sold to other CPs (and include forecasts for new services over BT's next generation backhaul network).

- For ease of presentation (and reasons of confidentiality) we have analysed total volume forecasts (e.g. the sum of internal and external volume forecasts).
- We have plotted forecast volume indices for the various services, where volumes are set to 100 in the first year. This is to show how the trend in the volume forecasts of particular services is predicted to change over the control period.
- For comparison, we also note the Compound Annual Growth Rate (“CAGR”) implicit in the volume forecasts. We note that a CAGR calculation takes into account the volumes at the end and start of a particular time period (as discussed below) and therefore ignores the year to year trends shown in the figures below.

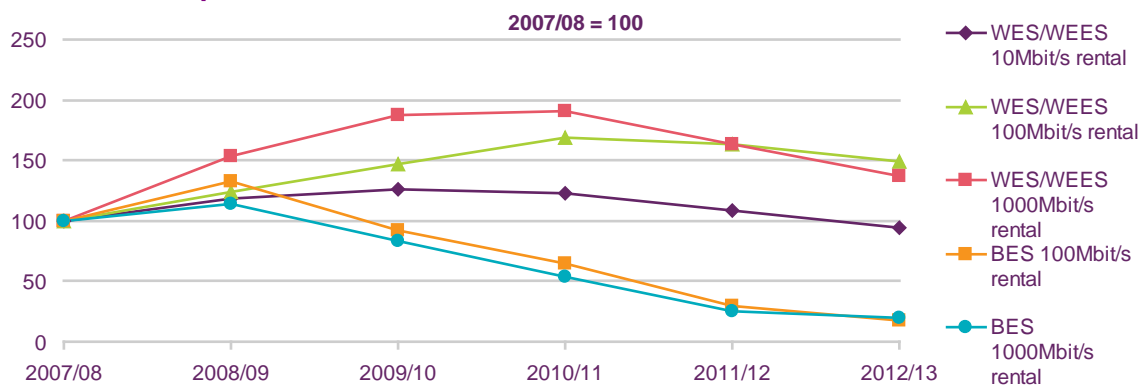
5.105 Following consultation responses we have amended our volume forecasts as follows:

- We have updated the volume forecasts in 2009/10 to take into account Openreach’s latest view for this year and applied the volume growth rates implicit in the volume forecast from our December Consultation. The updated 2009/10 forecasts showed that in 2009/10 total demand for Ethernet services is down by around 2%. The key reasons for the overall reduction in volumes in 2009/10 include the economic outlook, a significant customer scaling back their NGN plans, CP mergers and CP network consolidation.
- We have checked the aggregate of our Ethernet volume forecast in 2012/13 against those included in the OFFR Statement. The result of this comparison is that our aggregate total Ethernet rental volumes (including legacy and new services) are similar to the values included in the OFFR Statement.

5.106 The high level growth profiles for various Ethernet services are summarised below (See Annex 7 for a more detailed discussion of the growth profiles):

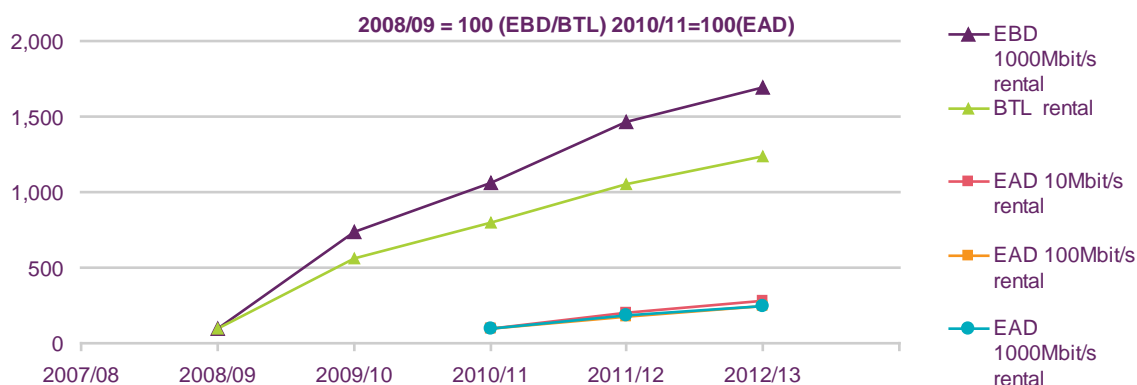
- Total WES/WEES circuits are forecast to increase by 2.4% per annum (CAGR) between 2007/08 and 2012/13. Total BES circuits are forecast to decrease by 30% per annum.

Figure 5.1 Volume forecasts for total sales of current WES/WEES and BES products



- In contrast the new networked products are expected to show rapid growth. For example EBD circuits are forecast to increase by 87% per annum (CAGR) between 2007/08 and 2012/13.

Figure 5.2 Volume forecasts for total sales EBD services



Our conclusions

5.107 Following from the above:

- we decided to use Openreach's latest forecasts in 2009/10, projected forwards to 2012/13 using the growth rates implicit in the volume forecasts included in the December Consultation.

We have assumed Openreach will realise efficiency gains of 2.8% per annum

Our proposals

5.108 In our December Consultation (paragraphs 5.65 and 5.66) we proposed to rely on the work completed and discussed in the "A New Pricing Framework for Openreach" consultation published in December 2008 ("OFFR Second Consultation")⁷⁷ which proposed a range of 2% to 4% for Openreach's forward looking efficiency gains (based on the level of compressible costs, which are estimated to be around 70%).

5.109 Expressed in terms of the total level of operating cost forecasts included in our model, this range is equivalent to an annual efficiency improvement of 1.0% to 3.0% (which equates to 70% of the range from 2% to 4%).

5.110 We asked stakeholders the following question:

Question 5.9 Do respondents agree with our proposed forward looking efficiency range of 1% to 3% to apply to services within the scope of the AI Basket?

Consultation responses

5.111 Openreach commented extensively on this issue in its response to the OFFR Second Consultation. The discussion in the context of the OFFR Second Consultation was in terms of gains likely from savings in compressible costs, where Openreach has savings targets for the periods under review. Openreach's view was that the savings rates in compressible costs made in 2007/8 and being sought in 2008/9 are not sustainable year on year over the whole of the forecast period. Efficiency gains are therefore not likely to be more than at the bottom of the range suggested by Ofcom in

⁷⁷ <http://www.ofcom.org.uk/consult/condocs/openreachframework/>

the ORFF Second Consultation, which would make them in line with those which BT considers are possible for TI services.

5.112 The view from other CPs was that overall the efficiency assumption was too low. Four respondents noted the following:

- C&W noted that significant scope for improvements in equipment space and power requirements as well as the price of equipment itself. Specifically in the AI market the new equipment being deployed by Openreach uses on a single fibre whereas previously a pair has been used. This change alone has the potential to drive very significant efficiency improvements in AI over the next couple of years.
- Another respondent Openreach should be able to achieve 5% to 6% efficiency gains on all costs.
- A respondent commented that the proposed range is too low based on the technical developments associated with EAD and the development of a wholesale converged backhaul market.
- Sky commented that the cost efficiency targets set for the purposes of copper access charge controls were peculiar to those markets and are not necessarily applicable to leased lines. In addition it is not clear if the efficiency targets for AI services included any allowance for reduction in fault rates.

5.113 Another respondent proposed the efficiency targets to be set to zero. This is because, given the number of new product introductions Openreach is likely to focus on their deployment rather than efficiency savings.

