



# Wholesale ISDN30 price control

Non-confidential version

Notified to the European  
Commission:

Draft Statement

09 March 2011



# Contents

Section		Page
1	Summary	1
2	Introduction	7
3	Assessment of charge control	16
4	Charge control design principles	30
5	Charge control framework	51
6	Charge control implementation	129

## Annexes

## Annex pages

Annexes published in a separate document

## Section 1

# Summary

## Introduction

- 1.1 This Statement<sup>1</sup> sets out Ofcom's approach to regulating Openreach's prices for wholesale ISDN30 services. ISDN30 is a digital telephone line service that provides up to 30 lines over a common digital bearer circuit. These lines provide digital voice telephony, data services and a wide range of ancillary services. Retail ISDN30 exchange line services are used by businesses which need multiple lines (typically 8 lines or more) at a particular site.
- 1.2 Wholesale ISDN30 services are supplied by Openreach to other communications providers (OCPs) who use them to provide retail ISDN30 services to businesses. Openreach's prices for wholesale ISDN30 services are a significant cost input for OCPs competing to provide retail ISDN30 services.
- 1.3 The intention behind our approach to regulating wholesale ISDN30 is to ensure that relevant prices are set at an efficient level going forward, and that they are reflective of the underlying costs of provision. This will ultimately reduce the price for retail ISDN30 and reduce the consumer harm caused by unregulated wholesale ISDN30 prices that have been significantly above cost.

## Background

- 1.4 On 20 August 2010, we published the Statement entitled *Review of retail and wholesale ISDN30 services*<sup>2</sup> (the 'ISDN30 2010 Market Review Statement') in which we carried out an analysis of competition in the provision of retail and wholesale ISDN30 services.
- 1.5 In the ISDN30 2010 Market Review Statement we concluded that Openreach<sup>3</sup> had significant market power (SMP) in the provision of wholesale ISDN30 services and we imposed a number of regulatory remedies on Openreach to address this SMP. The remedies included the requirement to supply these services and on terms which did not discriminate unduly between downstream BT businesses and its competitors. The ISDN30 2010 Market Review Statement also concluded that, on the evidence available at that time, there was a relevant risk of adverse effects arising from price distortion and a price control was appropriate.
- 1.6 There is a widely held view (amongst analysts, OCPs and users) that internet protocol (IP) based services are likely to supersede ISDN30 services in the longer term and that ISDN30 services have a limited life. However, in the ISDN30 2010 Market Review, we concluded that IP based services were not in the same market as

---

<sup>1</sup> This version of the Statement is in draft form pending comments from the European Commission. Any references to decisions or conclusions are subject to comments made as a result of our notification under section 48B, and should be read accordingly.

<sup>2</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30/statement/statement.pdf>

<sup>3</sup> Openreach is the access division of BT established by the Undertakings in 2005. Whilst the proposed SMP services conditions in this document apply to British Telecommunications plc (i.e. BT), Openreach is the division of BT which provides the wholesale ISDN30 services which we are proposing to regulate. Therefore, throughout this document, we refer to Openreach as the supplier of wholesale ISDN30 services. For retail markets we refer to BT.

ISDN30 and that Openreach's wholesale ISDN30 prices were not sufficiently constrained by alternative means of provision such as these.

- 1.7 On 19 April 2011 we published a consultation *Price controls for wholesale ISDN30 services*. ('the April 2011 Consultation'). In this consultation we described our analysis of the costs of providing wholesale ISDN30 services, and proposed a number of charge controls for wholesale ISDN30 services.
- 1.8 On 22 December 2011 we published a further consultation ('the December 2011 Consultation') that set out certain modifications to some of the wholesale ISDN30 charge control proposals set out in the April 2011 Consultation.
- 1.9 As part of this charge control review, we undertook a further examination of the market for wholesale ISDN30 exchange line services to satisfy ourselves that there has not been a material change in that market since Ofcom's market power determination made in relation to that market. As set out in this Statement, we have determined that there has been no material change in the wholesale ISDN30 exchange line services market since Ofcom's market power determination in relation to that market and that it remains appropriate to set a charge control.

## Summary of conclusions

- 1.10 We have carried out a detailed analysis of the costs incurred by Openreach in the provision of wholesale ISDN30 services and reached the following conclusions.

### **Openreach's returns from wholesale ISDN30 services are well above its weighted average cost of capital (WACC)**

- 1.11 BT's regulatory financial statements ('RFS') report a return on capital employed ('ROCE') of 67.1% for wholesale ISDN30 services in 2010/11.<sup>4</sup>
- 1.12 We have concluded that ROCE, measured after adjusting Openreach's depreciated assets to approximate a steady state level (adjusted ROCE), remains the appropriate measure to determine the profitability for wholesale ISDN30 services, as it reflects the fact that some of the ISDN30 specific assets are heavily depreciated. In the April 2011 Consultation we found that the adjusted ROCE in 2009/10 was 24%. This is well in excess of the relevant WACC of 11%<sup>5</sup> in the same year. Our calculations for 2010/11 confirm this assessment, indicating an adjusted ROCE of 25% in 2010/11 compared to a WACC of 9.7%.<sup>6</sup>
- 1.13 Our analysis (including the work carried out for the ISDN30 2010 Market Review) has further confirmed that Openreach does not face sufficient competitive pressure to reduce wholesale ISDN30 prices towards a competitive level. The (nominal) wholesale ISDN30 rental price has remained constant at £141/channel since the

<sup>4</sup> See page 41 of BT's 2010/11 RFS. The 2009/10 reported ROCE was 62.1% (excluding BT's revaluation of duct).

<sup>5</sup> We believe that the appropriate cost of capital for ISDN30 services is the "rest of BT rate". For a full discussion see Annex 4 of this document. The 'rest of BT' WACC for 2009/10 was estimated to be 11% this was set out in the 2009 Openreach Financial Framework Review available at:

<http://stakeholders.ofcom.org.uk/consultations/openreachframework/statement/>

<sup>6</sup> The 'rest of BT' WACC has since been updated and is now estimated to be 9.7%. See section 6 of the WBA 2011 Statement, available at:

<http://stakeholders.ofcom.org.uk/binaries/consultations/823069/statement/statement.pdf>

We note that this estimate of the cost of capital for BT is currently under appeal. We refer readers to Annex 4 for a detailed discussion of the WACC.

introduction of the wholesale product in 2004, despite potential constraints from other regulated wholesale inputs that OCPs can purchase from BT, such as Partial Private Circuits (PPCs).

- 1.14 We expect that retail ISDN30 will remain important to consumers for the duration of the charge control. In June 2010 there were around 2.9m retail ISDN30 channels. Our analysis indicates that – despite a predicted decline of around 19% in retail ISDN30 channels by 2013/14 - a significant number of retail ISDN30 customers will remain in 2013/14 (around 2.3m retail channels).
- 1.15 We therefore consider that there is a risk of Openreach maintaining prices at an excessive level, and have concluded that it is appropriate to set a price control on wholesale ISDN30 services.

### **An RPI-X charge control is appropriate**

- 1.16 We have concluded that an RPI-X type of charge control is the most appropriate way to reduce prices to cost by the end of the control period (i.e. 2013/14). Without a charge control, we believe that the prices Openreach charges for core wholesale ISDN30 services (i.e. connections, rentals and transfers) are likely to be above the competitive level. This approach would promote efficiency by setting a control based upon the costs of an efficient network at steady state. It will also provide an incentive for Openreach to beat the control by reducing its costs more than the level predicted.
- 1.17 The level of the control (i.e. the value of X) will be driven by the level of Openreach's costs at the start (2010/11) and end (2013/14) of the control period.

### We have made a number of adjustments to Openreach's base year costs

- 1.18 We have made a number of adjustments to Openreach's base year costs in 2010/11. The impact of these is to increase base year costs by **£82m**.
- 1.19 The most material adjustment is the steady state adjustment where we uplift the values of the heavily depreciated ISDN30 assets (line-cards and access electronics) in order to base the controls on the costs of a hypothetical on-going network at steady state. The impact of this adjustment is to increase base year rental costs by **£82.4m**.<sup>7</sup>

### We have forecast costs to 2013/14

- 1.20 We forecast the base year costs for wholesale ISDN30 services to 2013/14 using the following forecasts and assumptions:
- **Volume forecasts:** we forecast volumes for core wholesale ISDN30 rental, connection and transfer services. Our results indicate that volumes of the core rental product will decline by around 19% by 2013/14.
  - **Efficiency gains:** we use the same efficiency rate for wholesale ISDN30 services as that used in the WLR and LLU 2012 Statement<sup>8</sup> in which the target

<sup>7</sup> There are other smaller adjustments which reduce the total adjustment to the 2010/11 cost stack to £82m, these are discussed in detail in Section 5.

<sup>8</sup> We rely on the reasoning in the WLR and LLU 2012 Statement for the purposes of this statement: [http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc/statement/LLU\\_WLR\\_CC\\_statement.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc/statement/LLU_WLR_CC_statement.pdf)

efficiency gains for Openreach was set at 4.5% (net of the costs of achieving this efficiency target).

- **Openreach's WACC for wholesale ISDN30 services:** for the purposes of assessing risk levels and the WACC, we conclude that wholesale ISDN30 services should be subject to the 'rest of BT' rate. The rest of BT rate as set in the WBA charge control Statement<sup>9</sup> is 9.7%.

### We will not make any one-off adjustments to starting prices

- 1.21 We will not make any one-off adjustments to the starting prices of wholesale ISDN30 services. In the case of wholesale ISDN30 connections, we have identified no anti-competitive effects should we not adjust individual charges.
- 1.22 In the case of wholesale ISDN30 transfers we will not bring prices into line with 'fully allocated cost' (FAC). This is because to do so would amount to a large increase over the period of the control and also because we do not consider such a one-off adjustment to be necessary for efficiency. Such a large price adjustment would carry a risk of disruption both in the market and on retail prices.

### **A price cap of RPI-13.75% applies for the main basket of ISDN30 rentals and connections**

- 1.23 The wholesale ISDN30 charge control baskets and values of X are shown below. We have concluded that a price cap of RPI-13.75% will apply to the main basket of rental and connection services.

---

<sup>9</sup> We rely on the reasoning in the WBA 2011 Statement for the purposes of this statement: <http://stakeholders.ofcom.org.uk/binaries/consultations/823069/statement/statement.pdf>

**Table 1.1 Values of X for core wholesale ISDN30 services**

<b>Baskets</b>	<b>Services included</b>	<b>Charge control</b>	<b>Safe-guard cap</b>
Wholesale ISDN30 Rentals & Connections	Rental per channel per year Connections - Fixed - Per channel Enhanced care services - Service Level 3 - Service Level 4	RPI-13.75% <sup>10</sup>	RPI+5% (on the average connection price) RPI % (on each enhanced care service)
Wholesale ISDN30 transfers	Price per 30 channel access bearer	RPI %	N/A
Wholesale ISDN30 Direct Dial-In (DDI)	Wholesale ISN30 DDI - Planning - Connection per DDI - Rental per DDI	RPI % (on each DDI service price)	N/A

1.24 Our charge controls will ensure that the incentive for businesses to migrate to IP based alternatives in the future will be driven by the underlying characteristics of the products, rather than by ISDN30 prices which are too high. In addition:

- we have based the values of X on Openreach's ISDN30 asset base which we have adjusted to reflect an on-going steady state network. This approach will ensure that the prices of wholesale ISDN30 services are not unduly depressed and will maintain the incentives for Openreach to invest in IP based technologies;
- a combined wholesale ISDN30 rental and connection charge control basket will allow Openreach pricing flexibility, such that it can adjust its prices to better meet end-user demand. At the same time, our safe-guard cap of RPI+5% on the average connection price will ensure that end-users are protected against excessive increases in the price of these services;
- around 27% of Openreach customers use enhanced care services, which highlights the importance of these products to them. Unlike WLR services, we have no evidence confirming that the standard care product (which is part of the core wholesale ISDN30 rental product) would constrain the price of enhanced care services. Therefore we have included these services in the wholesale ISDN30 connections and rentals basket. Our approach will ensure that Openreach has the right incentives to set the relative prices of these services in an efficient manner, whilst protecting customers against excessive increases in prices; and

<sup>10</sup> Note that the price cap for the first year will be modified to take account of the fact that the control will come into effect after 1 April 2012 i.e. part way through the charge control year. This is explained in more detail in section 6.

- Direct Dial-in ('DDI') is purchased almost on a one-to-one basis with wholesale ISDN30 rental services. Each DDI price will be subject to an RPI % safe-guard cap. This will limit Openreach's incentive to recoup lost revenues in core ISDN30 rental services by increasing the price of DDI.

## Section 2

# Introduction

## Scope of this Statement

- 2.1 This Statement considers the costs and charges of wholesale ISDN30 and sets out Ofcom's decision to regulate Openreach's prices for wholesale ISDN30 services.
- 2.2 On 20 August 2010 we published the ISDN30 2010 Market Review Statement in which we found, among other things, that Openreach had significant market power (SMP) in the provision of wholesale ISDN30 services. The ISDN30 2010 Market Review Statement also identified that:
- Openreach maintained a high and stable market share in the provision of wholesale ISDN30 services (71%);
  - There was limited demand- and supply-side substitution; and
  - Openreach's profitability as reported in BT's regulatory financial statements (RFSs) for 2008/09<sup>11</sup> was a 74.3% return on capital employed (ROCE).
- 2.3 The ISDN30 2010 Market Review Statement imposed a number of regulatory remedies on Openreach which included the requirement to provide wholesale ISDN30 services on terms which do not discriminate unduly between downstream OCPs, including downstream BT businesses.
- 2.4 The ISDN30 2010 Market Review also concluded provisionally that Openreach's returns were, at first view, excessive and that, although price regulation appeared appropriate, we needed to explore this further to understand whether Openreach's costs and therefore charges were, in fact, excessive<sup>12</sup>. The April 2011 Consultation set out our provisional conclusions and proposals to regulate the pricing of wholesale ISDN30 services.
- 2.5 The April 2011 Consultation described our analysis of the costs of providing wholesale ISDN30 services, and proposed a number of charge controls for wholesale ISDN30 services. We received four responses from stakeholders providing comments on our proposals in this consultation.
- 2.6 The December 2011 Consultation set out certain modifications to some of the proposals set out in the April 2011 Consultation. The December 2011 Consultation also considered whether there has been a material change in the relevant market since the SMP determination was made and proposed that there has been no material change since we made the SMP determinations in August 2010. We received four responses to the December 2011 Consultation.

---

<sup>11</sup><http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2009/CurrentCostFinancialStatements.pdf>

<sup>12</sup> The ISDN30 2010 Market Review imposed an interim price ceiling for rental, connection and transfer services set at the level of Openreach's current prices. This is discussed in more detail in Section 6.

## **We are notifying this draft Statement to the European Commission in accordance with the Revised Framework**

- 2.7 Under the revised Article 7 of the Framework Directive<sup>13</sup> NRAs are required to notify their draft Statement to the European Commission, BEREC and other NRAs upon completion of their own domestic consultation and having taken into account all stakeholder responses. The European Commission, BEREC and other NRAs may make comments within a month. The notifying NRA needs to take utmost account of any European Commission and BEREC opinions.
- 2.8 The revised framework was transposed into UK law by the Electronic Communications and Wireless Telegraphy Regulations 2011<sup>14</sup> which came into force on 26 May 2011 and amended the Communications Act 2003 (the 'Act'). This new notification requirement is implemented by Section 48B.
- 2.9 We previously notified our April 2011 Consultation to the European Commission in accordance with the Article 7 procedure in force at that time which provided for notification alongside the domestic consultation. However, as a consequence of our December 2011 Consultation, section 48B of the Act now applies. Therefore, having taken account of consultation responses and having made modifications that appear appropriate to us in light of these comments, we are notifying our intended measures and an explanatory Statement setting out the reasons for them to the European Commission, BEREC and the regulatory authorities in every other member state under section 48B. This draft Statement comprises that notification.

### **Outline of the rest of this document**

- 2.10 This document is structured as follows:
- Section 2 – introduces wholesale ISDN30 services and the context of this price control
  - Section 3 – presents the results of our profitability analysis of wholesale ISDN30 services and sets out our conclusions on the reasonableness of Openreach's returns;
  - Section 4 –sets out the economic principles which underpin the charge control framework for wholesale ISDN30 services;
  - Section 5 – sets out the details of our charge control framework for wholesale ISDN30 services and includes our forecasts of costs going forward; and
  - Section 6 – sets out the implementation of the charge control.
- 2.11 The legal instruments to implement the decisions set out in this document are set out in Annex 1. Further details of the analysis described in Sections 3 to 6 are contained in Annexes 2 to 7. We also intend to publish the financial models which contain details of our analysis when we publish the final Statement.

<sup>13</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:337:0037:0069:EN:PDF>

<sup>14</sup> [http://www.legislation.gov.uk/ukxi/2011/1210/pdfs/ukxi\\_20111210\\_en.pdf](http://www.legislation.gov.uk/ukxi/2011/1210/pdfs/ukxi_20111210_en.pdf)

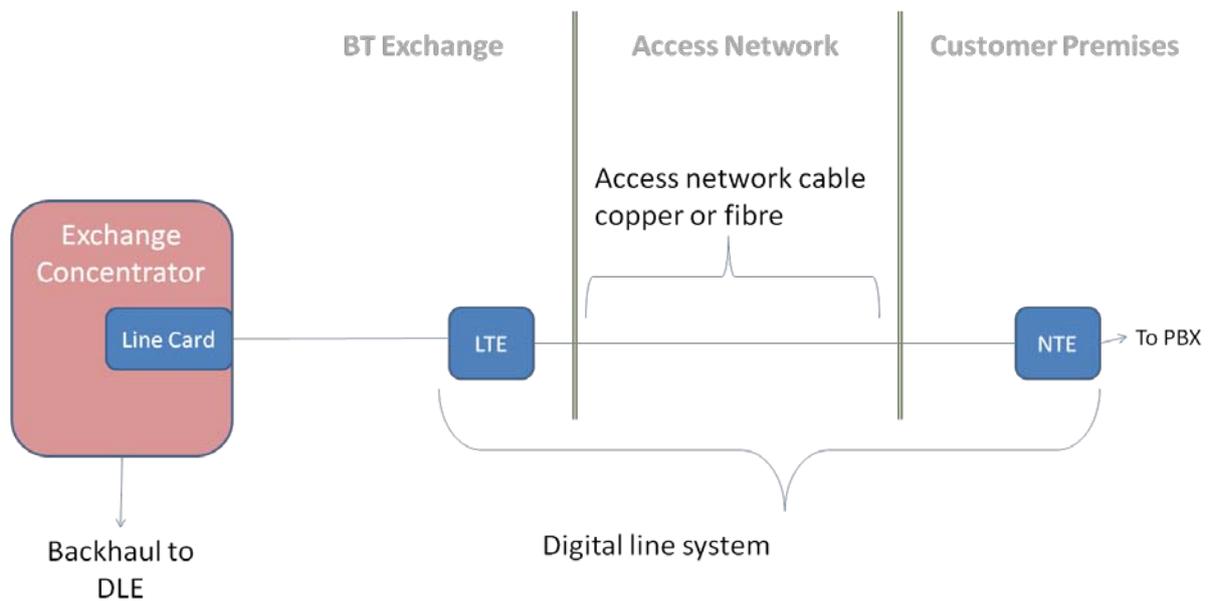
## ISDN30 can be provided in a number of ways

- 2.12 ISDN30 is a BT product name for ISDN Primary Rate Interface (ISDN PRI) which is a digital telephone line service that provides up to 30 lines over a common digital bearer circuit. These lines support a wide range of services including basic telephony with additional features to those available on analogue exchange lines, and data services.
- 2.13 ISDN30 is used exclusively by businesses and is most commonly used to provide exchange line connectivity to on-site Private Branch Exchanges (PBXs). ISDN30 is generally used by businesses with a need for 8 or more lines at a particular site.
- 2.14 From a technical perspective, ISDN30 consists of two main components:
- a 2 Mbit/s digital bearer circuit connecting the customer premises to the exchange; and
  - call control and switching functions provided by the exchange.
- 2.15 Digital bearer circuits are normally provided over optical fibre cables or copper cables using a variety of transmission technologies (e.g. High bit-rate Digital Subscriber Line (HDSL) over copper or Synchronous Digital Hierarchy (SDH) over fibre). In remote locations point-to-point microwave links are sometimes used to provide digital bearer circuits but this is uncommon.
- 2.16 The call control and switching functions are generally provided by Time Division Multiplexing (TDM) based exchange equipment such as System X and AXE10 as used by BT and other operators. With these systems, the bearer circuit is connected to an ISDN PRI line-card in a Remote Concentrator Unit (RCU). The RCU concentrates traffic from a group of lines for transmission to a local exchange processor which provides the switching functionality (called a Digital Local Exchange (DLE) in BT's network).
- 2.17 Most of BT's exchanges are equipped with System X or AXE10 equipment (which support ISDN PRI services) and therefore most BT ISDN30 services are provided from an RCU housed at the local exchange with a short-range digital bearer circuit connecting the customer premises to the exchange (i.e. within the local exchange area). In a small minority of cases, ISDN30 services are provided from exchange concentrators that are located in remote exchanges rather than the serving exchange.<sup>15</sup>
- 2.18 OCPs also provide ISDN PRI services. Generally OCPs provide bearer circuits over their own access networks where possible or they rent Partial Private Circuits (PPCs) from BT for sites that are not connected to their access networks. It is also possible for OCPs to provide bearer circuits for ISDN PRI services over BT's access network using Metallic Path Facilities (MPF); however we are not aware of any OCPs providing ISDN30 services in this way.