Our response

5.114 For the purposes of setting the appropriate level of the future efficiency savings for AISBO services we have relied on the work completed as part of the OFFR Statement, as Openreach as an entity also provides the Ethernet services within the scope of the charge controls. We apply a number of exceptions:

- The OFFR Statement has determined Openreach's efficiency gains to be 4% in 2009/10, 3% in 2010/11 and 2% for 2011/12 and 2012/13. As the AISBO charge controls are for a three year duration (ending on 30 September 2012), we have averaged these rates to give 2.8% over the remaining three years of the leased lines charge controls (2009/10 to 2011/12).
- The OFFR Statement has also estimated a further 2% reduction in fault rates between 2009/10 and 2012/13, which translated to a savings in operating costs of 1.2%.
- The OFFR Statement has applied the figures above to the portion of costs which are compressible, which are estimated to be around 70%.

5.115 Taking all of the above into consideration the final efficiency assumption we used in the LLCC model for Ethernet services in 2.8%. This is the sum of the two separate efficiency estimates discussed above (i.e. 2.8% plus 1.2%) multiplied by 70%.

Our conclusions

5.116 Following from the above we conclude that:

- Openreach's forward looking efficiency saving are 2.8% per annum.

We have assumed a WACC of 11%

Our proposals

5.117 In our December Consultation (paragraphs 5.67 to 5.70) we proposed to apply a WACC in the range of 10.25% to 11.75% to AI services. This range is equivalent to the "rest of BT" range calculated in the OFFR Second Consultation.

5.118 We asked stakeholders the following question:

Question 5.10 Do respondents agree with the range of WACC proposed for services within scope of the AI Basket?

Consultation responses

5.119 A detailed summary of consultation responses can be found in Section 3, paragraph 3.250 to 3.256. In this section we only provide a high level summary of the key arguments.

5.120 BT disagreed with our proposed range for WACC. In its view a more appropriate figure is 13.3%.

5.121 Some respondents argued for the lower end of our range:

- C&W proposed the use of the lower WACC for access services, as the cost of PPCs are driven by the underlying costs of duct shared with LLU. It thought that there may be a case of using BT Group WACC for TI trunk services, but not the remainder.
- Another respondent noted that there were no significant business risks associated with the provision of these services. This was particularly apparent given the massive increase in uptake during the past three to four years. While the customer base is wider, the products are well understood and the threats from competition are not significant.

5.122 One stakeholder agreed that the appropriate WACC for AISBO services should be the "rest of BT" rate, but it urged us to revisit the absolute level of it. In particular, as a result of the volatility in the financial markets and challenges in obtaining funding/credit, it believed that the current economic situation warrants a higher WACC.

Our response

5.123 As discussed in Section 3, Ofcom's practice is to set 'X' so that the value of BT's rate of return projected by the LLCC model for the last year of the price control is equal to the cost of capital. This approximates to the workings of a competitive market in which excess profits are gradually eroded by competition.

5.124 Also in Section 3 we discussed our view that the AI Basket of services (like the TI Basket of services) should not be classified within BT's access network for the purposes of an assessment of risk levels. Since these services are mostly bought by SME and corporate customers of BT, future demand for these services, particularly in

the case of the demand for new circuits, is likely to be more closely correlated with the economy-wide level of economic activity than other access services. This view is in line with our conclusion in the 2005 Cost of Capital Review⁷⁸.

- 5.125 In the same section we explained why we do not accept Openreach's proposed methodology, either for setting the range for the WACC to apply in general, or as a justification for a higher cost of capital on a project-specific basis.
- 5.126 The OFFR Statement has set a final point value of 10.1% for Openreach's pre-tax nominal WACC. The final value for the rest of BT is 11.0% which, following from the above arguments, we use to set the charge controls for leased lines.

Our conclusions

5.127 Based on the above discussions our decision is to:

- apply a WACC of 11.0% to the AI Basket.

We have used the AVE/CVE assumptions as per the 2004 PPC Statement

Our proposals

- 5.128 In our December Consultation (paragraphs 5.71 to 5.73) we discussed three different options for the AVEs and CVEs of components used by AI services. Out of the three options presented we proposed using Option 2 which was based on the AVE and CVE values used in the 2004 PPC Statement. These resulted in weighted average AVEs and CVEs across all AI components of 0.39 and 0.24 respectively.
- 5.129 We asked stakeholders the following question:

Question 5.11 Do respondents agree with our proposed AVEs/CVEs for Ethernet services?

Consultation responses

- 5.130 Openreach disagreed with our approach. Instead it has recalculated the AVEs and CVEs of AI components. For details of its proposals see Annex 7, Table A7.5 and A7.7.
- 5.131 Colt argued that it would not be appropriate to use our proposed values as it would expect AVE and CVE ratios to be lower for AISBO services as these benefit from better economies of scale than other services.
- 5.132 Another respondent noted that a common approach is required and that as such AVEs and CVEs applying to AI and TI services should be prepared and applied on a consistent basis (although this does not imply that the absolute values should necessarily be the same). Using LRIC estimates it also expected AVEs and CVEs to be at the higher end of our proposed range.

Our response

- 5.133 As in the case of TI services (Section 4, paragraph 4.242), we do not agree with Openreach's re-calculated AVEs and CVEs. We do not agree with Openreach's

⁷⁸ http://www.ofcom.org.uk/consult/condocs/cost_capital2/statement/final.pdf

approach to calculating AVEs and CVEs based on its LRIC model, because the LRIC of a product or service may include any fixed costs incurred in its provision, while the AVEs and CVEs relates to costs changes arising from changes in volumes (between non-zero output levels) rather than the decision to provide the service or not.

Our conclusions

5.134 Following from the above our decisions is to:

- use to AVEs and CVEs used in the 2004 PPC Statement and keep these values constant over the period of the control.

We have used the five year historic average change in real asset prices

Our proposals

5.135 In our December Consultation (paragraph 5.74) we proposed using the average historic five year trend in asset prices changes as we have for the TI Basket.

5.136 We asked stakeholders the following question:

Question 5.12 Do respondents agree with our proposed use of the average historic five year trend in the real asset price changes when forecasting the costs of AI services?

Consultation responses

5.137 Openreach agreed that our approach is reasonable. However, as for the TI Basket discussed in paragraph 4.247, it thought that we have underestimated the extent to which real asset price trends are falling. It provided new estimates for the real asset price trends to take account of the relevant price and valuation changes that were booked to “other” unrealised holding gains /losses that were excluded from the price trend data previously calculated (see Table A7.8 in Annex 7).

5.138 Other stakeholders did not raise any concerns with our proposed approach.

Our response

5.139 There are 10 asset categories relevant to the provision of AISBO services as reflected in BT’s RFSs. The asset price change assumption is the amount by which each of the asset types changes in price during the control period.

5.140 We propose to use the average of BT’s historic five year trend in real asset prices changes (e.g. between 2002/03 and 2006/07) and hold these constant over the period of the control.

5.141 As for BT’s suggested improvements, and consistent with our approach on the TI Basket:

- We accept applying separate values to copper cable and fibre. However our assumptions are consistent with those in the OFFR Statement i.e. we assume copper prices change at 2.3% in nominal terms and fibre prices change at -2.7% in nominal terms during the charge controls.

- We do not agree that because BT has chosen to value certain asset groups (main exchanges, other network equipment, motor transport, land and buildings, computer and O&M) on an historic cost basis this is relevant for price control purposes. This valuation method is explained in BT's "Detailed Valuation Methodology" document which supports its annual RFS publication. BT state that the historic cost method is used where the asset is of low value or has a short residual life or has minimal impact on regulated areas of BT. It is a pragmatic approach where the burden of sourcing robust data and carrying out potentially complex accounting calculations outweighs the benefits of a more precise calculation. However, these asset groups will be affected by price changes over time and we believe it is reasonable to allow for small real price changes even though their impact may be small.

5.142 On average, asset prices are falling by 0.9% per annum in real terms over the charge control period. See Annex 7, Table A7.8 for a list of asset price changes we used in our model.

Our conclusions

5.143 Based on the above we conclude the following:

- We use the average of BT's historic five year trend in real asset prices changes (e.g. between 2002/03 and 2006/07) and hold these constant over the period of the control.

The AISBO charge controls are up to end of September 2012

5.144 In our December Consultation (paragraphs 7.13 to 7.17) we propose that the charge controls for Openreach run from the date of their introduction to 30 September 2012..

5.145 We asked stakeholders the following question:

Question 7.1 Do respondents agree that the charge controls on AISBO services should run from the introduction of the new proposed controls to 30 September 2012?

Stakeholder responses

5.146 All stakeholders agreed with our proposals to align the TISBO and AISBO charge controls. Stakeholder responses in relation to the duration of the charge controls are discussed in more detail in Section 3, paragraph 3.53 onwards.

Our response

5.147 We are still of the view that the most appropriate approach is to align the duration of the TISBO and AISBO charge controls. By developing the charge controls together this has ensured that a common and consistent methodological approach is applied to both AI and TI services. Given the process of migration from TI to AI services, we considered it important that the charge controls for the two service categories should be linked in this way.

Our conclusions

5.148 Following from the above we conclude that:

- we will align the AISBO and TISBO charge controls; and
- the AISBO charge controls will be in force until 30 September 2012.

Our charge controls for TISBO terminating and trunk services reflect our duties and meet the Communications Act tests

5.149 In this Section we set out our conclusions on a number of matters relevant to deciding on the level and design of the charge controls:

- We implement a single basket for legacy and new networked versions of AISBO services;
- We implement the necessary adjustments to BT's 2007/08 cost data as per its RFSs to determine the level of costs more appropriate for forecasting purposes;
- We determine that the price of 1 Gbit/s BES prices should reduce by 17%;
- We set the value of key assumptions to calculate the value of X.

5.150 We are satisfied that this regulation secures our policy objectives and duties discussed in Section 2, as well as meets the Communications Act tests and our reasoning for this view is set out below.

Schedule 4 (Condition HH4)

The aims and effects

- 5.151 The new Condition HH4 requires Openreach to ensure that its charges for AISBO services do not increase by more than RPI minus/plus a value of "X" that varies according to each relevant basket and individually controlled services. The various baskets/sub-baskets and services with their respective values for "X" are set out in this Condition. Our conclusions on basket design (including the need for sub-caps) are set out above.
- 5.152 For the period between 1 August 2009 and 1 October 2009, as well as for the first year of the control (ie from 1 October 2009 to 30 September 2010), BT is required to align certain starting charges with the charges specified in Annex D of the new Condition HH4.
- 5.153 Ofcom's reasons for imposing this particular form of control and the values for "X" are also set out above. Our current policy aim is that prices should move towards the underlying FAC by 2012/13.
- 5.154 Condition HH4 also contains mechanisms to deal with, by means of directions, any material changes (other than to a charge) made by BT to any product or service subject to the charge controls, in addition to any directions we may give from time to time to amend the list of services covered by the baskets set out in these Conditions. A material change to any product or service also includes a change in the regulated charges imposed on the LLU co-mingling products.
- 5.155 Finally, Condition HH4 requires that Openreach records, maintains and supplies data to Ofcom in relation to performing the percentage change calculation. Such data is

required to be provided within three months of the end of each control year. It is essential for BT to be required *ex ante* to supply this data to ensure that we can effectively monitor compliance with the controls. To comply with this obligation we expect that BT proactively adheres to the arrangements to provide data and to provide robust and appropriately sourced information for this purpose.

Our duties and policy objectives

- 5.156 We discuss our duties and objectives specific for this review in detail in Section 2 of this Statement. Our opinion of the likely impact of implementing the proposals (as discussed throughout this Statement) is that the performance of our general and specific duties under section 3 and 4 of the Act is secured or furthered by our decision to adopt the charge controls.
- 5.157 As described in Section 2, paragraphs 2.30, we consider that our proposed charge controls on AISBO services secure our general duties under Section 3(1) of the Act, namely that charges for these wholesale services are set at a level that enable communications providers to compete downstream. Existing charge ceilings have promoted competition in this way to the clear benefit of consumers. Our review confirms that such controls are necessary to sustain this level of competition. This in turn enables greater choice of services (at cheaper prices) for citizens and consumers in terms of choice, price, quality of service and value for money.
- 5.158 We have had particular regard to the requirement to promote competition and to secure efficient and sustainable competition for the benefit of consumers, which are relevant to both sections 3 and 4 of the Act. We have placed particular emphasis on the promotion of competition, which we consider is likely to be the most effective way of furthering citizen and consumer interests in the relevant markets.
- 5.159 More specifically, our charge controls will ensure that under 3(2)(b) of the Act, they ensure the availability throughout the UK of a wide range of electronic communications services. In setting our charge controls, we have set the charge control in a flexible manner, with appropriately wide baskets to give BT pricing flexibility to encourage take-up of its services. We have also used a technology neutral approach. This means that BT has incentives to introduce efficient technologies and services under the charge cap. As discussed in Section 3, in setting BT's WACC, we have also had regard to the impacts of setting too low a WACC on BT's investment incentives. These features of the charge control should combine to ensure an appropriately wide range of leased lines services;
- 5.160 We have also targeted our intervention where we consider it necessary, including by seeking the least intrusive regulatory measures to achieve our policy objectives.
- 5.161 In addition to the overarching objective referred to above, we have taken into account further objectives, including:
- *Prices*: to ensure that services are available at prices that are reasonably related to the efficient costs of supply, preferably as a result of effective competition; and
 - *Investment and innovation*: to promote efficient investment in the development of new and innovative service. In particular, in setting our charge controls we have used CCA FAC data as per BT's RFSs in 2007/08 which are audited and are the latest information available to us. CCA FAC also allows a reasonable contribution to common costs. In setting our charge controls we have also assumed a reasonable return on BT's assets.

Powers under Section 87 and 88

- 5.162 As discussed in Section 2, we rely on our powers under Section 87 of the Act when setting Condition HH4. We refer in this regard to our assessment in the BCMR Statement to show that the obligations under this Condition remain based on the competition problems already identified.
- 5.163 Section 88 of the Act states that Ofcom should not set a price control condition except where it appears to it from the market analysis that there is a relevant risk of adverse effects arising from price distortion and it also appears that the setting of the condition is appropriate for the purposes of:
- promoting efficiency;
 - promoting sustainable competition; and
 - conferring the greatest possible benefits on the end-users of the public electronic communications services.
- 5.164 In setting Condition HH4, section 88 also requires that we must take account of the extent of the investment in the matters to which that Condition relates to Openreach.
- 5.165 In our opinion, Condition HH4 satisfies those matters, since without it there is a real risk of adverse effects arising from price distortion by BT as it might fix and maintain some or all of its prices at an excessively high level or margin squeeze. These concerns were identified by Ofcom in its SMP analysis in the BCMR Statement.
- 5.166 We consider that the charge controls are appropriate for the purpose of promoting efficiency:
- In the absence for competitive pressures, we believe that Openreach would have limited incentives to seek to reduce its costs of providing wholesale leased lines services. But, in setting the charge controls, we are also using an RPI-X formulation, so that Openreach is encouraged to achieve greater efficiency in the costs of providing wholesale services by requiring it not to increase its charge by more than a fixed amount each year. In coming to a view of the likely efficiency of BT's costs, we have also looked at a range of evidence including benchmarks from other markets (section 88(4) of the Act) and we have had regard to the appropriate cost accounting methods (section 88(4)(b));
 - The RPI-X also provides incentives for Openreach to seek further efficiency savings by allowing it to keep any returns associated with efficiency gains over and above those forecast when the charge control is set. The benefits of lower costs can then be passed onto consumers;
 - The broad baskets will allow Openreach to recover common costs in the most efficient manner.
- 5.167 We also consider that the charge controls are appropriate to ensure sustainable competition and conferring the greatest possible benefits on users of public electronic communication services. This is based, in particular, on our experience in the evolution of the market as set out in the BCMR Statement:
- The market analysis conducted in the BCMR Statement, suggests there is sufficient risk that BT might fix or maintain some or all of its prices at an

excessively high level (Section 7 of the BCMR Statement). Preventing excessive pricing via an RPI-X type charge control will promote sustainable competition.