---

<sup>15</sup> See Annex 5 for a discussion of the reasons.

Figure 2.1 ISDN30 Service Provision



**Line Terminating Equipment (LTE):** transmission equipment sometimes including a multiplexing function.

**Network Terminating Equipment (NTE):** transmission equipment located at the customer premises. Performs similar function to LTE and also provides the customer interface.

**Exchange Concentrator:** provides line interface and traffic concentration.

2.19 We have provided a more detailed description of the ISDN30 service in Annex 5.

## Our conclusions have been set in accordance with the legal framework

2.20 This Statement follows the consultations on price controls (the April 2011 Consultation and the December 2011 Consultation), and the ISDN30 2010 Market Review.

2.21 As part of the ISDN30 Market Review, on 4 May 2010 we published a consultation document (the 'ISDN30 2010 Market Review Consultation').<sup>16</sup> Annex 7 of the ISDN30 2010 Market Review Consultation (entitled 'Market review process') set out an overview of the market review process, including the imposition of remedies, to provide appropriate context and understanding to the matters discussed in that review.

2.22 This Statement does not seek to repeat all of the information provided in that annex, which remains relevant to understanding the context for the proposed charge control for wholesale ISDN30 services.

2.23 This review does, however, consider whether we are entitled to impose an SMP condition following the ISDN30 2010 Market Review Statement and whether each of the relevant legal tests that apply when imposing a charge control as an SMP condition under section 87(9) of the Act have been met.

2.24 Where we intend to set an SMP condition separately from the market analysis, we have to be satisfied that, in accordance with section 86 of the Act, there has been no material change in the market since the market power determination was made. We

<sup>16</sup> <http://stakeholders.ofcom.org.uk/consultations/isdn30/>

proposed in the December 2011 Consultation that there had not been a material change, and we were entitled to set an appropriate charge control to address identified market failures. We discuss our conclusion that there has not been a material change in the market in Section 4.

- 2.25 We then discuss why we consider that the condition meets the legal tests under the Act in Section 5. Firstly, section 88 of the Act prohibits the setting of SMP conditions under section 87(9) of the Act except where it appears, from the market analysis, that there is a relevant risk of adverse effects arising from price distortion; and it 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 end users. We are also required to take into account the extent of Openreach's investment in wholesale ISDN30.
- 2.26 Secondly, we consider whether the condition meets the test set out at section 47 of the Act. In summary, section 47 requires that any SMP condition must not be imposed unless it is:
- objectively justifiable in relation to the services to which it relates;
  - not such as to discriminate unduly against particular persons;
  - proportionate to what the condition is intended to achieve; and
  - in relation to what it is intended to achieve, transparent.
- 2.27 Thirdly, we need to ensure that the condition is set within the framework of our general duties under section 3 of the Act and our duties for the purpose of fulfilling our Community obligations as set out under section 4 of the Act.
- 2.28 Under section 3 of the Act, our principal duty in carrying out functions is to further the interests of citizens in relation to communications matters and to further the interests of consumers in relevant markets, where appropriate by promoting competition.
- 2.29 In so doing, we are required to secure a number of specific objectives and to have regard to a number of matters set out in section 3 of the Act. As to the prescribed specific statutory objectives in section 3(2), we considered in the ISDN30 2010 Market Review Consultation that the objective of securing the availability throughout the UK of a wide range of electronic communications services was particularly relevant to the market review, and therefore to the proposed regulation in this review.
- 2.30 In performing our duties, we are also required to have regard to a range of other considerations, as they appear to us to be relevant in the circumstances. In the ISDN30 2010 Market Review Consultation, we considered that a number of such considerations were relevant to the market review, namely the desirability of promoting competition in relevant markets and the desirability of encouraging investment and innovation in relevant markets.
- 2.31 Section 4 of the Act requires us to act in accordance with six European Community requirements for regulation. In the ISDN30 Market Review Consultation, we considered that the first and fifth of those requirements were of particular relevance to the market review. These were to promote competition in the provision of electronic communications networks and services, associated facilities and the supply of directories and to encourage, to such extent as Ofcom considers appropriate for certain prescribed purposes, the provision of network access and

service interoperability, namely securing efficient and sustainable competition and the maximum benefit for customers of communications providers.

- 2.32 We also considered that no conflict arose in this regard with those specific objectives in section 3 that we consider are particularly relevant in this context.

### **We have taken into account a number of policy objectives when developing the wholesale ISDN30 price control**

- 2.33 Our specific policy objectives in setting charge controls for wholesale ISDN30 services are:

- to prevent Openreach from setting excessive charges for wholesale ISDN30 markets where it has SMP while providing incentives for it to increase its efficiency;
- to ensure that Openreach still has incentives to maintain service quality, investment and innovation in the provision of wholesale ISDN30 services;
- to promote efficient and sustainable competition in the delivery of wholesale ISDN30 services and such replacement services as may emerge in future, in particular to ensure that there is no distortion between such markets;
- to ensure that competition and investment and innovation are not distorted in related markets (such as those for IP products);
- to provide regulatory certainty for Openreach and its customers and to avoid undue disruption; and
- to ensure that the delivery of the regulated services is sustainable, in that the charge controls allow Openreach opportunity to recover all of its relevant costs (where efficiently incurred), including its cost of capital.

### **We have taken into account our policy proposals in other markets**

#### **LLU and WLR charge controls**

- 2.34 On 6 February 2012 we sent a Statement containing our draft decisions regarding the new charge controls for Local Loop Unbundling (LLU) and Wholesale Line Rental (WLR) to the European Commission. On 7 March 2012 we published the Statement on WLR and LLU charge controls (the 'WLR and LLU 2012 Statement'). These controls replace the existing controls which expire on 31 March 2012.<sup>17</sup>

- 2.35 There are a number of links between the WLR and LLU 2012 Statement and this ISDN30 Statement:

- In order to assess the costs of WLR/LLU products, we have used two models to establish base year costs and forecast these to 2013/14 for all Openreach services. As wholesale ISDN30 services are provided by Openreach, we have used the models developed for the WLR and LLU 2012 Statement as our starting point when establishing the costs of these services.

<sup>17</sup> <http://stakeholders.ofcom.org.uk/consultations/llu-wlr-further-consultation/statement>

- As part of the WLR and LLU 2012 Statement we reviewed BT's valuation methodology of its duct assets and considered alternative valuation methodologies. We have reflected the same policy position when establishing the base year costs for wholesale ISDN30 services.
- In the WLR and LLU 2012 Statement we proposed forward looking efficiency savings of 4.5%, net of the costs of achieving this target<sup>18</sup>, for Openreach as a whole. We propose to apply the same range for wholesale ISDN30 services.

2.36 We rely on the reasoning in the WLR and LLU 2012 Statement and the WLR and LLU 2011 Consultation for the purposes of this Statement.

### Wholesale Broadband Access charge controls

2.37 In July 2011 we published a Statement on the Wholesale Broadband Access (WBA) charge controls which explains our decisions in relation to the charge control framework for BT's WBA products (the 'WBA 2011 Statement').<sup>19</sup> In this Statement we set out our estimates of BT's weighted average cost of capital (WACC). We have estimated two rates, one to apply to the copper access services provided by Openreach and one to apply to the 'rest of BT'. In this ISDN30 Statement we used the amended cost of capital for the rest of BT detailed in the WBA 2011 Statement to estimate some elements of ISDN30 costs. We also rely on the reasoning regarding estimating the cost of capital contained in the WLR/LLU Statement for the purposes of this document. We discuss the reasons for this approach in Section 5 and in more detail in Annex 4.

### Transparency : model disclosure

2.38 In relation to the disclosure of relevant modelling undertaken as part of the development of our proposals we provided stakeholders with an extensive description and explanation of the models used. We explained that we relied on the following models in our review:

- Models used in WLR and LLU 2012 Statement (the Ofcom models)
  - The Cost Forecast model;
  - The RAV model; and
  - The Cost Allocation model.
- Models specific to and developed for this charge control (the ISDN30 models)
  - The Steady State model;
  - The Volumes Forecast model;
  - The Switching model; and
  - The Incremental Cost model.

<sup>18</sup> This is equivalent to a gross efficiency target of 5%.

<sup>19</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/823069/summary/condoc.pdf>

- 2.39 We disclosed the Ofcom models as part of the WLR/LLU consultation on charge controls published in March 2011 (the 'WLR and LLU 2011 Consultation')<sup>20</sup>. Our approach to the disclosure of these models is outlined more fully in that consultation.<sup>21</sup>
- 2.40 In the WLR and LLU 2011 Consultation we described that we provided further explanation and disclosure where possible (having regard to confidentiality). Our responses to individual stakeholder queries were published on the WLR/LLU Section of our website<sup>22</sup>, in order to provide transparency and to ensure that all stakeholders were provided with the information and data. During this process we also held bi-lateral meetings with stakeholders when they were requested.
- 2.41 We disclosed the ISDN30 models as part of the April 2011 Consultation. Our approach and the level of disclosure of these models is outlined more fully in that consultation.
- 2.42 The ISDN30 models are specific to this review, with each model aiding our analysis. We explain how we have updated each of the ISDN30 models in the annexes to the Statement. We discuss the Steady State model at Annex 6, the Volumes Forecast model at Annex 5, the Switching model at Annex 6 and the Incremental Cost model at Annex 7.
- 2.43 We have decided to publish an updated set of models, redacted for confidentiality where appropriate, in order that our final decisions are fully articulated and reasoned. Although we did not ask a specific question in relation to our approach to model publication in the April 2011 Consultation, we did not receive any responses from stakeholders indicating that they required more information about our modelling, nor any comments on our approach to disclosure.
- 2.44 We have obtained updated data from stakeholders for this Statement, and have treated it in a consistent manner with the data previously received during the review. We have concluded that it is not appropriate to amend the level of disclosure provided for in the published models for this Statement, and that the models, as published, provide an appropriate level of information for stakeholders to understand our methodology, decisions and reasoning. We will publish a complete set of updated models when we publish our final decisions<sup>23</sup>.

## Impact assessment

- 2.45 The analysis presented in this document represents an impact assessment, as defined in section 7 of the Act. In Sections 3, 4, 5 and 6 we discuss all of the relevant considerations and options that we have considered, including their impact.
- 2.46 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 requires Ofcom 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

<sup>20</sup> <http://stakeholders.ofcom.org.uk/consultations/wlr-cc-2011/>

<sup>21</sup> See section 6 of the WLR and LLU 2011 Consultation.

<sup>22</sup> <http://stakeholders.ofcom.org.uk/consultations/wlr-cc-2011/clarifications/>

<sup>23</sup> We do not intend to publish the models whilst the draft statement is under consultation with the European Commission, but will publish a revised set of models after any decision is made after that consultation process has concluded. Any confidential data will be redacted in the published models.

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.<sup>24</sup>

- 2.47 Specifically, pursuant to section 7 of the Act, 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.

## Equality Impact Assessment

- 2.48 Annex 9 details our Equality Impact Assessment for the wholesale ISDN30 charge control. Ofcom is separately required by statute to assess the potential impact of all our functions, policies, projects and practices on UK consumers and citizens with respect to: age, disability, gender reassignment, pregnancy and maternity, race, religion, sex and sexual orientation, and, in Northern Ireland, religious belief and dependents. Equality Impact Assessments (EIAs) also assist us in making sure that we are meeting our principal duty of furthering the interests of citizens and consumers regardless of their background or identity. Unless we otherwise state in this document, it is not apparent to us that the outcome of our review is likely to have any particular impact on race, disability and gender equality. Specifically, we do not envisage the impact of any outcome to be to the detriment of any group of society.
- 2.49 Nor are we envisaging any need to carry out separate EIAs in relation to race or gender equality or equality schemes under the Northern Ireland and Disability Equality Schemes. This is because we anticipate that our regulatory intervention will affect all industry stakeholders equally and will not have a differential impact in relation to people of different gender or ethnicity, on consumers in Northern Ireland or on disabled consumers compared to consumers in general. Similarly, we are not envisaging making a distinction between consumers in different parts of the UK or between consumers on low incomes. Again, we believe that our intervention will not have a particular effect on one group of consumers over another.

---

<sup>24</sup> <http://www.ofcom.org.uk/about/policies-and-guidelines/better-policy-making-ofcoms-approach-to-impact-assessment/>

## Section 3

# Assessment of charge control

## Introduction

3.1 This section explains how we have reviewed Openreach's costs to identify an appropriate and proportionate form of price control for ISDN30 services. We have considered:

- whether there has been any material change to the market since Ofcom's market power determination in relation to that market;
- Openreach's profitability for wholesale ISDN30 services; and,
- what is the most appropriate form of control.

## Summary of our key decisions

3.2 We are satisfied that there has not been a material change in the wholesale ISDN30 exchange line services market since Ofcom's market power determination in relation to that market made as part of the ISDN30 2010 Market Review, and that it remains appropriate to set a price control in that market. In setting an appropriate control, we have:

- assessed Openreach's profitability in 2010/11 for wholesale ISDN30 services using an adjusted ROCE<sup>25</sup> approach;
- more specifically, we have adjusted Openreach's ROCE in 2010/11 by uplifting the NRC/GRC<sup>26</sup> ratio of the heavily depreciated ISDN30 assets (line-cards and access electronics) to 50% to reflect a more steady state equilibrium; and
- re-calculated the depreciation value of the heavily depreciated assets using Openreach's assumed accounting asset lives (10 years for line-cards, 5 years for access electronics).

3.3 The ISDN30 2010 Market Review Statement concluded that a price control was necessary for wholesale ISDN30 and we proposed in the April 2011 Consultation that an RPI-X type of charge control was appropriate. In the December 2011 Consultation we set out our provisional conclusion that there has been no material change in the wholesale ISDN30 exchange line services market since Ofcom's market power determination in relation to that market and that it remained appropriate to set a price control. This section outlines the proposals in the April 2011 and December 2011 Consultations, the consultation responses to these proposals, and our conclusions regarding the appropriateness and form of the control.

<sup>25</sup> Return on Capital Employed – this is the ratio of Earnings before interest and tax to mean capital employed.

<sup>26</sup> Net Replacement Cost to Gross Replacement Cost ratio.

## No Material Change assessment

- 3.4 Section 86 of the Act requires that Ofcom may only set an SMP condition in respect of a particular market in a notification that does not also make the market power determination unless the condition is set by reference to a market power determination made in relation to the market in which the condition is to be set:
- a) which has been reviewed and, as a consequence of that review, is reconfirmed in the notification setting the condition; or
  - b) in a market where Ofcom is satisfied that there has been no material change since the determination was made.
- 3.5 In the December 2011 Consultation we set out our provisional conclusion that there has been no material change in the wholesale ISDN30 exchange line services market since Ofcom's market power determination made in relation to that market.

### December 2011 Consultation proposals

- 3.6 The proposals made in the April 2011 Consultation relied upon the market power determination made in the ISDN30 2010 Market Review where we found Openreach to have SMP in the wholesale ISDN30 exchange lines services market in the UK excluding the Hull Area. In reaching provisional conclusion in the December 2011 Consultation we considered the conditions in the retail and wholesale markets including market definitions, at retail and wholesale levels, and market power in the wholesale market. We proposed that there had been no material changes in the retail and wholesale ISDN30 markets since we made our market power assessment in the ISDN30 2010 Market Review. We also considered whether the competition concerns identified in the ISDN30 2010 Market Review that led to our assessment that a price control was needed, remained.