5.168 When setting the charge controls we have also taken into account the need to ensure that Openreach has the correct incentives to invest and innovate. We have considered the risk that the charge control might deter investment. However, we consider that we have taken this into account in two key respects.

- First, in modelling Openreach's likely costs, we have built in a reasonable return on capital employed to provide an adequate return on BT's investment, and we have tended to adopt reasonably conservative assumptions.
- Second, we have purposely adopted an RPI-X form of charge control so that it can reward investment in new and more efficient technologies (as Openreach can keep any efficiency savings associated with new and more efficient ways of providing leased lines services).
- Third, a key investment risk relates to Openreach's migration to the Orchid platform. However, our charge controls explicitly account for this by adopting a technology neutral approach. This means that the projections of BT's costs which inform our choice of X values reflect only cost reductions which a reasonably efficient operator could be expected to make in normal circumstances, if it continued to invest in and maintain its existing-technology network. We have not taken account of additional efficiency gains arising from the adoption of new 21CN network technology.

5.169 It then follows that, if Openreach is able to achieve cost savings over and above those we have assumed in setting our charge control by investing and introducing a new network with a lower cost base this will mean a higher level of profitability. In other words BT will be able to earn a rate of return above its cost of capital.

5.170 As a general principle, we think that we have based our charge control on a balance between potential risk and rewards. As the charge control is set for a fixed duration, Openreach can benefit under the control if it manages to increase market share or if outturn costs are lower than anticipated when the charge control was set. Similarly, in accepting the potential upside benefits of the charge control package, this also means that BT will accept a degree of downside risk.

We have conducted the Section 47 tests

5.171 As discussed in Section 2, any SMP condition must also satisfy the tests set out in section 47 of the Act, namely that it must be:

- objectively justifiable in relation to the networks, services or facilities to which it relates;
- not such as to discriminate unduly against particular persons or a particular description of persons;
- proportionate as to what the condition is intended to achieve; and
- In relation to what it is intended to achieve, transparent.

5.172 We are satisfied that this test is met.

- 5.173 As regards objective justification, BT's SMP in the relevant markets allows it to set charges unilaterally and that, in the absence of any controls, this would have adverse impacts on both the ability of companies to compete in the downstream provision of leased lines services and on consumer choice and value for money. Our charge controls have been structured to deliver the lowest possible charges to competitors for the wholesale services, while ensuring that BT is able to recover costs, including a reasonable return on investment.
- 5.174 In our December Consultation, in addition to discussing qualitatively the possible costs and benefits of a charge control, we modelled quantitatively the potential welfare gains associated with a charge control relative to no control. Although this quantification was intended to give a sense of the "order of magnitude" of the charge control benefits, it suggested significant benefits of a charge control relative to no charge control.
- 5.175 We based our welfare modelling in the December Consultation on the mid-points of our proposed ranges for the value of X of RPI-3.25 to RPI-11.50% for the AI Basket. Our indicative welfare analysis suggested potential welfare benefits (relative to no charge control) over the duration of the charge control of £713 million for the AI Basket (in present value terms). A similar calculation of the indicative net welfare benefits of a safeguard cap (i.e. RPI-0%), suggested a net welfare benefit of £592 million for the AI Basket.
- 5.176 We did not receive any comments on our impact assessment welfare analysis and there was general acceptance of our proposal for a charge control. As we have now concluded on our values of X, which is - 7.00%, and this value are within the ranges proposed in the December Consultation for the AI Basket, we have not updated the quantitative analysis of welfare gains here.
- 5.177 The structure of the controls are such that Openreach has an incentive to continue to seek efficiency gains and is able to benefit from efficiency achieved that are in excess of that anticipated in the review.
- 5.178 The controls are also objectively justifiable in that the benefits of RPI-X price controls are widely acknowledged as an effective mechanism to reduce prices in a situation where competition does not act to do so.
- 5.179 Secondly, the charge controls will not discriminate unduly against a particular person or particular persons because any CP (including BT itself) can access the services at the charge levels fixed. The charges are set to ensure a fair return and price level for all customer groups. In any event, Ofcom considers that they do not discriminate unduly against BT as the controls address BT's market position, including its ability and incentive to set excessive charges for services falling within the controls.
- 5.180 Thirdly, the charge controls are proportionate because BT's obligations apply to the minimum set of charges required for the delivery of bottleneck services. They are focused on ensuring that there are reasonable prices for those access services, which are critical to the development of a competitive market. BT is, however, allowed to recover a reasonable return on investment. BT will also have incentives to continue to invest and develop its access network. Moreover, the maximum charges BT is allowed to set over the period of the control has been formulated using information on BT's costs and a consideration of how these costs will change over time.

- 5.181 We therefore consider that the charge controls pursue our policy objectives and the means employed to achieve those terms are both necessary and the least burdensome to address effectively the concerns we have set out.
- 5.182 Finally, for reasons discussed above, we consider that the charge controls are transparent. Their aims and effect are clear and they have been drafted so as to secure maximum transparency. The texts of the Conditions themselves have also been published with this Statement. Their intended operation is also aided by our explanations in this Statement. We have also set out their likely impact on charges for the duration of the controls.

Section 6

Kingston Communications

Introduction

- 6.1 In the BCMR Statement we concluded that Kingston Communications (“KCOM”) has SMP in the following markets in the Hull area:
- the wholesale market for low bandwidth TISBOs;
 - the wholesale market for high bandwidth TISBOs;
 - the wholesale market for very high bandwidth 155Mbit/s TISBOs; and
 - the wholesale market for low bandwidth AISBOs.
- 6.2 In the BCMR Statement we also decided to impose a range of obligations on KCOM in the markets in which they have been found to have SMP. In addition, in the BCMR Statement we noted that:
- we have accepted KCOM’s voluntary undertaking not to increase the prices of its TISBO terminating segments by more than RPI+0% for four years following the completion of the BCMR Statement. If KCOM was to fail to adhere to its voluntary undertaking, it would then have to comply with its cost orientation obligations.
 - we would be consulting separately, as part of the Leased Lines Charge Control Consultation, on whether to accept KCOM’s proposed voluntary undertakings on the price of wholesale low bandwidth AISBO services in the Hull area.
- 6.3 The aim of this section is to set out our conclusions on KCOM’s voluntary undertakings on the price of wholesale low bandwidth AISBO services in the Hull area.

We have decided not to impose a charge control on KCOM

We have accepted KCOM’s voluntary price commitments

Our proposals

- 6.4 In our December Consultation (paragraph 5.80) we have consulted on whether we should accept KCOM’s draft commitment to decrease the prices of WES/WEES circuits each year by around RPI-16% over the period to 2012. We have also noted that this would lead to prices which are still significantly higher than those projected for BT by the end of the period
- 6.5 We asked stakeholders the following question:

Question 5.13 Do respondents consider that we should accept KCOM’s commitment to reduce low bandwidth AISBO prices by RPI-16% a year over the period to 2012?