#### *Retail Market*

- 3.7 In relation to the market for retail ISDN30 exchange line services, we proposed that there had been no material change to the ISDN30 2010 Market Review conclusion that the relevant markets are: retail ISDN30 exchange lines services market for the UK excluding the Hull Area and retail ISDN30 exchange lines services market for the Hull Area. Specifically, we considered::
- there had not been any significant changes in the technical or functional characteristics of ISDN30's potential substitutes that would increase the demand or supply-side substitutability for ISDN30 at the retail level;<sup>27</sup>
  - the low uptake and the continued gradual increase in use of IP services were in line with expectations at the time of the ISDN30 2010 Market Review which indicated that IP services were unlikely to become effective demand substitutes for ISDN30 over the period of the charge control;<sup>28</sup>
  - supply of ISDN30 using LLU was unlikely to provide a competitive constraint on ISDN30 prices given that an LLU operator would need to incur significant sunk

<sup>27</sup> See para. 4.14 and 4.25 of the December 2011 Consultation, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/938607/summary/condoc.pdf>

<sup>28</sup> See para. 4.15-4.22 of the December 2011 Consultation, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/938607/summary/condoc.pdf>

costs in order to enter the market. This was supported by the observation that the only CP that had expressed interest in launching such service was only likely to reach a small scale (if it began commercial deployment at all) over the charge control period;<sup>29</sup> and,

- the supply of ISDN30 using leased lines was unlikely to provide a competitive constraint on ISDN30 prices, given that it required significant sunk costs and could only be economical under certain (limited) conditions.<sup>30</sup>

#### *Wholesale Market*

3.8 With respect to the wholesale ISDN30 market, we assessed that there was no material change in the market that would suggest a change to the ISDN30 2010 Market Review conclusion that the relevant markets are: wholesale ISDN30 exchange lines services market for the UK excluding the Hull Area and wholesale ISDN30 exchange lines services market for the Hull Area. Specifically we considered that:

- the volumes of wholesale self-supply were in line with those predicted in our ISDN30 2010 Market Review;<sup>31</sup>
- there had not been any significant changes in the technical or functional characteristics of ISDN30's potential substitutes that would increase the demand-side or supply-side substitutability for ISDN30 at the wholesale level;<sup>32</sup>
- alternative forms of supply for ISDN30 services, via leased lines and LLU, were unlikely to constrain ISDN30 wholesale (and retail) prices due to the large sunk costs associated with their provision. We took into account the levels of current and expected provision of ISDN30 through these forms of supply over the period of the charge control;<sup>33</sup> and
- we considered that the findings of our critical loss analysis - that a 10% increase in the price of wholesale ISDN30 above its competitive level would not result in a sufficient fall in demand to render a SSNIP unprofitable - remained valid and therefore substitution to IP services was unlikely to constrain ISDN30 prices.<sup>34</sup>
- Openreach's wholesale prices continue to be uniform across the UK (excluding the Hull area).<sup>35</sup>

<sup>29</sup> See para. 4.26-4.28 of the December 2011 Consultation, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/938607/summary/condoc.pdf>

<sup>30</sup> See para. 4.29 and 4.31 of the December 2011 Consultation, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/938607/summary/condoc.pdf>

<sup>31</sup> See para. 4.43-4.44 of the December 2011 Consultation, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/938607/summary/condoc.pdf>

<sup>32</sup> See para. 4.44-4.45 of the December 2011 Consultation, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/938607/summary/condoc.pdf>

<sup>33</sup> See para. 4.46 of the December 2011 Consultation, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/938607/summary/condoc.pdf>

<sup>34</sup> See para. 4.52-4.57 of the December 2011 Consultation, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/938607/summary/condoc.pdf>

<sup>35</sup> See para. 4.60 of the December 2011 Consultation, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/938607/summary/condoc.pdf>

*Competitive Conditions in the wholesale ISDN30 exchange line services market in the UK excluding the Hull Area*

- 3.9 In the ISDN30 2010 Market Review we concluded that Openreach had SMP in the ISDN30 wholesale exchange line services market. In the December 2011 Consultation, we set out our provisional conclusion that there had been no material change in that market since our prior market power determination. That would affect that conclusion. Specifically we considered:
- In the ISDN30 2010 Market Review, we observed that Openreach's market share had remained constant between Sept 2004 and Sept 2009 (between 71% and 75%). The most recent figures fall within that range, at 73% in June 2010 and 74% in June 2011, confirming the view that Openreach's market share is high and broadly constant;<sup>36</sup>
  - although there was evidence suggesting an increase in switching towards IP solutions, this was within the range of switching we had predicted in the ISDN30 2010 Market Review, and we considered that this was unlikely to provide a sufficient competitive constraint on ISDN30 prices over the period of the charge control;<sup>37</sup>
  - the barriers to entry and expansion – particularly the sunk costs associated with provision of wholesale ISDN30 services through ISDN30 exchange lines, LLU or leased lines – had not materially changed since the time of the ISDN30 2010 Market Review;<sup>38</sup>
  - profitability of ISDN30 core services had remained stable. We estimated that the adjusted ROCE of core services was 24% in 2009/10 and 23% in 2010/11 (compared to an unadjusted ROCE of 62.1% and 67.1%, respectively),<sup>39</sup> and
  - there was no significant countervailing buyer power in the wholesale ISDN30 market.<sup>40</sup>
- 3.10 We proposed that the imposition of a charge control on Openreach remained appropriate to address the continuing risk that Openreach could set prices for wholesale ISDN30 services at an excessive level.<sup>41</sup>
- 3.11 In the December 2011 Consultation we asked respondents the following question: *Do you agree with our assessment that there has been no material change in the wholesale ISDN30 exchange lines market since our determination that Openreach had SMP in the MR Statement? If not, please explain why.*

<sup>36</sup> See para. 4.66-4.70 of the December 2011 Consultation, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/938607/summary/condoc.pdf>

<sup>37</sup> See para. 4.71 of the December 2011 Consultation, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/938607/summary/condoc.pdf>

<sup>38</sup> See para. 4.72 of the December 2011 Consultation, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/938607/summary/condoc.pdf>

<sup>39</sup> For BT's RFS figures, see page 41 of the RFS, for Ofcom estimates of the ROCE of core services see para. 4.73-4.79 of the December 2011 Consultation, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/938607/summary/condoc.pdf>

<sup>40</sup> See para. 4.80-4.83 of the December 2011 Consultation, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/938607/summary/condoc.pdf>

<sup>41</sup> See para. 4.84-4.90 of the December 2011 Consultation, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/938607/summary/condoc.pdf>

December 2011 Consultation responses

3.12 The four respondents to the December 2011 Consultation agreed with our provisional conclusion that there had been no material change in the wholesale ISDN30 exchange lines market since Ofcom's market power determination in relation to that market.

Our response and conclusion

3.13 We are therefore concluding that we are satisfied that there has been no material change in the wholesale ISDN30 exchange line services market since our prior market power determination in relation to that market.<sup>42</sup>

**We have assessed Openreach's profitability for wholesale ISDN30 services using the adjusted ROCE approach**

3.14 In the April 2011 Consultation we made a number of proposals relating to the assessment of profitability and competitive conditions in the wholesale ISDN30 market, which we consider below.

Our April 2011 Consultation proposals

3.15 In determining an appropriate price control, we noted that it was important to assess Openreach's past profitability for relevant services. In doing so, we recognised that the key assets used in the provision of wholesale ISDN30 services have been heavily depreciated, in particular:

- ISDN30 line-cards (with an NRC/GRC<sup>43</sup> ratio of 8% in 2009/10); and
- Access Electronics (with a NRC/GRC ratio of 13% in 2009/10).

3.16 As a result of this, the accounting value, the NRC, of these assets was significantly less than their economic value.

3.17 In the April 2011 Consultation, we considered the following approaches for assessing the underlying profitability of wholesale ISDN30 services, whose assets have been heavily depreciated:

- internal rate of return (IRR);
- truncated IRR;<sup>44</sup>
- return on sales (ROS); and
- adjusted ROCE.

---

<sup>42</sup> The judgment in *TalkTalk Telecom Group plc v Office of Communications* [2012] CAT 1 has clarified that a change will only amount to a material change if: it would cause the earlier market power determination to be different (in a manner that is more than *de minimis*); and that difference is capable of affecting the setting (in this case) of a subsequent charge control notification.

<sup>43</sup> NRC = Net replacement cost

GRC= Gross replacement cost (Net replacement cost less accumulated depreciation)

<sup>44</sup> An IRR is usually calculated for the lifetime of the project, however a truncated IRR can be used to calculate the profitability of an activity over a limited period.

- 3.18 BT's regulatory financial statements (RFS) reported a ROCE in 2009/10 of 62.1% for core wholesale ISDN30 services (excluding the impact of BT's re-valuation of duct). However we recognised that, due to the depreciation of assets, estimates of the profitability of a service using ROCE (which measures the return – earnings before interest and tax – divided by the Mean Capital Employed 'MCE') may overstate the true profitability of the service in question.
- 3.19 We noted that it was possible to make a more meaningful estimate of profitability by adjusting the NRC of the assets so that they approximate their steady state values more closely. We were then able to recalculate the ROCE using these steady state asset values. We referred to this as the 'adjusted ROCE' approach.
- 3.20 In the April 2011 Consultation, we proposed using the adjusted ROCE approach to estimate the profitability of wholesale ISDN30 services. We noted that calculating an adjusted ROCE in this way was preferable to the IRR approach. In particular, we did not need to make assumptions about cost and revenues in the far future or distant past to calculate an adjusted ROCE.
- 3.21 We proposed to bring accounting asset values into line with their steady state levels by means of a simple adjustment. If accounting and economic asset lives are equal, such a steady state adjustment would consist of uplifting the asset's NRC such that the NRC/GRC ratio is approximately 0.5 and adjusting the asset's depreciation based on a correct estimate of its economic life.
- 3.22 We noted that theoretically, in steady state, we would also expect IRR and ROCE to produce broadly the same answer.
- 3.23 In the April 2011 Consultation we asked respondents the following question: *Do you agree that we should assess the profitability of wholesale ISDN30 services using the adjusted ROCE approach?*

#### April 2011 Consultation responses

- 3.24 Openreach agreed that Ofcom should take account of the fact that the ISDN30 service is approaching the end of its life and the assets are heavily depreciated. This would mean that a value of the ROCE based on the figures reported in the RFS would overstate the profitability of ISDN30 services.<sup>45</sup>
- 3.25 Although, Openreach had suggested in its response to the ISDN30 2010 Market Review that an IRR might be a suitable measure of profitability, in its consultation response it accepted that the adjusted ROCE approach was an appropriate alternative to an IRR approach, because the adjusted ROCE approach is reconcilable to the RFS and is consistent with the approach taken by Ofcom in the WBA 2011 Statement.<sup>46</sup>
- 3.26 C&WW stated a preference for assessing the costs of ISDN30 services using an efficient operator based approach. However, it acknowledged that making an adjustment to reflect the steady state was a suitable approach as it led to

<sup>45</sup>Openreach response to our April 2011 Consultation, see para. 14 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>46</sup>Openreach response to our April 2011 Consultation, see para. 12 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

directionally the same outcome (i.e. the cost base is increased to reflect the fact that Openreach's ISDN30 assets are heavily depreciated).<sup>47</sup>

- 3.27 In its response, C&WW noted that, whilst supporting consistency in regulatory decisions in relation to ISDN30, it did not necessarily believe that this approach should be applied to other product areas.<sup>48</sup>

### Our response and conclusion

- 3.28 We note that the stakeholders who responded on this issue broadly agreed with the approach proposed in the April 2011 Consultation. We therefore consider it appropriate to assess the profitability of ISDN30 rentals using the adjusted ROCE approach for this charge control.
- 3.29 We agree with C&WW's statement that, as a result of the unique nature of ISDN30 services, this approach is not necessarily suitable for all services subject to charge controls. We will consider the particular circumstances of future charge controls when considering whether to make similar adjustments.
- 3.30 We conclude that it is appropriate to assess the profitability of wholesale ISDN30 rentals using the adjusted ROCE.

### **We have uplifted the NRC/GRC ratio of relevant assets to 50%**

#### Our April 2011 Consultation proposals

- 3.31 We considered the following options for calculating an adjusted ROCE to reflect a steady state level for wholesale ISDN30 rentals:
- Option 1: Make no adjustment on the grounds that Openreach have already recovered these costs in the past;
  - Option 2: Recalculate the depreciation and capital employed based on asset lives now known (using historical acquisition data);
  - Option 3: Restate the present asset values based on the assumption that a steady state prevailed on an ongoing basis (50% NRC/GRC ratio) and adjust depreciation;
  - Option 4: Restate the present asset values based on another value (e.g. average NRC/GRC ratio) and adjust depreciation; or
  - Option 5: Reinstate asset values or NRC/GRC ratios of a previous period where the assets were deemed to be in a steady state.
- 3.32 In the April 2011 Consultation we proposed Option 4, to uplift the NRC/GRC ratio to that of the remaining assets (i.e. excluding the heavily depreciated assets) within the ISDN30 asset base. We estimated the NRC/GRC ratio of the remaining ISDN30 assets to be 47% for 2009/10. We noted that this was not significantly different from uplifting by 50% (i.e. Option 3). However, we favoured consistency with the approach

<sup>47</sup> C&WW response to our April 2011 Consultation, see page 5 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/cw.pdf>

<sup>48</sup> C&WW response to our April 2011 Consultation, see page 5 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/cw.pdf>

taken in the WBA Consultation, which was to uplift NRC/GRC ratio to that of the remaining assets.

- 3.33 We recalculated Openreach's adjusted ROCE by uplifting the NRC of the depreciated ISDN30 assets (line-cards and access electronics) to 47% of their GRC. We then recalculated the relevant depreciation by dividing the GRC by Openreach's assumed accounting asset lives (5 years for line-cards and 10 years for access electronics).
- 3.34 Following this approach, we estimated that Openreach's adjusted ROCE in 2009/10 for wholesale ISDN30 services would have been 24%. We noted that this was still significantly above the 'rest of BT' WACC of 11%<sup>49</sup> for that year. The impact of our proposed approach (i.e. the difference between calculating costs using the NRC/GRC uplift and Openreach's own cost estimates) was estimated to be an increase in the cost base for wholesale ISDN30 rentals of £71.2m or £33.17/channel in the April 2011 Consultation.
- 3.35 In the April 2011 Consultation we asked respondents the following question: *Do you agree that we should make an adjustment to Openreach's depreciated ISDN30 assets (line-cards and access electronics) by setting the NRC/GRC ratio of these assets to 47% (i.e. Option 4)?*

#### April 2011 Consultation responses

- 3.36 C&WW stated that we were correct to make a number of adjustments to the cost base to reflect a steady state position.
- 3.37 Regarding the level of the uplift, Openreach noted that in a steady state with continued reinvestment, the NRC/GRC of ISDN30 assets might be approximately 50%. It considered 47% to be a 'reasonable approximation' of the steady state, but considered that this should not fall further from 50%.

#### Our response and conclusion

- 3.38 We have considered the point raised by Openreach that under normal circumstances a NRC/GRC ratio of 50% would be reflective of an asset in a steady state.
- 3.39 We also have had regard to the WBA 2011 Statement<sup>50</sup> which stated that for the purposes of the WBA charge control, 50% was an appropriate NRC/GRC ratio to approximate a steady state for heavily depreciated WBA assets.
- 3.40 We consider that 50% is a more appropriate reflection of the NRC/GRC ratio which could be expected in a steady state. We do not consider that there are any particular factors in the ISDN30 market which suggest that this would not be an appropriate assumption.
- 3.41 We therefore conclude that a 50% NRC/GRC adjustment is appropriate for these assets and note that it represents only a very small (3%) change from the value proposed in the April 2011 Consultation.

<sup>49</sup> We believe that the appropriate cost of capital for ISDN30 services is the "rest of BT rate" (for a detailed discussion see Annex 4). The 'rest of BT' WACC for 2009/10 was estimated to be 11% this was set out in the 2009 Openreach Financial Framework Review available at:

<http://stakeholders.ofcom.org.uk/consultations/openreachframework/statement/>

<sup>50</sup>WBA 2011 Statement see paragraph 5.95 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/823069/statement/statement.pdf>

- 3.42 We have therefore calculated the 'adjusted ROCE' by uplifting the NRC/GRC ratio of heavily depreciated assets to 50%.
- 3.43 Following this approach, we estimate that Openreach's adjusted ROCE in 2010/11 for wholesale ISDN30 services is **25%**.<sup>51</sup> This is significantly above the 'rest of BT' WACC of 9.7%.<sup>52</sup> The impact of this approach on the cost base for wholesale ISDN30 rentals is an increase of £82.4m or £38.66/Channel for 2010/11.

### **We have imposed an RPI-X charge control on core wholesale ISDN30 services**

- 3.44 In the ISDN30 2010 Market Review Statement we concluded that, following a detailed assessment of costs, a price control appeared necessary for wholesale ISDN30. We proposed in the April 2011 Consultation that an RPI-X charge control was appropriate. We summarise our analysis below.

#### Our April 2011 Consultation proposals

- 3.45 In the April 2011 Consultation, we considered that Openreach did not face sufficient competitive pressure to reduce the price of wholesale ISDN30 to the competitive level. We noted in particular the ISDN30 2010 Market Review Statement finding of entrenched SMP<sup>53</sup> and considered that, although ISDN30 was a mature product, a significant volume of channels would remain by 2013/14.<sup>54</sup>
- 3.46 In considering whether a price control was an appropriate remedy to address the identified competition concerns, we described the following concerns in relation to Openreach's provision of wholesale ISDN30 services:
- Openreach's profitability in 2009/10, estimated using an adjusted ROCE approach would have been 24%, well in excess of its WACC of 11% for that year;<sup>55</sup>
  - the price of wholesale ISDN30 services has remained constant in nominal terms since the introduction of the wholesale product in 2004;<sup>56</sup> and,
  - the constraints on the price of wholesale ISDN30 services provided by the available alternative forms of supply (based on OCPs' own end-to-end infrastructure and PPCs purchased from BT) and future IP based alternatives are limited.<sup>57</sup>
- 3.47 We argued that the ability for alternative forms of supply – particularly those that require OCPs to deploy their own end-to-end infrastructure or to use PPCs

<sup>51</sup> We note that this is higher than the estimate in the December 2011 Consultation of 23% (as set out in paragraph 3.09). This is because the estimate in the December 2011 Consultation was calculated in the same manner as the April 2011 Consultation, using an NRC/GRC uplift of 47% and using the volumes and MCE estimated for the purposes of the April 2011 Consultation. These have since been updated for this statement.

<sup>52</sup> We believe that the appropriate cost of capital for ISDN30 services is the "rest of BT rate".