Consultation responses

- 6.6 Stakeholders have not raised any issues or noted any comments with regards to KCOM's voluntary commitments.

Our response

- 6.7 We concluded in the BCMR Statement that KCOM has SMP in the wholesale market for low bandwidth AISBO in Hull. KCOM has given us a voluntary commitment to decrease the prices of WES/WEES circuits each year by around RPI-16% over the period to 2012.
- 6.8 We have decided not to impose any charge controls on KCOM. KCOM is subject to certain pricing commitments in respect of its wholesale leased lines services, as well as a cost orientation obligation and a non-discrimination obligation, and will be required to meet all reasonable requests for access. In addition, KCOM only operates a relatively low number of leased lines in the Hull area. On this basis and taking into account the voluntary commitments given by KCOM, we decided not to impose any charge controls on KCOM.

Our conclusions

- 6.9 Following from the above we:

- accept KCOM's voluntary commitment to decrease the prices of WES/WEES circuits each year by around RPI-16% over the period to 2012.

Section 7

Implementation of the new charge control

Introduction

- 7.1 This section sets out our conclusions with regards to the implementation of the leased lines charge controls, specifically:
- the details of the new SMP conditions;
 - the charges to be used at the beginning of the control;
 - the rules that BT needs to follow to determine compliance with the controls; and
 - the interaction between the charge controls and other remedies.
- 7.2 This section explains how the charge control conditions would work and how BT would be expected to comply with those conditions.

We are imposing new SMP conditions relating to charge controls

Structure of the new Conditions

- 7.3 The new SMP Conditions are introduced by way of a Notification included in Annex 9 of this Statement. The new SMP conditions follow the “market by market” structure. More specifically:
- SMP Condition G4, in Schedule 1 of Annex 9 to this Statement sets the charge controls for TI services at low bandwidths (up to 8 Mbit/s);
 - SMP Condition GG4, in Schedule 2 of Annex 9 to this Statement sets the charge controls for TI services at high bandwidths (above 8 Mbit/s and up to and including 45 Mbit/s);
 - SMP Condition GH4, in Schedule 3 of Annex 9 to this Statement sets the charge controls for TI services at very high bandwidths (above 45 Mbit/s and up to and including 155 Mbit/s);
 - SMP Condition H4, in Schedule 5 of Annex 9 to this Statement sets the charge control for TI trunk segments; and
 - SMP Condition HH4, in Schedule 4 of Annex 9 to this Statement sets the charge control for relevant AI services at low bandwidths (up to and including 1 Gbit/s).

For the remainder of this section, references to paragraphs within the SMP conditions for TI services, refer to Conditions G4, GG4, GH4 and H4, unless otherwise stated.

- 7.4 Each Schedule is also supported by a number of Annexes listing all of the services which fall into the various baskets and sub-baskets and any starting charge adjustments we require BT to make.

- 7.5 These conditions give effect to Ofcom's decisions on the baskets structure, values of X and starting charge adjustments.

Three baskets in each of the AI and TI markets

We are imposing three separate baskets in each of the AI and TI markets

- 7.6 In respect of the TI terminating and trunk services we impose three baskets in the construction of the charge control:
- The "TI Basket" includes connection, rental and maintenance charges for TI terminating and trunk services (paragraph 4.1(a) of Conditions G4, GG4, GH4 and H4). The relevant services are listed in Annex A to each Condition G4, GG4, GH4 and H4.
 - The "TI Equipment and Infrastructure Basket" includes equipment and infrastructure charges relating to the provision of TI terminating segments (paragraph 4.1(b) of Conditions G4, GG4, GH4 and H4). The relevant equipment and infrastructure are listed in Annex B to each Condition G4, GG4, GH4 and H4.
 - The "TI Ancillary Basket" includes all the ancillary services relating to the provision of TI terminating segments and trunk services (paragraph 4.1(c) of Conditions G4, GG4, GH4 and H4). The relevant ancillary services are listed in Annex C to each Condition G4, GG4, GH4 and H4.
- 7.7 The services and equipment listed in Annexes A, B and C to conditions G4, GG4, GH4 and H4 reflect Ofcom's conclusions on the scope of the charge controls on TI services as discussed in Section 4 of this Statement.
- 7.8 In respect to the AI services, we impose three main baskets in the construction of the charge control:
- The "AI Basket" includes connection, rental and maintenance charges for AISBO services (paragraph HH4.1(a)). The relevant services are listed in Annex A to condition HH4.
 - The "AI Accommodation Basket", includes accommodation charges (paragraph HH4.1(b)). The relevant accommodation services within the scope of the charge controls are listed in Annex B to Condition HH4.
 - The "AI Ancillary Basket" includes all ancillary services relating to the provision of AISBO services in the AI Basket (paragraph HH4.1(c)). The relevant ancillary services are listed in Annex C to each Condition HH4.
- 7.9 The services listed in Annexes A, B and C to condition HH4 reflect Ofcom's conclusions on the scope of the AI charge control as discussed above in Section 5.

We are imposing a number of sub-baskets subject to safeguard caps

- 7.10 We also introduce a number of safeguard caps.
- 7.11 In respect of the TI terminating and trunk services we impose three safeguard caps:

- A safe-guard cap on TI terminating segments which limits BT's ability to raise the weighted average of the prices in this sub-basket to RPI-0% (paragraphs G4.8, GG4.8, GH4.8 and H4.8).
- A safe-guard cap on each individual charge in the TI Basket (excluding PoH charges) which sets the maximum increase to RPI+5% (paragraphs G4.9, GG4.9, GH4.9 and H4.9).
- A safe-guard cap on each PoH charge which sets the maximum increase to RPI+0% (paragraphs G4.10, GG4.10, GH4.10 and H4.10).
- A safe-guard cap on each individual charge in the TI Equipment and Infrastructure Basket which sets the maximum increase to 5% in nominal terms (paragraphs G4.11, GG4.11, GH4.11 and H4.11).

7.12 In respect to the AI services, we impose three safeguard caps:

- A safe-guard cap on BES services which limits BT's ability to raise the weighted average of the prices in this sub-basket to RPI-0% (paragraph HH4.7).
- A safe-guard cap on each individual charge in the AI Basket which sets the maximum increase to RPI+5% (paragraphs HH4.8).
- A safe-guard cap on each charge in the AI Accommodation Basket which sets the upper limits for price increases and decreases to within $\pm 10\%$ of the controlling percentage (paragraph HH4.9)
- The AI Accommodation Administration fee which will be subject to RPI-0% (paragraph HH4.10).

We have mandated new starting charges

We have mandated new TI starting charges

7.13 In relation to the TI services we are mandating:

- Further price changes for some services as discussed in Section 4, paragraphs 4.177 to 4.195. The new charges are listed in Annex D to each Condition G4, GG4, GH4 and H4.

7.14 For any other TI service where we have not mandated starting charge adjustments, the relevant price will be the one included in BT's Carrier Price List ("CPL") at the time when the charge controls become effective.

7.15 The following wording in paragraphs 4.3, 4.4 and 4.12 of Conditions G4, GG4, GH4 and H4 gives effect to the starting charge adjustments we are mandating for TISBO services:

"Save for the First Relevant Year of the control, $p_{0,i}$ is the published charge made by the Dominant Provider for the specific product or service i at the beginning of the Relevant Year excluding any discounts offered by the Dominant Provider.