<sup>53</sup> Paragraph 3.55 – 3.62 of the April 2011 Consultation, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>54</sup> See para 3.63 of the April 2011 Consultation, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>55</sup> See para. 3.51 – 3.52 of the April 2011 Consultation, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>56</sup> See para. 3.56 of the April 2011 Consultation, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>57</sup> See para. 3.55 – 3.63 of the April 2011 Consultation, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

purchased from BT - to constrain wholesale ISDN30 prices was limited. We proposed that this was due to the existence of high entry barriers, as evidenced by the following observations of the ISDN30 market:

- the share of the market supplied by BT's rivals using their own networks was less than 30% (with PPCs only representing around 3% of the total) with the remaining 71% of the retail ISDN30 market supplied by CPs using Openreach's wholesale ISDN30 product (with BT Retail being by far the biggest of these CPs).<sup>58</sup>
- 3.48 We proposed that competition from CPs using PPCs and their own infrastructure could have exerted some competitive pressure on the price of wholesale ISDN30 but was unlikely to be sufficient to reduce Openreach's prices to the competitive level.<sup>59</sup>
- 3.49 In light of the above, we considered that a price control on core wholesale ISDN30 services was appropriate. We then assessed what form the control should take. We discussed the following options:
- A cost orientation requirement;
  - Safe-guard caps;
  - Retail minus; and
  - RPI-X charge control.
- 3.50 We considered that cost orientation by itself would not be sufficient to reduce wholesale charges to an appropriate level. In particular, we noted that cost orientation could allow Openreach to set charges within the DLRIC floor and DSAC ceiling. With the existing ISDN30 rental price at around 8% of the weighted (internal and external) average DSAC for the years 2007/08 to 2009/10, we considered that a cost orientation obligation was unlikely to address our key concern of high rental wholesale prices.<sup>60</sup>
- 3.51 Similarly, we explained that a safeguard cap (such as RPI % or RPI-RPI) was unlikely to be appropriate for a service such as ISDN30 where our analysis had shown that the price of rentals was well in excess of FAC. A safeguard cap would not align ISDN30 prices with the underlying costs of provision.<sup>61</sup>
- 3.52 We considered that retail-minus pricing (i.e. where the maximum wholesale charge is equal to the retail price less the costs incurred by the retail activity of the operator's in-house service provider), would not be appropriate either. We noted that retail-minus is a lighter touch form of regulation than a cost orientation requirement. We considered that the degree of SMP and the maturity of the ISDN30 market meant that it would be more appropriate to control the absolute level of wholesale ISDN30

<sup>58</sup> See para. 3.55 – 3.63 of the April 2011 Consultation, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>59</sup> See para. 3.61 of the April 2011 Consultation, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>60</sup> See para. 3.67 – 3.71 of the April 2011 Consultation, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>61</sup> See para. 3.72 – 3.73 of the April 2011 Consultation, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

charges, rather than just the margin between these and retail prices, and to bring these wholesale charges into line with their FAC cost.<sup>62</sup>

- 3.53 Therefore, we proposed that an RPI-X control was likely to be the most appropriate form of control for core wholesale ISDN30 services. It would bring prices into line with expected costs (on an FAC basis and including the cost of capital) by the end of the charge control using a glide-path. The glide-path is intended to approximate the workings of a competitive market in which excess profits are gradually eroded as rivals improve their efficiency. It would also give Openreach the incentives to increase its efficiency by allowing it to keep any additional profits that it earns by reducing its costs over and above the savings envisaged when setting the charge control. We therefore proposed to impose an RPI-X charge control on core wholesale ISDN30 services.<sup>63</sup>
- 3.54 In the April 2011 Consultation we asked respondents the following question: *Do you agree that an RPI-X type charge control would be the appropriate form of price control for core wholesale ISDN30 services? If not, please explain why.*

#### April 2011 Consultation responses

- 3.55 We received five responses to this question, including from C&WW, FCS, Verizon and Openreach. C&WW argued that a glide-path RPI-X was the “*best way of achieving orderly, well signalled price reductions*”. It considered that it was well understood and that it provided regulatory certainty by “*creating predictable price movements and helping to retain efficiency incentives*”.<sup>64</sup> FCS also considered that a glide-path based on RPI-X was an appropriate form of control, although it did not explain the reasons.<sup>65</sup> Verizon considered that a cost orientation obligation rather than a charge control would not be sufficient to reduce ISDN30’s excessive wholesale charges, however, it did not express a preference for a particular form of control.<sup>66</sup>
- 3.56 Openreach argued that regulating the prices of wholesale ISDN30 services was neither appropriate nor proportionate. It pointed out that our Impact Assessment guidelines<sup>67</sup> require us to ensure that we minimise the unintended consequences of any form of regulation we adopt.<sup>68</sup> Openreach listed the following unintended consequences of regulating wholesale ISDN30 prices, taken from the third party report it submitted to us during the ISDN30 2010 Market Review:
- artificial demand stimulation for ISDN30 at the retail level, restricting migration to SIP trunking;

<sup>62</sup> See para. 3.74 – 3.77 of the April 2011 Consultation, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>63</sup> See para. 3.78 – 3.80 of the April 2011 Consultation, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>64</sup> C&WW response to our April 2011 Consultation, see p. 5 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/cw.pdf>

<sup>65</sup> FCS response to our April 2011 Consultation, see p. 2 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/FCS.pdf>

<sup>66</sup> Verizon response to our April 2011 Consultation, see para. 3 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Verizon.pdf>

<sup>67</sup> [http://stakeholders.ofcom.org.uk/consultations/ia\\_guidelines/](http://stakeholders.ofcom.org.uk/consultations/ia_guidelines/)

<sup>68</sup> Openreach response to our April 2011 Consultation, see para. 17-18 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

- higher unit costs from the need to meet this additional demand with scarce and unavailable equipment components;
  - risk of price increases needed to recover the additional investments required to meet these additional demand over a shorter period of time (due to the limited remaining lifecycle of the ISDN30 product); and
  - diversion of funds limiting the scope for investments in new technologies such as Next Generation Access.<sup>69</sup>
- 3.57 Openreach recognized that, as we pointed out in the April 2011 Consultation, re-use of existing equipment is likely to mitigate the need for additional investments.<sup>70</sup> However, it stated that while this may be possible for some equipment components, for others reuse “*would be costly and would increase lead-times*”.<sup>71</sup> Openreach provided some qualitative description of the practical restrictions and costs associated with significant new deployment in its December 2011 Consultation response. Openreach also stated that, “*lowering prices too quickly will tend to encourage further take-up*”<sup>72</sup> and reiterated that there was a risk that it would not be able to meet, or would incur higher costs in meeting, demand stimulated by the control.<sup>73</sup> We considered this additional evidence provided by Openreach in relation to the issue of whether our proposed RPI-X charge control was appropriate.
- 3.58 In its April 2011 Consultation response, Openreach further argued that - if some form of regulation is required - then a safeguard cap would be preferable to an RPI-X control because it:
- would not produce the unintended consequences described above;
  - would reduce the risk of wastefully diverting investment into the legacy technology; and
  - would be simpler to implement and provide greater transparency and certainty to Openreach and stakeholders.<sup>74</sup>
- 3.59 Openreach noted that the least preferable option would be the introduction of a cost orientation obligation in addition to an RPI-X charge control, as this would exacerbate the regulation’s potential for unintended consequences.<sup>75</sup>

---

<sup>69</sup>Openreach response to our April 2011 Consultation, see para. 19 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>70</sup> See the April 2011 Consultation, para. 3.20 available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>71</sup>Openreach response to our April 2011 Consultation, see para. 20-21 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>72</sup>Openreach response to the December 2011 Consultation, paragraph 5, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/responses/Openreach.pdf>

<sup>73</sup>Openreach response to the December 2011 Consultation, paragraph 11, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/responses/Openreach.pdf>

<sup>74</sup>Openreach response to our April 2011 Consultation, see para. 22 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>75</sup>Openreach response to our April 2011 Consultation, see para. 23 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

## Our response and conclusion

- 3.60 C&WW, FCS and Verizon responded broadly in support of our proposals. We note that Openreach argued against the introduction of our proposed charge control and we address the concerns that it raised below.

### *We consider that our April proposals minimised potential unintended consequences of regulation*

- 3.61 Responding to Openreach's comments in paragraph 3.577 above, we are mindful that, as indicated in our Impact Assessment guidelines, we should try to minimise any unintended consequences of regulation. However, we consider that we already introduced several safeguards in our proposed charge control that were intended to minimise the risk of the unintended consequences highlighted by Openreach in its response. We discuss each of these safeguards in paragraphs 3.63 to 3.69 below, and consider, in light of Openreach's comment, whether they achieve the intended aim.

### *Our charge control should not result in artificial demand stimulation for ISDN30*

- 3.62 In the April 2011 Consultation we recognised that some of the assets used for wholesale ISDN30 services (line cards and access electronics) are heavily depreciated and that their accounting value does not reflect their true economic value. We agree with Openreach that if the charge control were set on the basis of these assets' accounting value, the result would be prices which would not cover the costs of replacing and maintaining ISDN30 equipment on an ongoing basis. We have addressed this concern by uplifting the ISDN30 asset base to reflect that of an hypothetical ongoing network and in its April 2011 Consultation response Openreach has agreed with our approach.<sup>76</sup> We note that this uplift increases Openreach's base year (2010/11) costs by up to £82.4m or £38.66/channel.
- 3.63 We therefore disagree with Openreach's view that setting a charge control that would align ISDN30 prices to the costs of production estimated after our uplift would artificially stimulate demand for ISDN30. We consider instead that it will eliminate any allocative inefficiencies resulting from the current excessive ISDN30 prices.

### *Our charge control should not result in higher unit costs for ISDN30 and we continue to believe that re-use will limit the need for any additional investments*

- 3.64 We also disagree with Openreach's submission that our proposed charge control would result in higher unit costs due to the need to meet additional demand with scarce or unavailable equipment. As we noted in our April 2011 Consultation, Openreach has already served in excess of 2.2m ISDN30 channels on its network and the current volume of channels is around 2.1m (with demand expected to decline in future). We also note that the main capital assets used in the provision of ISDN30 services (line-cards and concentrators) are no longer being manufactured and Openreach has for some time been serving new demand by re-use of its existing stock.<sup>77</sup> We continue to believe that Openreach will be able to use the same approach for the duration of the charge control. We nonetheless acknowledge that in its response to the April 2011 Consultation and December 2011 Consultation (see paragraph 3.588 above), Openreach has indicated that for some ISDN30 equipment

<sup>76</sup>Openreach response to our April 2011 Consultation, paragraph 12, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>77</sup>Openreach, *ISDN30 Access Overview*, Presentation to Ofcom, July 6<sup>th</sup> 2010, pages 3 to 4

reuse is likely to result in higher costs. However, we consider that the assumptions we have made in calculating the charge control – in particular our adjustments of the NRC/GRC ratio for steady state network investments - should mean that these costs are covered by the charge control (as discussed in paragraph 3.66 below).

*Our charge control should not result in price increases driven by additional investment requirements*

- 3.65 We also believe that the structure of the control will allow Openreach to recover any investments needed for ISDN30 over a reasonable period, taking into account the expected decline in ISDN30 demand. In particular, our calculation includes an increase to the value of Openreach's ISDN30's assets (the NRC/GRC uplift). This uplift reflects the costs of a hypothetical ongoing network, and therefore allows for a level of capital expenditure consistent with maintaining such a network. We discuss this in more detail in paragraphs 5.220 to 5.221 below.<sup>78</sup>

*Our charge control will not divert funds for investments in new technologies*

- 3.66 As noted in paragraph 3.66 above, our charge control will allow Openreach to recover the costs and any investments required to supply wholesale ISDN30 throughout the charge control. Therefore, we disagree that our charge control will divert funds or limit the scope for investments in new technologies.

*We continue to believe that the alternatives to RPI-X regulation are not appropriate*

- 3.67 We continue to believe that the potential alternatives to an RPI-X charge control – such as a safeguard cap, or cost orientation obligation – would not be appropriate for the reasons discussed in our April 2011 Consultation (see paragraphs 3.52 to 3.54 above).
- 3.68 In light of the above, we consider it appropriate to impose a charge control based on RPI-X on wholesale ISDN30 services to address the identified competition concerns.

---

<sup>78</sup> For the avoidance of doubt we replace Openreach's capital expenditure forecasts with our own revised forecasts.

## Section 4

# Charge control design principles

## Introduction

4.1 In this section we describe the key economic principles that have guided our approach in designing the charge control framework for wholesale ISDN30 services and our decisions in relation to these. In Section 5 we describe in detail how we have decided to apply these principles to the specific features of wholesale ISDN30 services.

## Summary of our decisions

- 4.2 In light of responses to the April and December 2011 Consultations and further analysis where relevant we have taken the following factors into account when designing the charge control imposed on Openreach:
- we will consider the existence of differences in the competitive conditions among services when deciding on the appropriate charge control baskets;
  - we will use current cost accounting with fully allocated costs (CCA FAC) as the basis for setting the charge controls;
  - we have set an appropriate charge control period of two years;
  - we have forecast the costs of wholesale ISDN30 services consistent with the anchor pricing approach;
  - we will only make one-off adjustments to the starting charges where there would otherwise be a real risk of distortion;
  - RPI is the appropriate inflation index; and
  - we will use prior year revenue weights when assessing Openreach's compliance with its charge control obligations.
- 4.3 Our decision and conclusions on the level of the charge controls and any price adjustments are detailed in Section 5.

## Our overall approach to designing the charge control framework

- 4.4 As discussed in our April 2011 Consultation, there are five key steps we follow when designing a charge control framework. These are:
- Step 1: identify appropriate charge control baskets;
  - Step 2: identify base year costs for services in scope of the charge control;
  - Step 3: forecast the costs of the relevant services for the duration of the charge control;

- Step 4: consider the case for one-off adjustments to charges at the start of the charge control; and
- Step 5: calculate the value of X for the proposed basket(s) of services.

4.5 We consulted on these steps in our April 2011 Consultation and stakeholder responses are considered below. Additionally, we also consider the use of an anchor pricing approach to setting the control, our approach to one-off adjustments (Step 4), the adoption of RPI as the relevant inflation index and the use of prior year revenue weights. Where relevant, we have set out below respondents' views and our final decisions on these key modelling principles.

## The principles behind basket design (Step 1)

### Our April 2011 Consultation proposals

- 4.6 In the April 2011 Consultation we noted that a charge control can either be applied to an individual service or a basket of services. In the April 2011 Consultation we expressed our general preference for combining services in broad baskets.
- 4.7 We noted that if we applied separate controls, we would have to decide on the efficient allocation of common costs between the individual services. Meanwhile, broad baskets provide more flexibility for Openreach to respond to changing market conditions and to reflect changes in demand or costs in the relative prices of the services within the basket.<sup>79</sup>
- 4.8 We considered that Openreach is best placed to assess how to set relative prices in order to recover costs which are common across a number of services in the most efficient and appropriate manner, which would indicate that broad baskets would be preferred.<sup>80</sup>
- 4.9 However, we also recognised that when broad baskets are implemented – such that services with different competitive conditions are included in the same basket - Openreach would have an incentive to concentrate price cuts on the most competitive services and offset these with price increases on the least competitive services. We argued that this could be avoided by placing the more competitive services (if any) in a separate basket or by using sub-baskets or safeguard caps limiting price increases of individual services within baskets.<sup>81</sup>
- 4.10 We also acknowledged that sub-caps could make monitoring compliance with the charge control conditions more cumbersome than separate controls on individual services.<sup>82</sup>

### April 2011 Consultation responses

- 4.11 We received several responses relating to the specific design of our charge control baskets, but no responses that related to our proposed overarching principles of the

<sup>79</sup>See the April 2011 Consultation, para. 4.8-4.11, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>80</sup>See the April 2011 Consultation, para. 4.9, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>81</sup>See the April 2011 Consultation, para. 4.12-4.14, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>82</sup>See the April 2011 Consultation, para. 4.14, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

charge control detailed above. We address the responses to the specific design of the charge control in paragraphs 5.9 to 5.33 below and consider that our broad approach to basket design set out as Step 1 in the April 2011 Consultation is the appropriate approach.

## **We will use CCA FAC as our cost basis (Step 2)**

- 4.12 There are a number of different approaches that could be used to calculate Openreach's base year costs. We have considered which cost standards would be appropriate to use for setting prices for wholesale ISDN30.

### Our April 2011 Consultation proposals

- 4.13 In the April 2011 Consultation we identified a number of different cost standards that we have previously used when setting charges for one-way access services like wholesale ISDN30<sup>83</sup> (covering both incremental and common costs). These were:
- current cost accounting fully allocated cost (CCA FAC); and
  - long run incremental costs plus an equi-proportionate mark-up (LRIC+EPMU).<sup>84</sup>
- 4.14 We proposed to adopt CCA FAC. This approach facilitates transparency, as it allows us to use Openreach's publically available RFS as the relevant base year costs in our model.<sup>85</sup> The use of CCA FAC is also consistent with the approach we have adopted in the current WBA 2011 Statement and the WLR and LLU 2012 Statement.<sup>86</sup>
- 4.15 In the April 2011 Consultation we asked respondents the following question: *Do you agree that CCA FAC is the appropriate cost basis for setting the proposed charge controls? If not, please explain why.*

### April 2011 Consultation responses

- 4.16 C&WW and Openreach were the only stakeholders that responded to this question. They both agreed that CCA FAC was the most appropriate cost basis for setting the ISDN30 charge control. C&WW highlighted that it has been used in previous charge controls and that it is widely understood by stakeholders.<sup>87</sup> Openreach agreed with our proposal to use CCA FAC to establish the cost base for wholesale ISDN30 services.<sup>88</sup>

<sup>83</sup>This distinction is with two-way access services. The classic two-way access service is call termination. Operators purchase call termination from each other, and hence access is two-way. In the case of one-way access services like ISDN30, Openreach does not need to purchase an equivalent service from OCPs.

<sup>84</sup>See the April 2011 Consultation, para. 4.15-4.16, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>85</sup>See the April 2011 Consultation, para. 4.17-4.20, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>86</sup><http://stakeholders.ofcom.org.uk/binaries/consultations/823069/statement/statement.pdf> and <http://stakeholders.ofcom.org.uk/consultations/llu-wlr-further-consultation/statement>

<sup>87</sup>C&WW response to our April 2011 Consultation, see p. 6 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/cw.pdf>

<sup>88</sup>Openreach response to our April 2011 Consultation, see para. 25 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

## Our response and conclusion

- 4.17 In light of the advantages of using CCA FAC, and the agreement from stakeholders regarding this approach, we have used CCA FAC as the cost standard to set the wholesale ISDN30 charge control.

## **Setting an appropriate price control period (Step 3)**

- 4.18 The duration of a charge control can impact regulatory certainty as well as how closely the control reflects current market conditions. Additionally, allocative and dynamic efficiency can be affected by the duration of the control. Shorter controls tend to encourage allocative efficiency as prices are usually closer to current costs. Dynamic efficiency can be encouraged by longer charge controls due to a greater degree of regulatory certainty and greater incentives to innovate and reduce costs.

## Our April 2011 Consultation proposals

### *We proposed a three-year charge control in the April 2011 Consultation*

- 4.19 The April 2011 Consultation proposed a charge control duration of three years. In determining the length of the proposed charge control, we recognised that in the past we have set charge controls for four years and that in those reviews we stated that four years would prove a good balance between dynamic and allocative efficiency<sup>89, 90</sup>.
- 4.20 We also recognised however, that our proposal should take due regard of the European regulatory framework, which prescribed in most cases that market reviews should be undertaken by national regulatory authorities (NRAs) every three years. A three, rather than four, year period would slightly change the balance between dynamic and allocative efficiency, favouring the latter. It would also have the benefit of reducing pressure for interim reviews.<sup>91</sup>
- 4.21 A three year charge control ending on 31 March 2014 was also consistent with the forward look period set in our ISDN30 2010 Market Review, which considered a four year period ending on 20 August 2014, and other charge controls that we were considering at the time of our April 2011 Consultation (i.e. the WLR and LLU 2012 Statement).<sup>92</sup>
- 4.22 In the April 2011 Consultation we asked respondents the following question: *Do you agree that a three year duration for the charge controls on wholesale ISDN30 services is appropriate? If not, please explain why.*

---

<sup>89</sup> Dynamic efficiency concerns the ability of firms to innovate and make efficient investments, including activities designed to reduce costs over time. Incentives for productive efficiency – cost minimisation – are also likely to be greater the longer the duration of the control. Allocative efficiency is achieved when prices are aligned with underlying resource costs.