In the First Relevant Year of the charge control $p_{0,i}$ for a specific product or service i shall be the "Starting Charge Adjustment Value" as specified in Annex D to this condition. If a "Starting Charge Adjustment Value" for specific product or service i is

not listed in Annex D to this condition then $p_{0,i}$ is the published charge made by the Dominant Provider for the specific product or service i at the beginning of the First Relevant Year excluding any discounts offered by the Dominant Provider. ”

- 7.16 The formulation of the charge control in terms of baskets allows BT flexibility to change the prices of individual services, provided the conditions regarding the overall sub-baskets and main baskets are met. The charge control allows further flexibility for BT to make price changes at any point throughout each charge control year, provided these changes are sufficient to satisfy the requirements over the year as a whole. Paragraph 4.2 to each Condition (G4, GG4, GH4, HH4 and H4) recognises that price changes may be implemented after the first day of the charge control year and indicates the required magnitude of later price reductions in order to achieve compliance.

We have mandated new AI starting charges

- 7.17 In relation to the AI services we have mandated:
- Further one-off price adjustments for Openreach’s 1Gbit/s BES rental services as discussed in Section 5, paragraph 5.90. The new starting charges are listed in Annex D to Condition HH4.
- 7.18 For any other AI service where we have not mandated starting charge adjustments, the relevant price will be the one included in Openreach’s Carrier Price List (“CPL”) at the time when the charge controls become effective.
- 7.19 The following wording for Paragraphs 4.3 and 4.11 of Condition HH4 gives effect to the new starting charges we are mandating for AISBO services:

“ $p_{0,i}$ save for the First Relevant Year of the control, $p_{0,i}$ is the published charge made by the Dominant Provider for the specific product or service i at the beginning of the Relevant Year excluding any discounts offered by the Dominant Provider.

In the First Relevant Year of the charge control $p_{0,i}$ for a specific product or service i shall be the “Starting Charge Adjustment Value” as specified in Annex D to this condition. If a “Starting Charge Adjustment Value” for specific product or service i is not listed in Annex D to this condition then $p_{0,i}$ is the published charge made by the Dominant Provider for the specific product or service i at the beginning of the First Relevant Year excluding any discounts offered by the Dominant Provider. ”

Commencement of starting charges

Our proposals

- 7.20 Usually, when BT amends its charges (for services provided by BT within the markets in which it has been found to have SMP), it is required to provide 90 days’ notice to stakeholders. In our December Consultation (paragraph 6.41) we proposed to waive this requirement in respects of the adjustments we were proposing to certain starting charges for TI services. We note that following the stakeholders’ responses we decided also to mandate starting charges for certain AI services.
- 7.21 We asked stakeholders the following question:

Question 6.1 Do stakeholders agree that the required notification period should be waived in respect of the proposed starting charge adjustments to some TI services?

Consultation responses

- 7.22 BT agreed that the notification period should be waived in respect of the TI re-balancing.
- 7.23 Some respondents suggested the notification period for price decreases should be waived and these should therefore be immediately effective.
- 7.24 Other respondents (Colt and another) disagreed with the waiver in respect of both price increases and decreases.

Our response

Starting charges for AISBOs will come into force on 1st August 2009

- 7.25 We have taken into account the consultation responses above and concluded that the starting charges for AISBOs should come into force on **1st August 2009**.
- 7.26 We consider that it will be beneficial for the industry if the starting charges AISBO services come into force soon. The AISBO starting charge adjustment relates only to the price of 1 Gbit/s BES end rental services, i.e. only to one product, and therefore will be relatively easy to implement. In addition, the adjustment relates to a price reduction and we consider that the industry in general would be likely to regard the benefits of such an immediate price reduction as outweighing the total potential costs. Finally, because of the savings accruing to the industry and the competitive nature of the downstream markets involved, we consider that these savings would be quickly reflected in lower retail prices passed on to end users. This approach is consistent with our policy in relation to reduced price change notice periods, set out in our letter to the industry on 11 October 2004 (the "2004 Letter")⁷⁹.

Starting charges for TISBOs will come into force on 1st October 2009

- 7.27 In relation to TISBOs we have taken into account the consultation responses above and concluded that the starting charges for TISBOs should come into force on **1st October 2009**.
- 7.28 We recognise that this conclusion is different to the approach in relation to AISBO starting charges which are being imposed earlier. In our view introducing the starting charges for TISBO services at a later date than the AISBO ones is justified, because in relation to TISBO services there is a high number of starting charge adjustments, which include a combination of price increases and decreases. In relation to price increases stakeholders have expressed concerns that arrangements for pass through are complex and vary from contract to contract. On this basis, we think that allowing the industry a few months to adapt to the new charges is reasonable and safeguards market certainty for BT's downstream customers.

⁷⁹ The 2004 Letter is published as Annex 6 in the Statement "Waiver of BT's price notification requirements for certain of BT's WES, WEES and BES prices"
<http://www.ofcom.org.uk/consult/condocs/btprice/btpricecondoc.pdf>

- 7.29 Moreover, in respect of TISBO services we note that BT has already notified some new starting charges and that the 90 days' notification period for these expires on 1st September 2009 (paragraphs 4.180 and 4.182). To the effect that there is a difference between the notified BT charges and our TISBO starting charge adjustments, from **1st October 2009** BT will have an obligation to align all relevant charges with the TISBO starting charges in Annex D to Conditions G4, GG4, GH4 and H4 included in Annex 9 of this Statement.

Our conclusions

- 7.30 Following from the above we:

- from **1 August 2009** BT will have an obligation to align all relevant AISBO starting charges with those included in Annex D to Condition HH4; and
- from **1 October 2009** BT will have an obligation to align all relevant TISBO starting charges with those included in Annex D to Conditions G4, GG4, GH4 and H4.

We have set the charge control formulae

We have set the charge control formulae for TI and AI Baskets

- 7.31 The formulae to be used in calculating the percentage change in the charges for services over the charge control year differs for the different baskets and sub-baskets.
- The formulae in respect of the TI Basket (covering connection, rental and maintenance for TI terminating segments and trunk services) and its corresponding sub-basket are set out at paragraph 4.3 and 4.12 (of Conditions G4, GG4, GH4 and H4).
 - The formula in respect of the AI Basket (covering connection, rental and maintenance for AISBO services) and its corresponding sub-baskets are set out at paragraphs HH4.3 and HH4.11.
 - The formula in respect of the TI Equipment and Infrastructure Basket is set out at paragraphs 4.4 (of Conditions G4, GG4, GH4 and H4).
 - The formula in respect of TI Ancillary Services Basket is set out at paragraph 4.3 of conditions G4, GG4, GH4 and H4.
 - The formula in respect of the AI Accommodation Basket is set out at paragraph HH4.3.
 - The formula in respect of AI Ancillary Basket is set out at paragraph HH4.3.

We have not amended the charge control formulae in the case of Ethernet services

Our proposals

- 7.32 In our December Consultation (paragraphs 6.14 to 6.20) we proposed amendments to the charge control formulae for AI services to enable us to take account of

Openreach introducing new products and services at much lower prices. The new formulae were set out at paragraphs HH4.2 and HH4.3 of our December Consultation.

7.33 We described the three aspects to the new charge control formulae.

- First, we proposed that Openreach calculates an average unit price for products and services within the AI Basket, by the relevant existing product type and bandwidth.
- Second, we proposed that Openreach calculates the Percentage Change in the aggregate of all unit prices within the AI Basket by using the average unit prices defined in the above paragraph.
- Third, to the extent that the in year volume forecasts used by Openreach to calculate the average unit price are over or under-estimated, we proposed that Openreach makes an adjustment to the required Controlling Percentage in the following year by an amount k .
 - Our proposed adjustment factor k was similar to the carry over provisions we proposed as set out at paragraphs HH4.7 and HH4.8. The only key difference is that the k factor is also subject to an uplift, to be calculated in proportion to an appropriate interest rate increased by a fixed amount (I). We proposed to include such an uplift to ensure that BT has the incentive to forecast volumes as accurately as possible. Our proposed interest rate (I) was the rate BT itself uses for over and under-payments in its contract with its customers uplifted by a fixed amount.

7.34 In our December Consultation we also included a table which mapped the new products onto the existing legacy products.

7.35 We asked stakeholders the following question:

Question 6.2 Do stakeholders agree with our proposed charge control formulae for AISBO services? We would welcome stakeholder views on our proposed mapping of existing products on to Openreach's new products set.

Consultation responses

7.36 Openreach agreed with our approach to allow the benefits of migration to new services to contribute towards the meeting of the AI charge control caps. However, Openreach noted that the proposed AI formula (and associated product mapping from legacy to new products) was too complex to implement and monitor.

7.37 Instead Openreach suggested a simpler approach to calculate the average charge for AI services. Under their proposed approach the average charge would not be weighted in any way against revenue or volume by particular bandwidth, but simply be an arithmetic average of total revenue for applicable AI services (legacy and new) divided by an appropriate measure of the total volume of services provided. Such an approach would significantly reduce the need to make detailed assumptions around how existing products may or may not migrate to new products and would therefore be relatively straightforward to measure and monitor.

- 7.38 A second respondent disagreed with the proposed AI Basket formula and suggested that Openreach should comply with its cost orientation obligations on a service by service basis rather than on an aggregate service level.
- 7.39 Another respondent suggested that the AI formulae should be the same as the TI Basket. Particularly, it disagreed with the k factor because Openreach should be penalised when it is found to be non compliant with required basket cap.
- 7.40 Some respondents were concerned about the mapping of new products onto the existing legacy Ethernet services. They believed that the new AI products are not developed enough to the extent that they can be mapped on the old legacy products.
- 7.41 Another respondent noted that it could not comment on the proposed approach as it does not have visibility of Openreach's plans for its AISBO services.

Our response

- 7.42 We have taken into account respondents' views and developed an alternative to credit Openreach for the introduction of newer and cheaper Ethernet services. In summary we have:
- calculated the expected savings from the introduction of the new Ethernet services over the charge control period; and
 - credited the expected saving against the value of X for the AI Basket.
- 7.43 For a more detailed discussion of our response to stakeholder comments and our decision see paragraphs 3.136 to 3.153 in Section 3. We do not repeat those arguments in this section. We have also summarised in Annex 2 our calculations quantifying the credit we have decided to give against the value of the AI Basket X. We estimated this credit to be 2.26%.
- 7.44 We note that it is not within the scope of the leased lines charge controls to determine whether Openreach's starting prices are cost orientated. The "basis of charges" (i.e. cost orientation) obligation (Conditions G3, GG3, GH3, H3 and HH3) was imposed in the BCMR Statement and BT should ensure that it is compliant with all its SMP obligations.

Our conclusions

- 7.45 As discussed in Section 3:

- The controls for the AI Basket will be applied using prior year revenue weights. Our approach for the AI Basket formula retains the benefits of increased certainty and stability associated with prior year weights. However, we have taken into account the migration of services from legacy point-to-point services to new networked arrangements. This "credit" has the effect of adjusting the value of X, so that there is a smaller overall required reduction for the AI Basket. We estimate this credit to be 2.26%.
- It is no longer necessary to determine the detailed mapping of legacy products onto new products, and to use this mapping when assessing compliance with the controls.

We have defined the value of X for each basket and sub-basket of services

We set the value of X for each basket and sub-basket in the TI market

7.46 The values of X for the TISBO services are:

- The main connection, rental and maintenance charges in the TI Basket are controlled by RPI – 3.25% (paragraph 4.5(a) of Conditions G4, GG4, GH4 and H4);
 - The sub-basket for TI terminating segments is controlled by RPI – 0% (paragraph 4.8 of Conditions G4, GG4, GH4 and H4).
 - Each charge (excluding the new PoH charges) in the TI Basket is controlled by RPI+5% (paragraph 4.9 of Conditions G4, GG4, GH4 and H4).
 - Each PoH charge in the TI Basket is controlled by RPI-0% (paragraph 4.10 of Conditions G4, GG4, GH4 and H4).
- The TI Equipment and Infrastructure Basket is controlled by RPI – 0% (paragraph 4.5(b) of Conditions G4, GG4, GH4 and H4);
 - In addition each charge in the TI Equipment and Infrastructure Basket not being allowed to increase more than 5% in nominal terms (paragraph 4.11 of Conditions G4, GG4, GH4 and H4);
- The TI Ancillary Basket is controlled by RPI-0% (paragraph 4.5(c) of Conditions G4, GG4, GH4 and H4);

We set the value of X for each basket and sub-basket in the AI market

7.47 The values of X for the AISBO services are:

- The main connection, rental and maintenance charges of services in the AI Basket are controlled by RPI – 7.00% (paragraph HH4.4(a));
 - The sub-basket for BES services is controlled by RPI – 0% (Condition HH4.7).
 - Each charge in the AI Basket is controlled by RPI+5% (Condition HH4.8).
- The AI Accommodation Basket is controlled by 3% in nominal terms in 2009/10 and by RPI+4.5% in 2010/11 (Condition HH4.4(b)).
 - Each charge in the AI Accommodation Basket is controlled by the Controlling Percentage±10% (Condition HH4.9)
 - The AI Accommodation Administration Fee is controlled by RPI-0% (paragraph HH4.10)
- The AI Ancillary Basket is controlled by RPI-0% (paragraph HH4.4(c)).

Other points to note

7.48 The charge controls for TI and AI services will commence on 1 October 2009 and end on 30 September 2012. This is reflected in the definition of 'Relevant Year' set

out at paragraph 4.17 in each of the conditions G4, GG4, GH4 and H4 and paragraph HH4.16.

7.49 Additional points to note about the new proposed SMP services conditions G4 through to HH4 are:

- The charge control provisions are explicitly without prejudice to the general cost orientation obligations which are already in place as a result of conditions G3 through to HH3 as set out in the BCMR Statement. This means that, irrespective of the charge controls, BT is still subject to cost orientation obligations in charging for TI and AI Baskets of services.
- We included paragraphs 4.6 to 4.7 for TI services (Conditions G4, GG4, GH4 and H4) and HH4.5 to HH4.6 for AI services which enable for carry over provisions in relation to the TI Ba. The carry over provisions ensure that if the percentage change in the aggregate of charges in any of these two baskets is different than the required value of X for that basket, the difference is taken into account in the next year of the control. However, carryover provisions apply only to the main baskets and not to the sub-baskets.
- In interpreting the price control conditions, the definitions that apply for the purposes of the current SMP services conditions set by the BCMR Statement should be referred to, except where specific definitions apply by virtue of paragraphs 4.17 and 4.18 in respect of TI services and paragraphs HH4.16 in respect of AI services.

BT is required to follow a number of rules to determine compliance with the charge control

New services are within the scope of the TI and AI Baskets

New TI and AI services are within the scope of the appropriate baskets

7.50 In Section 3, we discussed the potential migration of customers using AI and TI services to “emulated” services on the 21CN platform. Under our technology neutral approach, our charge control would apply to AI and TI services, irrespective of the underlying technology used to provide these services. This means that new services could fall within the scope of the proposed AISBO or TISBO charge controls, but this only applies where those services can be viewed as “replacement” services to the existing charge controlled services. Therefore, it is not the case that any service on BT’s 21CN platform necessarily falls with the scope of the leased lines charge control.

7.51 We set out in Annexes A, B and C of Condition HH4 the services falling within the scope of our charge controls and the extent to which these include new services. In summary, the following “new services” would be subject to the provisions of the charge control for the AI Basket:

- Ethernet Backhaul Direct (“EBD”) up to and including 1 Gbit/s;
- Bulk Transport Link (“BTL”) up to and including 1 Gbit/s; and
- Ethernet Access Direct (“EAD”) up to and including 1 Gbit/s.