<sup>90</sup> See the April 2011 Consultation, para. 4.25, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>91</sup> See the April 2011 Consultation, para. 4.25-4.27, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>92</sup> See the April 2011 Consultation, para. 4.26, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

## April 2011 Consultation responses

- 4.23 Verizon considered that three years was appropriate given the changes to the European regulatory framework introduced on the 26 May 2011.<sup>93</sup> Openreach indicated its preference for longer charge controls and market reviews, however it accepted our proposal to set a three year charge control to ensure consistency with the European regulatory framework.<sup>94</sup>
- 4.24 C&WW considered that a three year period should be the “*absolute minimum duration for the control*”, arguing that a shorter period would risk pushing price changes through too quickly. Furthermore, C&WW suggested that there could be a case for Ofcom to introduce a four year control to recognise that ISDN30 had reached a maturity stage in its lifecycle and the “*uncertainty over the need for any future controls with demand expected to fall away*”. C&WW pointed out that we had made the case for extended charge controls in previous consultations, including the Mobile Call Termination (MCT) review, and that a similar approach for ISDN30 could be appropriate.<sup>95</sup>

## Our December 2011 Consultation proposals

### *We proposed to change the charge control duration to two years in the December 2011 Consultation*

- 4.25 In the December 2011 Consultation we consulted on a new duration of two years. This revised proposal was driven by constraints on when the charge control could commence, and when it would end.
- 4.26 We explained that we considered that it would not be possible to introduce the proposed control before April 2012, because our cost analysis relied on modelling shared with the recently concluded WLR/LLU review. Until that modelling was finalised, we would not be able to conclude our analysis of the cost of provision of wholesale ISDN30. We therefore proposed that the control would not start before the 2012/13 financial year.
- 4.27 We also explained that there were two key considerations in setting the end date of the control. Firstly, we considered that it would be appropriate to maintain alignment with the charge controls for WLR/LLU, in order that any future controls, should they be deemed necessary, can continue to share key modelling of Openreach access costs. Secondly, we noted that the four year forward look period adopted in our ISDN30 2010 Market Review only lasted to 2014. We did not consider that it would be appropriate to set a control that exceeded the market review forward look period, especially in light of the potential for changes in the market by movement to IP, beyond that time.
- 4.28 We recognised that in proposing to reduce the length of the control this would change the balance between the dynamic and allocative efficiency incentives of the control. The allocative efficiency properties of the control would be increased (compared to a longer control) as prices would be brought into line with costs more

<sup>93</sup> Verizon response to our April 2011 Consultation, see para. 4 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Verizon.pdf>

<sup>94</sup> Openreach response to our April 2011 Consultation, see para. 26 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>95</sup> C&WW response to our April 2011 Consultation, see p. 6 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/cw.pdf>

rapidly. An additional benefit of the shorter control was that it was likely to reduce the need for interim reviews, which we considered an advantage in this instance as it would be the first time that a price control was applied to ISDN30 services. However, we also recognised that a shorter control would decrease the incentives for efficiency improvements (i.e. productive and dynamic efficiency).<sup>96</sup>

4.29 We also took into account stakeholder comments made in response to the April 2011 Consultation. In particular, we considered the responses from Verizon and Openreach that were supportive of a three year control and considered C&WW's response suggesting that we should not set a control with less than three years duration. However, in proposing a two year control we recognised the importance of conducting the ISDN30 price control in parallel to that for the WLR/LLU markets in order to align the regulation of all regulated access exchange line products supplied by Openreach, and that a short control would be appropriate as it is the first time that these services had been price controlled in this way, and high allocative efficiency will reduce the risk of prices being out of line with costs.<sup>97</sup>

4.30 Having proposed a two year control period, we also considered how the control should be implemented over that period. We assessed three options as to how the control may be structured:

- Option 1: a control with the same glide-path as proposed in the April 2011 Consultation, which would leave prices above their (adjusted) underlying costs of provision;
- Option 2: a control with an initial one-off adjustment and then maintaining the glide-path proposed in the April 2011 Consultation; and
- Option 3: a glide-path that would set prices equal to their FAC by 31 March 2014, resulting in higher values of X in each of the two years of the control when compared to the 3-year price control period that was proposed in the April 2011 Consultation.<sup>98</sup>

4.31 We considered that Option 3 would be the most appropriate approach because it would:

- bring prices down to (adjusted) costs by the end of the control, ensuring that consumers would benefit from competitive prices (unlike Option 1, which would result in prices above cost at the end of the control);
- continue to strike an acceptable balance between the allocative efficiency properties of the control and the need for regulatory certainty and stability; and
- be less disruptive to CPs' investment decisions than a control that included a one-off adjustment at the start of the control period (Option 2).<sup>99</sup>

<sup>96</sup> See the December 2011 Consultation, para. 2.13, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/938607/summary/condoc.pdf>

<sup>97</sup> See the December 2011 Consultation, para. 2.17-2.19, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/938607/summary/condoc.pdf>

<sup>98</sup> See the December 2011 Consultation para. 2.20, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/938607/summary/condoc.pdf>

<sup>99</sup> See the December 2011 Consultation para. 2.22-2.29, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/938607/summary/condoc.pdf>

- 4.32 In the December 2011 Consultation we therefore proposed to impose a two-year glide-path that would set prices equal to their adjusted FAC by 31 March 2014. Additionally, we proposed to maintain the first year adjustment allowing for the introduction of the charge control after the start of the financial year (April 2012).<sup>100</sup>
- 4.33 In the December 2011 Consultation we asked respondents the following questions: *Do you agree that we should adopt a price control based on a 2 year period and align the prices of ISDN30 core services with their underlying costs of provision?* and *Do you agree that in this case Option 3 should be preferred to Option 2?*

### December 2011 Consultation responses

- 4.34 The four respondents to the consultation all provided comments on our proposed changes to the charge control period and our preferred option for implementing the control.
- 4.35 ✂. Verizon and Openreach also saw merit in the administrative benefits of reducing the charge Verizon and Openreach also saw merit in the administrative benefits of reducing the control period to maintain alignment with the regulation for other related access line products, although in both cases this was qualified with concerns regarding the potential impacts of a shorter control.<sup>101</sup>
- 4.36 Openreach was concerned that the two year control did not strike the right balance between allocative and productive and dynamic efficiency (favouring the former over the latter two), and suggested that the European framework guideline is for charge controls to be reviewed every 3 years. Openreach were not convinced that the benefit of aligning the controls outweighed the adverse impact that would result from diluting the incentive properties of the proposed ISDN30 charge control. Openreach recognised the practical issues and delays that might result from extending the control to a three year duration, but suggested that these options should be explored further.<sup>102</sup> C&WW argued that a two year control did not provide sufficient regulatory certainty.<sup>103</sup>
- 4.37 Most of the concerns voiced by stakeholders related to the proposed steeper price reductions. C&WW recognised that prices would be higher for a longer period than proposed in the April 2011 Consultation, however they suggested that the steeper price reductions over the two years might have a different impact on consumers due to the effect of rapid price movements on consumer behaviour.<sup>104</sup> C&WW Stated:

*“ISDN30 users are more likely to take notice of and act upon substantial and sudden pricing movements than more gradual reductions, regardless of the shared pricing end point”<sup>105</sup>*

<sup>100</sup> See the December 2011 Consultation para. 2.30, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/938607/summary/condoc.pdf>

<sup>101</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/responses/Openreach.pdf>, paragraph 13, and page 2

<sup>102</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/responses/Openreach.pdf>, paragraphs 8 - 12

<sup>103</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/responses/cw.pdf> page 2

<sup>104</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/responses/cw.pdf> page 2

<sup>105</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/responses/cw.pdf> page 2

- 4.38 C&WW were concerned that regulatory pricing pressure could have a damaging impact on competitive supply. They argued that steeper price reductions could lead to an outcome that gives consumers lower prices in the short term, but increases BT's wholesale market share. C&WW claimed that this could weaken competitive pressure in the medium term. C&WW also argued that alternative providers are more sensitive to price reductions than BT as a result of their higher costs to provision and partial reliance on other access products like PPCs.<sup>106</sup>
- 4.39 Verizon agreed in principle with the goal of aligning prices with underlying costs,<sup>107</sup> but were concerned that the rapid price reductions could encourage customers using other products to switch to ISDN30 services supplied over the BT network:

*“A two year price control will result in a rapid price reduction (11% to 17%) on WLR ISDN30 over that short period, which in the absence of similar corresponding reductions for 2M Leased Lines or PPC's, is likely to result in customers moving back to the BT network.”<sup>108</sup>*

- 4.40 In line with their comments described above, Verizon, Openreach and C&WW argued that we should either extend the duration of the control period, or adopt the approach consistent with our proposed Option 1, which involved maintaining the same price reductions as those proposed in the April 2011 Consultation.<sup>109</sup> Option 1 (or extending the control while maintaining the price reductions in the April 2011 Consultation) would result in prices in 2013/14 that are above the cost of providing ISDN30, with the anticipation that further reductions to reduce prices to cost would be achieved in subsequent years.

### Our response and conclusions

- 4.41 We have considered whether we should impose a two year control period that would end in 2013/14, and whether we should maintain the goal of reducing prices to cost that would result in steeper price reductions over the two year control.

#### *We will impose a two year control period ending in 2013/14*

- 4.42 In both the April 2011 Consultation and the December 2011 Consultation we explained that we wanted to achieve synchronisation of charge control remedies and market review periods. A two year charge control has been adopted for WLR and LLU.<sup>110</sup> We also noted that the forward look of the ISDN30 2010 Market Review was to 2014, and that we considered that it would not be appropriate to impose a control that exceeded the forward look period. In the December 2011 consultation we also described that, as we shared modelling with the WLR/LLU review, we could not commence any control until the costs of supply were determined, and taking into

<sup>106</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/responses/cw.pdf> page 2

<sup>107</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/responses/Verizon.pdf> page 2

<sup>108</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/responses/Verizon.pdf> page 2

<sup>109</sup> Verizon preferred Option 1 (see <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/responses/Verizon.pdf> page 3), Openreach argued that the duration of the control should be extended (see <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/responses/Openreach.pdf> paragraph 22), and C&WW preferred Option 1 (see <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/responses/cw.pdf> page 4)

<sup>110</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf>, paragraphs 3.158 to 3.179

account the notification period, we considered that we would not be able to introduce the proposed controls before April 2012.<sup>111</sup>

- 4.43 We agree with stakeholders that the incentives for dynamic efficiency might be reduced by implementing a shorter charge control period. Under section 88 of the Act, any price control imposed must be appropriate for the purposes of promoting efficiency. However, in designing a price cap, incentives for dynamic efficiency must be considered alongside the benefits of allocative efficiency. Allocative efficiency is achieved when prices are aligned with underlying resource costs. Prices can diverge from costs over the life of a price cap if the costs of price-capped services deviate from the trajectory of prices or charges established by the RPI +/- X formula. However, in establishing price caps, regulatory authorities are able to ensure that allocative efficiency objectives are also met through the market review mechanism and periodic setting of new controls. Hence price caps, if set correctly, have built-in safeguards for both dynamic and allocative efficiency.
- 4.44 Whilst a four year duration has proved effective in providing a good balance between dynamic and allocative efficiency for other charge controls set by Ofcom, we considered that a two year control in this market, will have strong allocative efficiency incentives, which, as described in our December 2011 Consultation, and summarised above at 4.28, are important in this market as they ensure that prices are less likely to get out of line with costs, when this will be the first time a charge control has been imposed on the market. Although a two year control would have less incentive for efficiency improvements than a four or three year control, we consider that such incentives remain, and a two year control, as set, balances allocative and dynamic efficiency and is appropriate for the purpose of promoting efficiency.

*We will maintain the goal of the charge control to align the prices of ISDN30 core services with their underlying costs of provision by the end of the control period*

- 4.45 Stakeholders voiced a number of concerns regarding the impact that a steeper decline might have on industry and investments. The steeper price reduction occurs because we have proposed to maintain the goal of reducing prices to cost over the shorter charge control period. We believe that maintaining this goal is important to ensure that the control is appropriate for the purpose of conferring the greatest possible benefit on ISDN30 retail consumers.
- 4.46 We also do not consider that stakeholder responses suggesting that industry would have difficulty adjusting to the shorter control are supported. We are not proposing to impose any one-off adjustments and there has been clear prior indication to industry regarding the nature, scale and timeframe for the control. We also have no evidence to support the view that a charge control of RPI-13.75% is too rapid for industry to adjust to. We do not consider that the magnitude of the revised value of X, particularly in comparison to our April 2011 Consultation proposals, is such that it could cause disruptions to stakeholders' investments or to retail prices.
- 4.47 Furthermore, some stakeholders were concerned that lower ISDN30 prices would delay switching away from ISDN30 to new technologies. As described in the December 2011 Consultation, our proposal to reduce the control duration and

<sup>111</sup>See April 2011 Consultation (<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>) paragraphs 4.27-4.29, and the December 2011 Consultation (<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/summary/condoc.pdf>) paragraphs 2.2-2.4

maintain the goal of price reduction to costs results in prices that are always higher than those proposed in April (all else being equal) in the intervening period prior to the end of the charge control. This is largely due to the delay in introducing the charge control. Stakeholders have suggested that consumers might behave differently when faced with a steeper price decline and that we had not accounted for this when modelling the impact of our charge control on demand. We respond to these arguments in paragraphs 5.177 to 5.182 below. We nonetheless disagree with C&WW's suggestion that we should artificially set higher prices on ISDN30 to reflect the (potentially) higher costs of alternative operators (as discussed in paragraphs 5.79 – 5.85 of our April 2011 Consultation).

- 4.48 In light of the above, we have concluded that we will set a two year charge control period for wholesale ISDN30 services. We will also align the prices of ISDN30 core services with their underlying costs of provision over the duration of the control, and adopt the proposals described in Option 3 of the December 2011 consultation.

### **We will use an anchor pricing approach to setting the control (Step 3)**

- 4.49 When setting the level of a charge control, the cost of delivering the relevant services has to be assessed. In the context of technology change, it might be possible to deliver the same or equivalent services using different technologies. In such instances, a decision needs to be made regarding which technology should be used to assess the relevant costs. This decision can have important implications for the incentives to invest in the relevant technologies.
- 4.50 Technological change is relevant to this charge control because of the move to Next Generation Access (NGA) networks based on fibre, and because of the emergence of IP-based alternatives to ISDN30 (e.g. SIP Trunking).
- 4.51 In the April 2011 Consultation,<sup>112</sup> we proposed to set the control so that it was consistent with an 'anchor pricing' approach. We explained that the anchor pricing approach is a way of setting charge controls when costs are affected by technological change.
- 4.52 We explained that a key feature of the anchor pricing approach is that charges do not immediately reflect the costs of a new technology but may be based on the costs of an older existing technology, and contrasted it with alternatives in which prices reflect the costs of the latest technology at any point in time.
- 4.53 In the April 2011 Consultation we said that the approach we adopt depends on whether we expect gradual technological change, which is part of business-as-usual, or 'paradigm shift' technological change. In the former case, our approach to setting charges is to base costs on what is believed to be the most efficient available technology that performs the same function as the old technology (which might be the one actually in use). This is sometimes described as the 'modern equivalent asset' (MEA<sup>113</sup>) approach to pricing.

<sup>112</sup>See our April 2011 Consultation, paras 4.30 – 4.56, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>113</sup> For a definition of MEA, see for example paragraph 4.86 of Ofcoms' second consultation "Valuing copper access" (March 2005) at:

<http://stakeholders.ofcom.org.uk/binaries/consultations/copper/summary/copper2.pdf>.

Ofcom asked Analysys Consulting "to undertake a comparison between the valuation of the existing [copper access] network and a hypothetical Modern Equivalent Asset (MEA)". The definition of the MEA used was: "The MEA chosen will be the most cost efficient method, using modern technology, of

- 4.54 However, during a period of major, or paradigm shift, technological change, we generally adopt an approach to charge control setting which we refer to as anchor pricing.<sup>114</sup> Under this approach the charge control modelling (for relevant cost components) would be based on the cost of existing technology rather than that of any new technology which might be adopted during the control period.
- 4.55 We also noted that our proposed approach was consistent with the approach to technical change being taken in our review in the WLR and LLU 2012 Statement.
- 4.56 We explained that the anchor pricing approach is intended to give the regulated firm incentives to invest in new technology only when providing services over the new technology would lower its overall costs, or would enable it to provide higher quality services for which consumers are willing to pay. It does this by limiting the prices which the firm can charge to a level based on the costs of the existing technology. Another advantage of our approach is that consumers of existing services are then not made worse off by the adoption of new technology. The price (and quality) of existing services are anchored by the legacy technology, even if the services are actually provided over new technology.

*We consider that anchor pricing approach is appropriate for wholesale ISDN30 services*

- 4.57 In the April 2011 Consultation we discussed the two main technological developments expected over the period of the charge control: the development of next generation access (NGA) networks and the gradual migration of ISDN30 services to IP based alternatives. These two developments could be regarded as examples of paradigm shift technological change. We therefore considered that anchor pricing could in principle be relevant for the ISDN30 charge control.
- 4.58 We noted that some of the costs of providing ISDN30 are shared with the (current generation) copper access network and these are affected by the development of NGA, although Openreach does not propose to migrate its ISDN30 service to its NGA network. We have adopted a consistent approach to forecasting these costs across the WLR, LLU and ISDN30 charge controls. We noted that the anchor pricing principle has been incorporated in our modelling of the costs of WLR, SMPF and MPF services.
- 4.59 We considered that the most likely candidate technology for an MEA was SIP Trunking due to the identified gradual migration of ISDN30 to IP based alternatives (e.g. SIP Trunking<sup>115</sup>).
- 4.60 However, we considered that it would not be appropriate to set the charge control for ISDN30 on the basis of SIP Trunking costs as it is not yet clear whether SIP Trunking is in fact the MEA for ISDN30. By definition the MEA needs to be “... *the most cost efficient way, using modern technology, of providing the same services, and to the same level of quality and to the same customer base as provided by the existing ...network*”.<sup>116</sup> The market research that we conducted as part of the ISDN30 2010

---

*providing the same services, to the same level of quality and to the same customer base as is provided by the existing copper access network*”. The Analysys report is available at <http://stakeholders.ofcom.org.uk/binaries/consultations/copper/annexes/loop.pdf>.

<sup>114</sup> We also note that it may take some time for a new technology to be recognised as the MEA for accounting purposes.

<sup>115</sup> See Annex 5 for a technical description.

<sup>116</sup> See reference at footnote 61

<http://stakeholders.ofcom.org.uk/consultations/copper/value2/value2/>

Market Review Statement found, instead, that many customers do not consider that SIP Trunking and ISDN30 are, at present, equivalent.<sup>117</sup>

4.61 We therefore proposed to adopt an anchor pricing approach and went on to consider the most appropriate way to implement it.

*We consider that customers should benefit from a change to new technology flexibility through lower prices, which is consistent with the 'static anchor' approach*

4.62 We identified two variants of the anchor pricing principle:<sup>118</sup>

- under the 'static anchor' approach, the definition of the anchor product is fixed at the start of the control for the entire charge control period. Openreach would then be required to ensure that customers can purchase an equivalent product to the anchor product at no more than its price at the start of the control period, even after new technology is introduced. This approach ensures that the customer is not made worse off than he or she was at the start of the control period, as a result of new technology; and
- under the 'floating (or moving) anchor' approach, the definition of the anchor product changes over time, for example to reflect expected changes in usage and improvements in quality which would have been possible with existing technology. This ensures that customers are no worse off than they would have been in the absence of new technology.

4.63 We set out our view that it is likely to be desirable for ISDN30 prices to signal the relative costs of ISDN30 and newer alternatives, in order to encourage efficient migration. This would mean that customers might be worse off than they would have been in the absence of new technology (and that we would not adopt the moving anchor approach). However, the control would still make customers better off than they were at the start of the control period and would therefore be consistent with the static anchor principle.

*We will reflect the projected decline in ISDN30 volumes due to migration to IP based alternatives*

4.64 We proposed to reflect the projected decline in ISDN30 volumes due to migration to SIP Trunking in the volumes forecasts we use in our financial modelling. This was for the following reasons:

- it would result in a charge control that reflected the increased per unit cost of providing ISDN30 as the total volumes of ISDN30 fall. Because migration is initiated by end customers, this would encourage efficient outcomes where the price control is reflected in retail prices;
- there are material differences between ISDN30 and SIP Trunking services, which are in separate markets. This means it could be difficult in any case to calculate a 'combined volume' forecast; and
- SIP Trunking is not price regulated.

<sup>117</sup> See the market research we conducted as part of our Market Review, available at:

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30/narrowband.pdf>

<sup>118</sup> April 2011 Consultation, paragraph 4.39 – 4.43

- 4.65 Reflecting expected migration to SIP Trunking in our volume and cost projections means that ISDN30 charges will be higher than in the absence of any assumed migration. This means the control will not be consistent with the moving anchor principle but, as a result, charges will more closely reflect the costs of continuing demand for ISDN30 services and allow users to make an efficient choice between ISDN30 and SIP Trunking services. Those who continue to use ISDN30 will still benefit as wholesale ISDN30 charges will fall significantly in real terms over the life of the proposed control. The fact that users will be made better off than they were at the start of the control means that our proposed control is consistent with the static anchor principle described above. Hence we think that our approach combines protection for consumers who remain with the anchor product with prices which give appropriate signals to switch to lower cost alternatives if appropriate.
- 4.66 For the purpose of our cost modelling, we have ensured that costs relating to the roll-out of next generation access (NGA) are not included in the cost stack for copper products or ISDN30. Cost categories that relate exclusively to NGA, and in particular NGA equipment costs, have been excluded from the cost model. This treatment of NGA costs is consistent with the approach followed for the WLR and LLU 2012 Statement.
- 4.67 We have carried out cross checks to make sure that the unit costs of ISDN30 are not higher than they otherwise would have been as a result of the deployment of NGA. Specifically, we have:
- Excluded costs relating to the roll out of NGA from the cost stack for copper products and ISDN30 services;
  - Excluded cost categories that relate exclusively to NGA, in particular IT costs and NGA equipment costs; and
  - Allocated common costs across all services including NGA.
- 4.68 The deployment of NGA has two offsetting effects on the unit costs of ISDN30 produced by our model. Firstly, the reduction in the volume of copper lines as customers switch to NGA services delivered over fibre will tend to increase the average unit costs of copper-based services. On the other hand, as volumes of NGA grow, our model allocates an increasing share of common costs to NGA customers, reducing the amount of common costs recovered from users of copper-based services. The two effects are offsetting, so whether ISDN30 customers are made better or worse off by the introduction of NGA depends on which effect is greater in magnitude. We find that the unit costs resulting from our modelling are lower than they would have been in the absence of NGA. This is because the effect of the recovery of an increasing share of common costs from NGA products as NGA volumes grow (which reduces the unit costs of copper lines) outweighs the effect of the assumption of lower volumes of copper-based services (which increases the unit costs of copper lines). Thus the result of our modelling is consistent with our anchor pricing approach.

### Our April 2011 Consultation proposals

- 4.69 We proposed to:
- reflect expected migration to IP based alternatives (e.g. SIP Trunking) in our volume and cost projection for wholesale ISDN30 services; and

- ensure that prices fall from current levels and so are consistent with the static anchor pricing principle.

In the April 2011 Consultation we asked respondents the following question: *Do you agree with our proposal to apply the anchor pricing approach to wholesale ISDN30 services and reflect migration to IP based alternatives? If not, please explain why?*

#### April 2011 Consultation responses

- 4.70 Respondents generally agreed with the anchor pricing approach. No respondent argued for an alternative approach based on MEA costs, or argued that we should not take account of expected migration in the volume forecast, although Verizon<sup>119</sup> argued that switching will be slower than we assumed.
- 4.71 Openreach said that it understands the anchor pricing approach and agreed that it is sensible to base the charge control model on the costs of the existing technology. It also agreed that it is appropriate to take account of reductions in ISDN30 volumes due to switching to IP-based alternatives.<sup>120</sup>
- 4.72 UKCTA said that they largely welcome the proposals, but were concerned about, *“unintended consequences should prices decline too steeply”*. UKCTA’s concern is that large reductions in Openreach’s wholesale ISDN30 prices could undermine competing investments. It therefore urged us to set the value of X at the lower end of the range proposed.<sup>121</sup>
- 4.73 C&WW had earlier raised similar concerns in response to the ISDN30 2010 Market Review. We discussed C&WW’s concerns, and its proposal for the control to be based on the costs of an ‘efficient operator’, in the April 2011 Consultation.<sup>122</sup>
- 4.74 In its response, C&WW argued that we, *“should not take any action that results in CPs being penalised for past investment in PPC infrastructure”*.<sup>123</sup> However, C&WW agreed that *“under these specific circumstances”*, anchor pricing *“would seem an appropriate way to proceed in order to balance the shorter term interest of...consumers, while not undermining the ability of alternative infrastructure providers to compete”*.<sup>124</sup> C&WW has also now welcomed our steady state adjustments to BT’s costs as a pragmatic alternative to its proposal to set the control on the basis of ‘efficient operator costs’.<sup>125</sup>

<sup>119</sup> Verizon business response, paragraph 7,

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Verizon.pdf>

<sup>120</sup> Openreach response, page 8: <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>121</sup> UKCTA response, page 2: <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/UKCTA.pdf>

<sup>122</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>, paras 5.79 – 5.85

<sup>123</sup> C&WW response, page 2: <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/cw.pdf>

<sup>124</sup> C&WW response, page 6: <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/CW.pdf>

<sup>125</sup> C&WW response, page 9: <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/cw.pdf>

- 4.75 FCS supported Ofcom's approach but made no specific comments related to anchor pricing.<sup>126</sup>

### Our response and conclusions

- 4.76 We welcome the general support for the anchor pricing approach we proposed.
- 4.77 The anchor pricing approach is more consistent with the approach we have followed in other charge controls compared to the MEA approach. The anchor pricing approach will also tend to result in less sharp reductions in prices than a control based on estimates of (lower) MEA costs, which was a concern for both UKCTA and C&WW.
- 4.78 In the April 2011 Consultation we argued that our anchor pricing approach, based on costs which have been adjusted to represent their level in a 'steady state', would in fact address the concerns underlying C&WW's efficient operator proposal.<sup>127</sup> We note that C&WW now accepts this.<sup>128</sup>
- 4.79 We recognise that it is important that investors should be able to expect to recover their sunk costs. If CPs thought that regulation would change over time in ways which meant that they could not recover their investments, they would be deterred from investing in future. This is why we attach importance to regulatory consistency over time. An advantage of the anchor pricing approach is that it promotes regulatory consistency over time and is likely to allow operators to recover costs which have been sunk in existing technologies<sup>129</sup>. Our cross-check on the LRIC differentials between ISDN30 and PPC prices also ensures that incentives for investment in the most upstream wholesale input (PPCs) are maintained.
- 4.80 We therefore consider that the use of the anchor pricing approach based on steady state costs, and the maintenance of an appropriate differential between wholesale ISDN30 and PPC charges, effectively address the concerns of UKCTA and C&WW.
- 4.81 We respond to Verizon's comments on volume growth in Section 5.
- 4.82 In the light of the responses, we have adopted the proposals as set out in the consultation. We have therefore reflected expected migration to IP based alternatives (e.g. SIP Trunking) in our volume and cost projection for wholesale ISDN30 services.

### **We will only consider making one-off adjustments to the starting charges if there would otherwise be a real risk of distortion (Step 4)**

- 4.83 When implementing a charge control, a one-off adjustment can be used at the start of the control to bring prices in line with unit costs more rapidly. This would generally be followed by a gradual reduction over the subsequent years of the control (i.e. a

<sup>126</sup> Federation of Communication Services response:

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/FCS.pdf>

<sup>127</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>,

paras 5.79 – 5.85

<sup>128</sup> C&WW response, page 5: <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/CW.pdf>

<sup>129</sup> The MEA approach relies on the regulator being able to set prices correctly, based on the costs of the latest technology. If the regulator were to reduce charges whenever new (lower cost) technology emerges, there would be a risk of the creation of windfall losses on existing assets and a consequent increase in uncertainty and regulatory risk, as investors would be concerned that they might not be able to recover their costs.

glide-path). The alternative is to only implement a glide-path for the duration of the control that starts at the level of current prices. We have considered whether one-off adjustments would be appropriate for any of the wholesale ISDN30 services subject to this charge control.

### Our April 2011 Consultation proposals

#### *We expressed our general preference for glide-paths*

- 4.84 In the April 2011 Consultation we expressed our general preference for glide-paths, rather than a one-off adjustment.<sup>130</sup>
- 4.85 Under a glide-path approach, the charge control brings about a gradual convergence of prices and unit costs over the period of the control. We argued that this was preferable because it approximates more closely the workings of a competitive market in which excess profits are gradually eroded as rivals improve their own efficiency. Unlike one-off adjustments, the glide-path avoids discontinuities in prices over time and leads to a more stable and predictable background against which investment and other decisions may be taken, by both suppliers and customers in the telecoms market. We argued that this is particularly important for telecoms as there are currently many players besides BT.<sup>131</sup>
- 4.86 Additionally, we noted that in a charge control that uses a glide-path to decrease prices, cost reductions feed into price reductions only after a period during which the firm is allowed to retain the benefits of increased efficiency. For this reason a glide-path provides greater incentives for efficiency.<sup>132</sup>
- 4.87 We considered that, while the charge control incentive arguments could be of less relevance to wholesale ISDN30 services, the potential impacts of one-off charge changes on regulatory certainty and stability could be more so. We were particularly concerned with the impact of one-off cuts on OCPs' investments, for example, their choice between their own networks, 2Mbit/s PPCs or Openreach's wholesale ISDN30. We considered that unexpected one-off adjustments could suddenly render the choices between these technologies economically inappropriate and would not necessarily best reflect outcomes likely in competitive markets (whereby surplus profits are gradually eroded).<sup>133</sup>

#### *We indicated that we would consider one-off cuts in some circumstances*

- 4.88 In the April 2011 Consultation we explained that in cases where a new charge control for one-way access services replaces a similar expiring control on the same set of services, we have a strong preference for glide-paths rather than one-off adjustments to charges.<sup>134</sup> However, in the case of wholesale ISDN30 services, which had not previously been charge controlled, the arguments in favour of a glide-path approach

<sup>130</sup> See the April 2011 Consultation, paragraph 4.48-4.62 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>131</sup> See the April 2011 Consultation, paragraph 4.59-4.60 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>132</sup> See the April 2011 Consultation, paragraph 4.61 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>133</sup> See the April 2011 Consultation, paragraph 4.62 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>134</sup> See the April 2011 Consultation, paragraph 4.58 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

were less relevant. We therefore discussed the circumstances under which we might consider one-off reductions. These included, for example, scenarios where:

- there are strong allocative efficiency arguments for bringing prices into line with costs sooner; and/or
- the previous charges were unregulated or are not subject to charge control and where Openreach's charges are high relative to costs.<sup>135</sup>

4.89 We argued that in assessing possible one-off reductions, we need to balance these factors against alternative (and potentially more proportionate) regulatory approaches. We also need to consider the materiality of the issue (particularly given the risk of damage to incentives associated with one-off adjustments).<sup>136</sup>

4.90 We considered that DLRIC<sup>137</sup> and DSAC,<sup>138</sup> are reasonable benchmarks to inform our judgement of the appropriate balance between one-off adjustments at the start of the control and glide-paths, because of the higher risk of distortion where prices are outside the range between DLRIC and DSAC.<sup>139</sup> We proposed to compare Openreach's wholesale ISDN30 charges with the relevant DSACs in order to identify any possible need for one-off reductions. If charges are above DSAC, there is likely to be a good case for one-off reductions. If charges are below DSAC, but above FAC, the case for one-off reductions is likely to be much less strong, in the absence of other factors. We discuss the outcome of our analysis in more detail in Section 5.<sup>140</sup>

#### April 2011 Consultation responses

4.91 We did not receive any responses relating to our proposed general framework for one-off adjustments. We did, however, receive some responses related to our specific approach to one-off adjustments for each of the wholesale ISDN30 core services. We address these responses in paragraphs 5.277 to 5.299 below.

#### **We have used RPI as the relevant inflation index**

4.92 The retail price index (RPI) is often used when implementing an RPI-X control, however we have considered whether an alternative measure of inflation could be used.

<sup>135</sup> See the April 2011 Consultation, paragraph 4.63 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>136</sup> See the April 2011 Consultation, paragraph 4.65 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>137</sup> Distributed Long Run Incremental Cost (DLRIC).

<sup>138</sup> Distributed Stand Alone Ceiling (DSAC).

<sup>139</sup> In the April 2010 Consultation we stated that DSAC and DLRIC are used in the context of cost orientation, however, for the avoidance of doubt we are not imposing any cost orientation obligations on Openreach's wholesale ISDN30 charges and are using DSAC and DLRIC values, in this context, for the specific purpose of informing our one off adjustment assessment.

<sup>140</sup> See the April 2011 Consultation, paragraph 4.66-4.67 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

## Our April 2011 Consultation proposals

4.93 In the April 2011 Consultation we considered some alternative price indexes, such as the consumer price index (CPI) or telecommunications specific price indices.<sup>141</sup> However, we proposed to use the retail price index (RPI) measure of inflation in the charge control formula (i.e. RPI-X) because:

- RPI is familiar to stakeholders; and
- we considered that it was important to index price levels against a fixed measure which is outside the control of the firm subject to the price cap.<sup>142</sup>

4.94 In the April 2011 Consultation we asked respondents the following question: *Do you agree that the proposed charge control on wholesale ISDN30 should be indexed to RPI?*

## April 2011 Consultation responses

4.95 Openreach indicated that RPI is the most appropriate inflation index as it is “widely used” and is the typical inflation measure used to set price caps in other sectors subject to economic regulation. Furthermore, it considered that there were no reasons why we should diverge from previous regulatory precedent. However, it noted that the need to re-use equipment could make the provision of ISDN30 particularly labour intensive and that this could result in unit costs increasing more than RPI, with limited scope for efficiency gains. In this case, Openreach argued that RPI could be considered a “harsh indexation metric”.<sup>143</sup>

4.96 C&WW and UKCTA stated that CPI had gained significant popularity since it was introduced in the mid-1990s and that many organisations had adopted CPI instead of RPI as the preferred measure of inflation (C&WW refers to the example of HM Government). Both respondents urged us to initiate a “comprehensive review of the two measures of inflation” in the near future.<sup>144</sup>

## Our response and conclusions

4.97 We agree with Openreach that RPI benefits from being a price index which has been widely used by both Ofcom and other regulators. As noted by Openreach, the use of RPI is consistent with our previous practice and we see no reason to deviate from this for the ISDN30 charge control.

4.98 In relation to Openreach’s argument that RPI may result in a “harsh indexation metric”, due to the need to re-use equipment to provide ISDN30, we believe that this should be addressed through an allowance for additional costs in our steady state model. We do not consider that a change in the inflation index used in the charge

<sup>141</sup> A drawback of telecoms equipment price indices, for example, is that they could be affected by BT’s purchases, given BT’s size.

<sup>142</sup> See the April 2011 Consultation paragraphs 4.68-4.70 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>143</sup> Openreach response to our April 2011 Consultation, see para. 30-32 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>144</sup> C&WW response to our April 2011 Consultation, see p. 7 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/cw.pdf> and UKCTA response to our April 2011 Consultation, see para. 10 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/UKCTA.pdf>

control is an appropriate way to address this concern. We discuss the need for re-use of equipment to provide ISDN30 in paragraphs 5.210 to 5.221 below.

- 4.99 We also note that RPI is the inflation index used in the WLR and LLU 2012 Statement. We believe it is important that we use the same measure of inflation because, amongst other reasons, we use the same cost models.
- 4.100 We consider that C&WW and UKCTA's proposal that we should initiate a comprehensive review of the two measures of inflation (RPI and CPI) in the near future is outside the scope of this Statement.
- 4.101 In light of the above, we have used RPI as the relevant inflation index for our charge controls on wholesale ISDN30 services.

### **We will use prior year revenue weights**

- 4.102 Under a basket approach, it is necessary to calculate the basket weights that are used in the calculation of the values of X. These basket weights are also used to assess Openreach's compliance with the controls.

### Our April 2011 Consultation proposals

- 4.103 The control proposed in the April 2011 Consultation limited the weighted average increase in Openreach's charges to a maximum of RPI-X. In our April 2011 Consultation we discussed two main methods of calculating these weights: 'prior year revenue weights' or 'current year revenue weights'.<sup>145</sup>
- 4.104 Under the prior year weighting approach, basket weights are 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 occurs. Under the current year weighting approach, the weights are set equal to the proportion of current year basket revenues accounted for by each service as a proportion of total current year revenues. A current year weighted control may take the form of a control on average revenue.<sup>146</sup>
- 4.105 We recognised that one of the drawbacks of prior year revenue weights was that it did not allow for relative price or volume changes during the year in question (though these would of course be included in the weighting for the following year). For this reason, in cases where the volumes of services within a basket are expected to change markedly, the regulated company has an incentive to concentrate the price decreases on the product whose volumes are expected to decrease and concentrate price increases in the products whose volumes are expected to increase.<sup>147</sup> By exploiting changes in basket weights in this way, the

<sup>145</sup> See the April 2011 Consultation paragraphs 4.74 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>146</sup> See the April 2011 Consultation paragraphs 4.75 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>147</sup> For example, imagine a basket of two products, X and Y. In year 2009 product X was sold at price £10 and quantity 60 while product Y was sold at price £10 and quantity 40, making total revenues of £1000. In this case, the prior year revenue weight for the year 2010 will be 60% for product X and 40% for product Y, while the average price will be £10. Suppose that as a result of regulation the basket of these two services is subject to a 10% price decrease for the year 2010 (i.e. the weighted average price in 2010 should not be higher than £9). However, suppose in year 2010 the company knows that there will be a change in the relative weight of each product in the basket and that it will only sell 40 units of product X and 60 of product Y. In this situation, the company has an incentive to

firm can reduce the effectiveness of the charge control; increasing its profits without necessarily making efficiency gains. We explained that the risk that changes in weights over time will be exploited can be addressed using a sub-cap on the charge for the service whose weight is expected to increase. In this way, it is possible to avoid or at least minimise the risks inherent in using prior year weights without the drawbacks of current year weights.<sup>148</sup>

- 4.106 We nonetheless proposed to adopt prior year weighting because current year weighted controls have two significant disadvantages. The first is that current year weights cannot be calculated with certainty until after the end of the charge control year in which compliance is being assessed. This means that, to decide how far to reduce prices, the firm has to make forecasts of weights, with the consequent need for retrospective adjustment for forecast errors.
- 4.107 Secondly, current year weights create a potential disadvantage in instances when the control takes the form of a control on average revenue. In this situation, average revenue can be affected by product mix within the basket. For example, average revenue will fall if the quantity sold of a lower price product within the basket increases relative to the quantity sold of a higher priced product, even if the prices of both products are unchanged.<sup>149</sup>
- 4.108 By contrast, a prior year weighted control relies only on revenue information which is (or can be) already known when setting prices to comply with the control. In addition, it also has some theoretical advantages which mean that, under certain conditions, it can induce the regulated firm to set prices to recover common costs in an efficient way.<sup>150</sup>
- 4.109 In the April 2011 Consultation we asked respondents the following question: *Do you agree with the use of prior year revenue weights when setting charge control baskets? If not, please explain why?*

#### April 2011 Consultation responses

- 4.110 We only received responses to this question from Openreach and C&WW. C&WW agreed with the use of prior year revenue weights given the relatively stable nature of revenues and the predictable and steady decline in the demand for ISDN30 services.<sup>151</sup> Openreach noted that prior year revenue weights are a proportional and practical approach and that it has worked successfully in previous charge controls.
- 4.111 Openreach highlighted in its response what it felt were the disadvantages of current year volume weights, including:

---

concentrate the price cuts on the service whose volumes are decreasing while concentrating price increases on the service whose volumes are increasing. For example, by setting prices equal to, say, £6 for product X and £13 for product Y it would obtain revenues of £1020 while still meeting the charge control conditions, given that the weighted average price of the basket will be £6 x 60% + £13 x 40% = £8.8.