New services within the scope of the charge controls are not be subject to sub-basket provisions

New services will not be subject to sub-basket provisions

- 7.52 New services, within the scope of the charge controls, are not subject to the sub-baskets within AI and TI Baskets but are subject to the overall service baskets.
- 7.53 We expect that Openreach will be using the new networked Ethernet services on an Equivalence of Inputs (“Eoi”) basis and that it is likely to price these at a lower level than legacy services to encourage migration. However, we also want to continue to give existing users of WES, BES and TISBO services sufficient protection against potential future price increases.
- 7.54 If the new services were subject to sub-caps, BT could potentially offset any reductions in 21CN service prices with increases on the legacy products. This would defeat the purpose of the sub-basket caps. For example, BT has recently introduced Orchid-based backhaul products known as EBD and BTL⁸⁰. These services will be charge controlled under the main AI Basket, but do not fall within the BES sub-basket. EBD is a product that BT’s downstream arm and CPs will use, whereas BT does not use BES. If we, for example, proposed to include EBD within the BES sub-basket then this would allow BT to re-balance charges for EBD and offset those with increases on BES services. This would undermine the intended purpose of the BES sub-basket, which is to limit the potential price increases in this sub-basket to RPI-0%.
- 7.55 In summary, there is a need to ensure that BT provides CPs with incentives to migrate to 21CN services based on price signals that will encourage efficient resource utilisation. We also need to be aware of the different incentives on BT when its downstream arm utilises a “new service”, compared to an existing services that it does not use.

Compliance will be monitored by calculating a weighted average change in the charges for each basket

- 7.56 BT’s freedom to set charges for the services controlled by the four main charge control baskets, and the sub baskets, will be constrained so that the average charge in each basket at the start of the control year cannot be increased by more than RPI adjusted by the relevant value of ‘X’ set out in the Conditions. RPI (i.e. the controlling value of RPI) is the term used to represent the percentage change in the Retail Prices Index in the 12 months up to June preceding the start of the relevant charge control year (the relevant year).
- 7.57 In order to calculate the average change in the prices proposed by BT and to assess BT’s compliance with the controls we need to determine the appropriate basket weights. Regulators who have applied this form of control have generally used one of two main methods of calculating these weights – “prior year revenue weights” or “current year revenue weights”.

⁸⁰ This would provide the same functionality as BES and WESB services by backhauling traffic from relevant exchanges to Openreach handover points. The main difference for the EBD product is that these services are networked. Rather than providing dedicated fibre for each circuit, Openreach will instead reserve a proportion of that networked backhaul link to provide dedicated capacity to a CP

- 7.58 For TISBO and AISBO services we concluded to use the prior year revenues of services in a basket in order to determine the appropriate weights.

Certain discounts do not contribute towards BT meeting its charge control obligations

- 7.59 As discussed in detail in Section 3, none of the discounts offered by BT will count towards meeting their charge control obligations. More specifically:
- Volume discounts are not permitted. This reflects our conclusions in the BCMR Statement.
 - Geographic discounts do not count towards BT meeting its charge control obligations. BT may offer variations by location in the price of wholesale products but we mandate that these discounts would not count towards meeting the price changes required by the charge control.
 - Term discounts do not count towards BT meeting its regulatory charge control obligation. Our view is that we do not necessarily object to the introduction of term discounts in principle and that we would examine any competition concerns on a case by case approach using our Competition Act 1998 powers.

BT is allowed to carry over differences in the average charge for a basket to the next charge control year

- 7.60 For the main charge control baskets, namely the TI, AI, Equipment and Infrastructure and Accommodation baskets, BT will be able to carry over any price reductions it makes in excess of the requirements of the charge control for that year (.).
- 7.61 That is, if BT's average price change for these baskets at the end of the Relevant Year is lower than required by the associated RPI minus 'X' constraint, it will be able to carry over the difference into the following charge control years. This means that the benchmark for assessing BT's compliance with the control in the following year will be the level of charges BT was required to achieve, rather than the level it actually achieved.
- 7.62 Conversely, if its average charge is higher than the required level, it has to take the excess into account in the following year. These 'carry over' provisions will not apply to the sub-baskets within the main baskets, since the general expectation is for the charge levels to be lower than that required by the sub-basket conditions (i.e. where we have set a negative X, it would be necessary for at least one charge within each sub-basket to fall in real terms in order that the overall main basket condition is met).
- 7.63 These carry over provisions are included paragraphs 4.6 to 4.7 for TI services (Conditions G4, GG4, GH4 and H4) and HH4.5 to HH4.6 for AI services.

The charge controls will work alongside other remedies

Non-discrimination and cost-orientation

- 7.64 The BCMR Statement imposed an *ex-ante* obligation on BT not to discriminate unduly in the provision of wholesale services where it was found to have SMP. Therefore, in meeting its charge control obligations, BT is still required to ensure that

each and every charge does not discriminate unduly in favour of particular companies or parties⁸¹.

- 7.65 BT is required to secure and be able to demonstrate that every charge it makes for relevant wholesale services subject to SMP regulation is cost orientated. Cost orientation requires that those charges are based on a forward looking long run incremental cost and allowing an appropriate mark up for the recovery of common costs and an appropriate return on capital employed.
- 7.66 The charge control baskets in general relate to a group of services (with some sub-basket provisions), whereas the cost orientation obligations relate to individual services or different charges for individual services. Therefore, in addition to ensuring that the prices it sets are consistent with the requirements to comply with its charge control obligations, BT needs to ensure its individual prices are consistent with cost orientation.

Accounting separation and cost accounting

- 7.67 Ofcom require that BT's regulatory reporting should provide reliable preliminary data in respect of each wholesale service within the leased line markets in which BT has been found to have SMP.
- 7.68 Ofcom has imposed *ex-ante* financial obligations on BT requiring it to prepare and publish financial information for relevant wholesale AISBO and TISBO and trunk services in order for it to demonstrate its compliance with its cost orientation and non-discrimination obligations. The financial information also helps to enable Ofcom to make determinations on specific charges or to assess whether BT has breached competition rules. The basis of preparation of this financial information is set out within BT's Accounting Documents and as expanded within its secondary accounting documents available on BT's website (<http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/index.htm>).

The impact of the delay for the new charge controls

Our proposals

- 7.69 In our December Consultation we proposed that for AI services, the charge controls will run from the date of their introduction to 30 September 2012.
- 7.70 We asked stakeholders the following question:

Question 7.1 Do respondents agree that the charge controls on AISBO services should run from the introduction of the new proposed controls to 30 September 2012?

Consultation responses

- 7.71 BT agreed that the new controls on Openreach should run from the day of implementation to 30 September 2012. Colt also agreed with our proposal.

⁸¹ Specifically, BT "shall not unduly discriminate against particular persons or against a particular description of persons, in relation to matters concerned with Network Access."

- 7.72 C&W stated that given the level of Ethernet over-recovery identified by Ofcom Openreach should be required to back date the new charges, making them effective from 1st of October 2008.

Our conclusions

- 7.73 Following our assessment of stakeholder responses the charge controls on AI services will run from the date of their introduction to 30 September 2012. This will ensure that the proposed charge controls on TI and AI services are aligned. By developing potential future charge controls together it will ensure that a common and consistent methodological approach is applied to both AI and TI services. Given the process of migration from TI to AI services, we consider it important that the charge controls for the two service categories should be linked in this way.
- 7.74 The one off changes to the starting charges or price controls will not have any retrospective effect.