<sup>148</sup> See the April 2011 Consultation paragraphs 4.79 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>149</sup> See the April 2011 Consultation paragraphs 4.76-4.77 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>150</sup> See the April 2011 Consultation paragraphs 4.78 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>151</sup> C&WW response to our April 2011 Consultation, see p. 7 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/cw.pdf>

- Price volatility: resulting from the need to adjust prices mid-year to reflect differences between actual and forecast volumes;
- Practicality: the need to obtain and validate demand forecasts from CPs, which would place an unnecessary and disproportionate burden on CPs, Openreach and Ofcom.<sup>152</sup>

4.112 Openreach further noted that given that volumes of all ISDN30 services are expected to decline over the period of the charge control, prior year revenue weights do not allow for gaming by concentrating price decreases on the products whose volumes are expected to decrease and price increases on the products whose volumes are expected to increase.<sup>153</sup>

### Our response and conclusions

4.113 We welcome stakeholders' support for the use of prior year revenue weights. We agree that they are a proportionate and practical approach and that they have worked well in previous charge controls. We support the view that, as discussed in our April 2011 Consultation, current year revenue weights have several disadvantages. We agree with Openreach that the scope for gaming may be limited in this charge control by the fact that the volumes of all ISDN30 services are expected to decline during the charge control period. We note that, in spite of being introduced for other reasons, the scope for gaming will also be limited by the use of sub-caps within the combined basket.

4.114 We have therefore used prior year revenue weights when setting the charge control baskets.

---

<sup>152</sup> Openreach response to our April 2011 Consultation, see para. 33-34 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>153</sup> Openreach response to our April 2011 Consultation, see para. 35 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

## Section 5

# Charge control framework

## Introduction

5.1 In this section we discuss the following details of our charge control framework for wholesale ISDN30 services that build on the economic principles of Section 4:

- our decision on the charge control baskets for the relevant services;
- our assessment of Openreach's base year costs and the additional adjustments we have decided to make;
- our forecast of adjusted base year costs to 2013/14. In particular we discuss the assumptions we have used and their likely impact on future costs;
- our decisions regarding possible adjustments to the starting charges of some services (one-off adjustments);
- our decisions on the values of X for the relevant basket(s) of services;
- potential implications of our charge control; and
- how our proposed charge control conditions meet the relevant tests set out in section 88 and 47 of the Act.

## Summary of our decisions

5.2 Table 5.1 below summarises the charge control baskets for wholesale ISDN30 services.

**Table 5.1 Our charge control baskets for wholesale ISDN30 services**

Baskets	Services included	Revenues 2010/11 (£m) <sup>154</sup>	Charge control	Safe-guard caps
Wholesale ISDN30 Rental & Connections	Rental per channel p.a. Connections - Fixed - Per channel Enhanced care - Service Level 3 - Service Level 4	308 9  <sup>155</sup>	RPI-13.75%	RPI+5% (on the average connection charge) RPI % (on each enhanced care service)
Wholesale ISDN30 transfers	Charge per 30 channel access bearer	1	RPI %	N/A
Wholesale ISN30 Direct Dial-In (DDI)	Wholesale ISN30 DDI - Planning - Connection per DDI - Rental per DDI	N/A	RPI % (on each DDI charge)	N/A

5.3 In addition to the RPI-X controls summarised in the above table, we are also imposing the following **safe-guard caps** to ensure that Openreach does not use the pricing flexibility afforded to it in an anti-competitive manner:

- a safe-guard cap of RPI+5% on the average connection charge. This will limit the potential increase in the average connection charge to RPI+5% in nominal terms, while allowing Openreach some flexibility in rebalancing the individual connection charges (see paragraph X onwards);
- a safe-guard cap of RPI % on each enhanced care service; and
- a safe-guard cap of RPI % on each DDI service.

5.4 In relation to the costs of wholesale ISDN30 services, we have made the following adjustments and forecasts that affect the calculation of the charge control:

- We have made a number of adjustments to Openreach's base year (2010/11) costs. The impact of our cost adjustments is to increase base year rental costs by £82m or £39/channel;
- We forecast costs in 2013/14 to be £200m across the two core charge control baskets (excluding DDI services). Our forecast is in part based on industry forecasts of ISDN30 volumes and our assumptions regarding, among other things, future efficiency gains.

<sup>154</sup> As per BT's RFSs in 2010/11, page 41.

<sup>155</sup> This figure is estimated. See Annex 6 for a more detailed explanation of our calculation.

- 5.5 We have not made any one-off adjustments to the **starting charges** of wholesale ISDN30 services.
- 5.6 We have investigated the **potential impact** of our proposed charge controls:
- Our analysis suggests that the resulting falls in wholesale ISDN30 charges are likely to induce only a small proportion (around 5%) of ISDN30 channels currently provided over Partial Private Circuits (PPCs) to switch to Openreach's wholesale ISDN30 services.
  - We also consider that the difference in the prices of wholesale ISDN30 and PPCs will not be reduced below the difference in their incremental costs. This means that operators will continue to have an incentive to use the more upstream input (i.e. PPCs) if this is overall the cost-minimising option.

### **Our decision on the design of the charge control baskets**

- 5.7 As described in Section 4, we decided that we prefer to implement charge controls covering several services (baskets) where possible. In deciding the most appropriate basket design we argued that we should strike the right balance between two potentially opposing considerations. On the one hand, broader baskets would allow Openreach more flexibility to set relative prices for its products and services in an efficient manner. On the other hand, when services in the same basket face different competitive conditions or BT Retail uses a different mix of wholesale inputs than its rivals, Openreach can use the pricing flexibility allowed by broader baskets to set prices in a way that undermines competition. In these cases we argued that we would be more likely to set more and smaller baskets, or seek to address this type of concern through the use of sub-caps.<sup>156</sup>
- 5.8 We have reached the following conclusions regarding the design of the charge control baskets.

### **We have set a combined basket for wholesale ISDN30 connections and rentals, with a sub-cap on connections, and a separate control for transfers**

#### Our April 2011 Consultation proposals

- 5.9 In our April 2011 Consultation we considered three basket design options:<sup>157</sup>
- Option 1: Separate baskets for each of the core wholesale ISDN30 services;
  - Option 2: A combined basket for wholesale ISDN30 connections, rentals and transfers; and
  - Option 3: A combined basket for wholesale ISDN30 connections and rentals, with a sub-cap on connections, and a separate control for transfers.

<sup>156</sup> See the April 2011 Consultation paragraph 5.7, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>157</sup> See the April 2011 Consultation paragraph 5.8, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

### *A combined connections and rentals basket*

- 5.10 We considered that although Option 1 had the benefit of giving the least scope for anti-competitive pricing, it would not be appropriate because such narrowly defined baskets were likely to constrain Openreach prices unduly. Option 2, on the other hand, would provide a degree of pricing flexibility to Openreach that could be used for anti-competitive purposes. In particular, we noted that BT Retail used rentals proportionally more than connections and transfers compared to Openreach's wholesale customers. We were concerned that Openreach would therefore have an incentive to concentrate price reductions on rentals while increasing the price on connections and transfers. This would allow Openreach to increase its profits while still meeting the conditions of the charge control. We also noted that the price increase in connections and transfers could be relatively large, because these services only represent around 3% of the combined revenues of core wholesale ISDN30 services (i.e. significant price increases on transfers and connections could be compensated by small price decreases on rentals while still meeting a combined target price).
- 5.11 We also considered that a price increase in transfers could be strategically beneficial to Openreach as it would deter customers switching away from BT Retail's ISDN30 services. We believed that – as ISDN30 volumes decline in future – such a strategy would become increasingly attractive, as competition for the remaining ISDN30 customers was expected to increase.<sup>158</sup>
- 5.12 We therefore proposed to adopt Option 3. We argued that a combined rentals and connections basket would provide Openreach with sufficient pricing flexibility to recover the underlying costs of providing these services. In particular we noted that the current price of rentals was close to DSAC, while the average connection price was below our estimate of FAC. In this case, if we set a separate connection basket Openreach was likely to increase prices to the fullest extent allowed by the cap, which would not be necessarily beneficial for consumers. Instead, a combined basket would give more flexibility to Openreach to choose a slower rate of rebalancing between the connection and rental charges.<sup>159</sup>

### *A safe-guard cap on connections*

- 5.13 We also considered it appropriate to set a safe-guard cap on the average connection charge. This would address the concerns set out in paragraph 5.10 above, which arise from the fact that Openreach's rivals have tended to purchase proportionally more connections than rentals.<sup>160</sup>
- 5.14 We recognised that a sub-cap would increase the complexity of the basket design, however we considered that the small number of services (five) contained in the basket meant that the basket was not unduly complex.<sup>161</sup>

<sup>158</sup> See the April 2011 Consultation paragraphs 5.10-5.16, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>159</sup> See the April 2011 Consultation paragraph 5.17-5.21, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>160</sup> See the April 2011 Consultation paragraph 5.22, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>161</sup> See the April 2011 Consultation paragraph 5.23, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

### *A separate basket for transfers*

- 5.15 We proposed a separate charge control on transfers due to the important role they play in facilitating switching between providers at the retail level. We argued that a separate charge control would constrain the price of transfers, limiting price increases. This would limit unintended consequences such as high switching costs that could harm competition and reduce consumer welfare, addressing the concerns set out in paragraph 5.11 above.<sup>162</sup>
- 5.16 We noted that Openreach levied two separate transfer charges: a connection charge per access bearer and a pre-validation charge. In the case of the latter, due to its low volumes,<sup>163</sup> we proposed to treat it as an ancillary service and as such not subject to the charge control set here. Our treatment of ancillary services is discussed in paragraphs 5.99 to 5.100.<sup>164</sup>

### *No cost orientation obligation*

- 5.17 We did not propose to impose a cost orientation obligation on core wholesale ISDN30 services subject to the charge control.<sup>165</sup>

### *Differences with WLR/LLU*

- 5.18 We noted that our basket design proposal differed from the proposal for separate baskets for each core service in the WLR and LLU 2011 Consultation.<sup>166</sup> We explained that this reflected differences in the objectives pursued in WLR/LLU when compared to wholesale ISDN30. In particular, Wholesale Line Rental (WLR)/Shared Metallic Path Facility (SMPF) and Metallic Path Facility (MPF) could both be used to provide voice telephony and broadband internet access at the retail level. One of the considerations for imposing separate controls in WLR/LLU was to limit Openreach's flexibility in setting connection and rental charges in a way that would favour BT Retail, which only uses WLR+SMPF, over its competitors, which increasingly use MPF. We indicated that we did not have similar concerns in wholesale ISDN30 and therefore we believed that the benefits of combining connections and rentals in a single basket would outweigh the costs.<sup>167</sup>
- 5.19 In the April 2011 Consultation we asked respondents the following question: *Do you agree with our proposal to implement a combined basket for wholesale ISDN30 connection and rental services and a separate basket for transfers? Do you also agree with our proposal not to impose a cost orientation obligation on core wholesale ISDN30 services? If not, please explain why.*

### April 2011 Consultation responses

- 5.20 We received responses to this question from C&WW and Openreach. C&WW stated that a combined basket including rentals and connections (subject to a safeguard

<sup>162</sup> See the April 2011 Consultation paragraph 5.25, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>163</sup> ✂

<sup>164</sup> See the April 2011 Consultation paragraph 5.26, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>165</sup> See the April 2011 Consultation paragraph 5.29, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>166</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc/summary/condoc.pdf>

<sup>167</sup> See the April 2011 Consultation paragraph 5.30, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

cap) “*struck the right balance*” between allowing Openreach some flexibility to rebalance both charges while still providing pressure to reduce prices overall. C&WW also agreed with our proposal to include transfers under a separate control in order to preclude Openreach from using any pricing flexibility to set prices at a level that would undermine switching and competition.<sup>168</sup>

- 5.21 Openreach supported the adoption of a combined basket, as it considered that a combined basket provided greater pricing flexibility and was likely to lead to more efficient pricing.<sup>169</sup> It also agreed that a cost orientation obligation was not necessary, given that our primary objective for this charge control was to prevent Openreach from setting excessive charges for wholesale ISDN30 services while providing incentives for it to be efficient. In this case, it agreed with our proposal that a charge control, together with the other regulatory obligations (such as the requirement for the charges to be fair and reasonable and not unduly discriminatory), were sufficient to meet this objective.<sup>170</sup>
- 5.22 Openreach disagreed with our approach to transfers services, arguing that this service should be included within the connections and rentals basket. It noted that this approach would be in line with Ofcom’s stated preference for broad baskets and that there were no good reasons for excluding transfers from the combined connections and rentals basket, as the same reasons for using a broad basket applied to transfers.<sup>171</sup>

### Our response and conclusion

#### *We have combined connections and rentals in a single basket*

- 5.23 We recognise that stakeholders have expressed support for the use of a combined rentals and connections basket (with a sub-cap on connections), and that no stakeholders have argued that we should not follow this approach. We have therefore adopted this approach.

#### *We have set a separate control on transfer services*

- 5.24 We do not accept Openreach’s view that it is not necessary to impose a separate control on transfer services and that these should be included within the combined connections and rentals basket. Instead, we consider that the reasons for setting a separate control on transfer, as discussed in our April 2011 Consultation, remain relevant.
- 5.25 Firstly, Openreach has tended to use rentals proportionally more than the transfers and connections services over the recent past, as shown in Table 5.2 below. This implies that without adequate safeguards, Openreach would have an incentive to increase the prices of transfers and connections and compensate these by small price decreases on rentals.

<sup>168</sup> C&WW response to our April 2011 Consultation, see p. 7 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/cw.pdf>

<sup>169</sup> Openreach response to our April 2011 Consultation, see para. 36 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>170</sup> Openreach response to our April 2011 Consultation, see para. 38 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>171</sup> Openreach response to our April 2011 Consultation, see para. 37 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

**Table 5.2 Share of total wholesale ISDN30 service volumes by Openreach's internal and external customers**

		2007	2008	2009	2010	2011
<b>Rentals</b>	<i>Internal</i>	86%	80%	75%	68%	61%
	<i>External</i>	14%	20%	25%	32%	39%
<b>Connections</b>	<i>Internal</i>	80%	72%	62%	56%	59%
	<i>External</i>	20%	28%	38%	44%	41%
<b>Transfers</b>	<i>Internal</i>	24%	46%	44%	31%	30%
	<i>External</i>	76%	54%	56%	69%	70%

*Source: BT RFSs 2008/09, 2009/10 and 2010/11.*

- 5.26 Secondly, as explained in paragraph 5.10 above, if we combined all three core services in a single basket, Openreach's incentive to increase the prices for connections and/or transfers would be facilitated by the relatively low revenues of these two services when compared to rentals. Transfers and connections revenues would have only represented around 3% of a basket combining all three core services in 2011.<sup>172</sup>
- 5.27 Thirdly, we still consider it necessary to limit Openreach's ability to increase the price of transfers to hinder switching from BT Retail to OCPs. Switching plays an important role in maintaining competition.
- 5.28 In the April 2011 Consultation we presented evidence showing that the number of transfers over the period 2008-2010 had remained fairly stable in spite of the declining ISDN30 market<sup>173</sup> and we noted in particular that during the current economic downturn (with a decline in the total ISDN30 market) we had observed an increase in the volumes of transfers.<sup>174</sup> In this regard, Table 5.3 below shows that transfers volumes have increased in 2011, in spite of a declining ISDN30 market. We consider that this is evidence that transfers will likely remain important throughout the charge control period.

<sup>172</sup>See BT's 2010/11 RFS, page 41, available at [www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2011/CurrentCostFinancialStatements2011.pdf](http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2011/CurrentCostFinancialStatements2011.pdf)

<sup>173</sup>See the April 2011 Consultation, paragraph A8.68 and Figure A8.4, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>174</sup>See the April 2011 Consultation, paragraph 5.15, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

**Table 5.3 Transfers and rentals volumes (2006-2011)**

	2006	2007	2008	2009	2010	2011
<b>Rentals</b>	2,178,341	2,250,650	2,304,711	2,377,302	2,202,511	2,181,655
<b>Transfers</b>	164,394	186,737	347,084	302,262	320,253	416,104
<b>Transfer volumes as % of rentals</b>	7.5%	8.3%	15.1%	12.7%	14.5%	19.1%

*Source: BT RFSs 2006/07, 2008/09, 2009/10 and 2010/11.*

*The differences with the basket design in WLR/LLU are justified*

- 5.29 As we discuss at paragraph 5.18 above, our basket design for wholesale ISDN30 core services differs from the separate controls being imposed in the WLR and LLU 2012 Statement.<sup>175</sup> For the reasons described in our April 2011 Consultation, we remain of the view that differing economic conditions between wholesale ISDN30 and WLR/LLU justify our different approach.
- 5.30 Table 5.2 above shows that in 2011, the 'external' sales of rentals and connections were similar at 39% and 41%, respectively. If these shares remain similar in future, this will reduce any incentive on Openreach to adjust prices in a way which could disadvantage other operators. This indicates that a single basket including connections and rentals is appropriate, although we also propose to retain the sub-cap in the light of the historic disparity between the external shares of rentals and connections as well as the risk that such a disparity could re-emerge in future.
- 5.31 In summary, we continue to believe that a basket combining the three core services would not be appropriate and that a separate control on transfers services is needed for the reasons discussed above.

#### *Our conclusion*

- 5.32 In light of the above, we have set a combined basket for wholesale ISDN30 connections and rentals and a separate control for transfers.
- 5.33 Table 5.4 below lists the services included in the core baskets for wholesale ISDN30 services.

<sup>175</sup> See [http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc/statement/LLU\\_WLR\\_CC\\_statement.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc/statement/LLU_WLR_CC_statement.pdf) page 2

**Table 5.4 Baskets for core wholesale ISDN30 services**

Baskets	Charges included
Wholesale ISDN30 rentals& connections	Rental per channel per year (currently £141/per channel) One-off connection charge (currently £550/per site) Per channel connection charge (currently £30/channel)
Wholesale ISDN30 transfers	Charge per 30 channel access bearer (currently £75)

## We have applied a safe-guard cap on the average connection charge

### Our April 2011 Consultation proposals

- 5.34 In our April 2011 Consultation we noted that Openreach levied two different connection charges, with an average connection price of £40.71 per channel. A *per-site* connection charge of £550 levied on a *per new site* basis<sup>176</sup> and a £30 *per channel*<sup>177</sup> charge.<sup>178</sup>
- 5.35 Openreach had indicated to us that this charging structure was in place for historical reasons and that the *per-site* charge allowed it to recover upfront some of the sunk costs involved in connecting a bearer to a site, particularly given that it had no early termination charges (ETC) or minimum term contracts (MTC) in place at the wholesale level.<sup>179</sup>
- 5.36 We argued that some level of rebalancing between the two connection charges was likely to be desirable, as long as it did not have anti-competitive effects. This followed from the fact that connections was the main driver of Openreach's capital investment in ISDN30 and the fact that most connection costs seemed to be driven by the number of new sites connected (rather than the number of channels), whereas the opposite was true for the revenues, which were mostly obtained from the per channel charge.<sup>180</sup>
- 5.37 We considered that the risk of anti-competitive effects arising from the rebalancing of the *per-site* and *per channel* connection charges was relatively low. We looked at the percentage distribution of ISDN30 circuits provided by Openreach by their level of channel utilisation and disaggregated on an internal (BT Retail) and external (re-

<sup>176</sup> This charge only applied once (i.e. was not charged when additional new bearers were required at the same site) and was independent of the number of ISDN30 channels connected. On average this connection charge was levied on 33% of the total number of ISDN30 bearers and, taking into account that Openreach estimated an average of 17 channels per bearer, it contributed around £10.71 to the average per channel connection charge (i.e. £550x33% divided by 17 was roughly £10.71, which in addition to the £30 per channel charge levied by Openreach was roughly equal to the average £40.71 connection charge per channel).

<sup>177</sup> This charge was levied on every channel connected.

<sup>178</sup> See the April 2011 Consultation paragraph 5.32, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>179</sup> See the April 2011 Consultation paragraph 5.33, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>180</sup> See the April 2011 Consultation paragraph 5.34-5.35, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

sellers) basis.<sup>181</sup> We did not observe a substantial difference in the channel utilisation of BT Retail customers and re-sellers and, on this basis, concluded that the incentives on Openreach to rebalance the connection charges in an anti-competitive manner were likely to be small. We also noted that any such behaviour would be limited by the regulatory obligations not to unduly discriminate<sup>182</sup> and to set charges that are fair and reasonable<sup>183, 184</sup>.

### *A safe-guard cap of RPI+5% on the average connection charges*

- 5.38 We argued that, within the combined rentals and connections basket, Openreach's ability to increase the average connection charge should be limited. This was to address the concerns set out in paragraph 5.10 above. We considered RPI+5% was appropriate as this would allow the average connection price to rise close to the estimated average FAC by the end of the control (2013/14).<sup>185</sup>
- 5.39 We stated that the sub-cap should apply to the increase in the average connection charges. We did not consider that sub-caps on the individual charges were necessary because Openreach was unlikely to have an incentive to distort the balance of charges, as explained in paragraph 5.37 above. We also considered that we did not need a 'true-up' mechanism of the kind often used when charge control compliance is assessed using current year weights.<sup>186</sup> This was because we expected the average to be reasonably stable and predictable and because the sub-cap was only a safeguard within the main basket, and therefore not necessarily expected to be binding.<sup>187</sup>
- 5.40 In the April 2011 Consultation we asked respondents the following question: *Do you agree with our proposal to impose a safe-guard cap of RPI+5% on the average connection charge? If not, please explain why.*

### April 2011 Consultation responses

- 5.41 C&WW and Openreach both provided responses and agreed with our proposal to impose a sub-cap of RPI+5% on the average connection charge.<sup>188</sup> Openreach argued that it is not in its commercial interest to set an excessive price for connections as it has to find the right balance between two opposing objectives. On

<sup>181</sup> We recognised that it would have been better to analyse the number of channels on a per-site basis between internal and external customers. However, due to the difficulties in obtaining this information we considered that the internal and external distribution of ISDN30 circuits by their level of channel utilisation was a reasonable good proxy.

<sup>182</sup> See Condition AAA(IS)2 in Annex 5 of the Market Review

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30/summary/isbn30.pdf>

<sup>183</sup> See Condition AAA(IS)1(a) in Annex 5 of the Market Review

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30/summary/isbn30.pdf>

<sup>184</sup> See the April 2011 Consultation paragraph 5.36-5.37, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>185</sup> See the April 2011 Consultation paragraph 5.38-5.39, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>186</sup> In principle, the sub-cap is a kind of current-year weighted control on the average connection charge. Some other regulators have used current-year weighted controls as their primary means of controlling charges and have then usually employed ex post mechanisms to correct for errors in forecasting the basket weights ("true up" mechanism). A forecast is necessary because current year revenues will not be known until after the end of the "current year" in question.

<sup>187</sup> See the April 2011 Consultation paragraph 5.40, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>188</sup> C&WW response to our April 2011 Consultation, see p. 8 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/cw.pdf>

the one hand, Openreach does not want to incentivise inefficient demand (and associated new investment in a declining technology) by setting too low connection charges but, on the other hand, it has to maintain competitive prices with respect to alternative IP based technologies. For this reason, Openreach welcomed our proposal as it provides the flexibility to react to market demands in an efficient manner.<sup>189</sup>

- 5.42 C&WW also agreed that our proposal strikes the right balance between providing pricing flexibility and ensuring that connection charges are not excessive.<sup>190</sup>

### Our response and conclusion

- 5.43 We welcome the broad support for our proposal. Figure 5.1 below provides an update of the information we relied on in our April 2011 Consultation, discussed in paragraph 5.37 above, to decide that Openreach did not have an incentive to re-balance the two connection charges in an anti-competitive manner.

### **Figure 5.1 Percentage distribution of ISDN30 circuits by their level of channel utilisation and on an internal and external basis<sup>191</sup>**



*Source: Openreach S135 submission 3 February 2012.*

- 5.44 The evidence above shows that, in line with our finding in the April 2011 Consultation, there continues to be no significant differences in the channel utilisation of the bearers purchased by BT Retail's customers and re-sellers. The lack of such differences suggests that Openreach does not have an incentive to rebalance the connection charges in a way that could harm competition. We therefore remain of the view that Openreach's incentives to rebalance the two connection charges to favour BT's retail arm against re-sellers' interests are likely to be limited. We note that Openreach's behaviour will also continue to be constrained by the regulatory obligations not to unduly discriminate<sup>192</sup> and to set charges that are fair and reasonable.<sup>193</sup>
- 5.45 In light of the above, we have decided to set a safe-guard cap of RPI+5% on the average connection charge.

### **We have included enhanced care services in the combined rentals and connections basket, and imposed an RPI % safe-guard cap on each enhanced care level**

<sup>189</sup> Openreach response to our April 2011 Consultation, see para. 39-40 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>190</sup> C&WW response to our April 2011 Consultation, see p. 8 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/cw.pdf>

<sup>191</sup> Openreach provided the distribution of ISDN30 circuits by their channel utilisation for BT Retail in December 2011 using billing data and for all (Internal and External) customers using the 2010/11 RFS figures. We calculated the distribution of ISDN30 circuits for External customers as the difference between the BT Retail and RFS figures provided by Openreach.

<sup>192</sup> See Condition AAA(IS)2 in Annex 5 of the Market Review

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30/summary/isbn30.pdf>

<sup>193</sup> See Condition AAA(IS)1(a) in Annex 5 of the Market Review

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30/summary/isbn30.pdf>

## Our April 2011 Consultation proposals

- 5.46 In the April 2011 Consultation we noted that Openreach's customers had the possibility to choose between three enhanced care service (ECS) levels and a range of one-off expedited repair services. A significant share of its customers (25%) purchased ECS (Service Level 3 or 4) by the end of 2010. The one-off expedited repair services allowed customers to expedite repairs by moving from Service Level 3 to Level 4 at a one-off cost of £500 per bearer.<sup>194 195</sup>
- 5.47 We explained that we were concerned with the possibility that Openreach could profitably increase the prices of enhanced care services in order to recoup some of the lost revenues from the core rental products.<sup>196 197</sup>
- 5.48 We also discussed that the charges for ISDN30 ECS were significantly higher than those for WLR and LLU and that Openreach had failed to show that differences in prices between the two reflected differences in costs.<sup>198</sup>
- 5.49 In the April 2011 Consultation we considered five options for regulating ECS:
- Option 1: do nothing;
  - Option 2: apply a cost orientation requirement;
  - Option 3: impose a requirement on Openreach to keep the current relationship in the price of WLR and ISDN30 enhanced care services;
  - Option 4: impose a safe-guard cap; and
  - Option 5: apply a charge control on enhanced care services.<sup>199</sup>

### *We proposed to include enhanced care services within the combined connections and rentals basket*

- 5.50 We considered that a charge control on ECS (option 5) would be the most appropriate approach to ensure that Openreach would align the prices of these services with the underlying costs of supply and to limit any incentive to recoup lost profits from the regulation of core services. We proposed to include both ECS levels in the combined connections and rentals basket. The combined basket allows

<sup>194</sup> See Openreach Carrier Price List at:

<http://www.openreach.co.uk/orpg/home/products/pricing/loadProductPriceDetails.do?data=o1GUUZA4oSGmoXU5lc%2BgZQD265lt6W32TNnfEUU7w1FZ6rNZujnCs99NblKJZPD9hXYmijxH6wr%0ACQm97GZMyQ%3D%3D>

<sup>195</sup> See the April 2011 Consultation paragraph 5.42-5.44, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>196</sup> Openreach report revenues and costs of ISDN30 ECS as part of the overall WLR enhanced care services. Therefore they had been unable to obtain a disaggregation of the costs and revenues of ISDN30 ECS. Similarly, Openreach had not been able to provide a split of these services' volumes by internal and external customers.

<sup>197</sup> See the April 2011 Consultation paragraph 5.46, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>198</sup> See the April 2011 Consultation, paragraph 5.51, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>199</sup> See the April 2011 Consultation, paragraph 5.46, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

Openreach to set the relative prices between the two in an efficient manner and also constrains the prices of expedited repairs<sup>200, 201</sup>.

5.51 We did not consider that Options 1-4 were appropriate for the following reasons:

- Option 1: we did not believe that the standard care level (Service Level 2) would be able to constrain the price of ECS (Service Level 3 and 4). This was because we had no evidence that they were good substitutes and the current price premium on ECS was an indication that substitutability might be limited.<sup>202</sup>
- Option 2: we considered that a cost orientation obligation would not provide the necessary incentives on Openreach to align the prices of ECS with the underlying costs of provision. Although not a definitive test for compliance, DLRIC floors and DSAC ceilings are understood benchmarks for cost orientation.<sup>203</sup> We explained that the difference between the two cost thresholds tends to be large, given that a high proportion of Openreach's costs are common (the DSAC of a service includes a proportion of BT's common costs in addition to its incremental costs), rather than incremental to an individual service. This would result in significant differences in the magnitude of the DLRIC and DSAC. Additionally, the large proportion of common costs implied that the DSAC were likely to be considerably above the FAC and cost orientation would have allowed Openreach to price significantly above FAC. We also considered that it could be desirable to supplement cost orientation with an obligation to set the price differentials between the care levels appropriately, to avoid distortions in demand. This could be done by aligning the differentials to reflect responsiveness of demand to price changes and the underlying costs of provision. However, we considered that the information available to us was insufficient to do this accurately.<sup>204</sup>
- Option 3: this option would require Openreach to maintain a fixed relationship between the relative prices of WLR and ISDN30 ECS. We noted that in the WLR and LLU 2011 Consultation we had considered that WLR's ECS were constrained by the basic care service. We could therefore impose an obligation for the price difference between ISDN30's ECS and standard care to be aligned with the differential (or some multiple of the differential) between WLR ECS and the WLR standard service. This way, the standard WLR care would not only constrain the price of WLR and LLU ECS but also the prices of ISDN30 ECS. However, we considered that the differences between ISDN30 ECS and WLR/LLU ECS justified a different approach. While Openreach had harmonised ECS charges across WLR and LLU, it had not done so for ISDN30 services.<sup>205</sup> Specifically, in the case of ISDN30, ECS are charged on a *per*

<sup>200</sup> We noted that Openreach only offered expedited repairs from Service Level 3 to Service Level 4 for wholesale ISDN30 services. Expedited repairs were not available from Service Level 2 to Service Level 3.

<sup>201</sup> See the April 2011 Consultation, paragraph 5.53, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>202</sup> See the April 2011 Consultation, paragraph 5.48, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>203</sup> Other factors may be considered before concluding that a charge which is outside the DLRIC-DSAC range is in fact in breach of the cost orientation condition. The CAT commented on the correct application of the test for cost orientation in its judgment on BT's appeal of Ofcom's determination of the PPC dispute ([2011] CAT 5).

<sup>204</sup> See the April 2011 Consultation, paragraph 5.49, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>205</sup> For information on the repair service levels offered to Openreach WLR, LLU, ISDN2 and ISDN30 customers see:

*channel* (rather than a per line) basis and, even after adjusting for this difference, there appeared to be significant differences in the level of prices between WLR/LLU ECS and ISDN30.<sup>206</sup> We described in the April 2011 Consultation that Openreach had stated that this difference was due to ISDN30 services being more costly due to requiring more manual intervention. However, Openreach had not shown that charge differences reflected differences in costs. Therefore, we did not consider that this option would effectively bring ECS prices in line with costs.<sup>207</sup>

- Option 4: we considered that a safe-guard cap limiting further price increases (e.g. RPI %) would, on its own, allow Openreach to charge the current level of prices for ECS and, therefore, would not provide the right incentives on Openreach to align prices with the underlying costs of provision.<sup>208</sup>

*We proposed a sub-cap of RPI % on each ECS level (i.e. levels 3 and 4)*

5.52 We considered whether Openreach might have an incentive to set prices of care levels 3 and 4 strategically. If some ECS levels are used more by BT's competitors, Openreach could strategically raise the price of these ECS levels. We requested this information from Openreach. At the time of the April 2011 Consultation, Openreach indicated to us that it had no information on the distribution of its internal and external customers across the various ECS levels. We therefore could not determine whether such strategic incentives were likely. We therefore proposed a safeguard cap to address any possible risk that Openreach might have incentives set prices strategically. We argued that a sub-cap should not make it difficult for Openreach to adjust the configuration of services and/or the structure of prices to improve efficiency. Furthermore, given that ECS had been hitherto unregulated, we considered it reasonable to assume that relative charges had been set at the profit-maximising level. We did not see any reason to assume that price differentials should widen beyond these levels. We therefore considered it appropriate to impose a safeguard cap of RPI % on each ECS level.<sup>209</sup>

5.53 In the April 2011 Consultation we asked respondents the following question: *Do you agree with our proposal to include enhanced care services in the combined wholesale ISDN30 rental and connection basket? Do you agree that each of the enhanced care services should also be subject to a safe-guard cap of RPI %? If not, please explain why.*

#### April 2011 Consultation responses

5.54 Stakeholders expressed opposing views about our approach to ECS. C&WW agreed with our decision to set a charge control considering that even if ECS are only

---

<http://www.openreach.co.uk/orpg/home/products/pricing/loadProductPriceDetails.do?data=o1GUUZA4oSGmoXU5lc%2BgZQD265lt6W32TNnfEUU7w1FZ6rNZujnCs99NblKJZPD9hXYmijxH6wr%0ACQm97GZMyQ%3D%3D>

<sup>206</sup> For example Openreach's charges for Service Maintenance Level 3 are £25.20/per-channel for wholesale ISDN30 services and £37.20/per-line for LLU MPF services. On a per-line basis ISDN30 users are paying considerably more (£428 assuming an average of 17 channels per an ISDN30 bearer) for this level of care than users of this level of care for LLU MPF services.

<sup>207</sup> See the April 2011 Consultation, paragraph 5.50-5.51, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>208</sup> See the April 2011 Consultation, paragraph 5.52, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>209</sup> See the April 2011 Consultation, paragraph 5.54-5.56, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

purchased by 25% of Openreach's customers, they are often viewed as an essential part of ISDN30 services by those who purchase them. They also agreed with the additional protection that the safeguard cap would bring, and considered that this would not act as too severe a constraint on Openreach's commercial freedom.<sup>210</sup>

- 5.55 Openreach opposed the application of a charge control on ECS for several reasons. Firstly, it considered that such an approach would limit Openreach's incentives for innovative pricing.<sup>211</sup> Secondly, it considered that CPs and end users viewed ECS as a value-added service and that therefore they were only likely to purchase them where prices reflected "*the economic value of the product*". Due to these potential alternatives, Openreach was of the view that the market would provide an effective constraint on the prices of ECS.<sup>212</sup> Thirdly, Openreach considered that the existing regulatory obligations (including the obligations to provide network access on fair and reasonable terms and conditions, to notify charges and to not unduly discriminate) were sufficient to allow Ofcom to intervene if charges were not fair or reasonable.<sup>213</sup>
- 5.56 Lastly, Openreach argued that in our April 2011 Consultation we indicated that the concern we were aiming to address was Openreach's incentive to increase the price of ECS in order to recoup some of the lost revenues from the core rental product. This being the case, Openreach argued that a charge control would be inappropriate and unnecessary to achieve this objective for the following reasons:
- all historic and recent price movements on wholesale ISDN30 had been downwards;
  - demand for ECS was likely to be more elastic than for the core rental service, given that it depends on CPs' discretionary spend, and therefore Openreach was unlikely to be able to increase prices profitably; and
  - inconsistency between the approach to regulating ECS for WLR, LLU and ISDN30 could make Openreach more risk averse to broader innovations across the entire portfolio of ECS in the future.<sup>214</sup>

#### *Additional evidence on ECS submitted by Openreach in September 2011*

- 5.57 We discussed with Openreach whether additional information could be provided to support its claim that Openreach would be unable to increase the prices of ECS profitably (see paragraphs 5.55 to 5.56).
- 5.58 Openreach provided some additional information on 13 September 2011.<sup>215</sup> We summarise that information below.

#### **CPs use a range of alternatives to ECS**

<sup>210</sup> C&WW response to our April 2011 Consultation, see p. 8 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/cw.pdf>

<sup>211</sup> Openreach response to our April 2011 Consultation, see para. 41 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>212</sup> Openreach response to our April 2011 Consultation, see para. 42 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>213</sup> Openreach response to our April 2011 Consultation, see para. 43 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>214</sup> Openreach response to our April 2011 Consultation, see para. 44 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>215</sup> Openreach submission titled *ISDN30 Enhanced/Discretionary Services* of 13 September 2011.



described in paragraph 5.59 above) to mitigate the impact of an ISDN30 service outage.<sup>221</sup>

### **Demand for ECS over time**

5.62 Openreach explains that since the introduction of Service Harmonisation, demand for ECS has increased. Before Service Harmonisation, there was some variation between services in the times to repair faults. With the introduction of Service Harmonisation and the increase in volumes of LLU services with 'business class' fault repair times (leading to actual repair times becoming more closely aligned with Openreach's Service Level Agreements). Openreach suggests that CPs have started to focus on these headline fix times to mitigate the risk of failing the times agreed with their retail customers. As a result, demand for ISDN30 ECS has increased since the introduction of Service Harmonisation.

### **The price of each level of ECS has remained constant since their introduction**

5.63 Openreach further indicate that ECS level 4 was first introduced in May 2010 with the Service Harmonisation across all WLR and LLU services. Prior to this harmonisation there were only two services available to customers: service level 2, which has always been included in the standard rental charge, and service level 3, which is charged at a premium. Openreach states that the price of both service levels 3 and 4 has not changed since their introduction, at £25.20 and £27.20 per annum per channel, respectively. Openreach indicates that it has been difficult to ascertain the value of ECS to customers.<sup>222</sup>

### **Openreach maintains that price regulation will harm innovation and ECS customers**

5.64 Openreach's view is that the introduction of price regulation reduces Openreach's incentives to invest and innovate. Openreach argues that regulation makes it less likely that they will make a return that adequately reflects the risk of developing value-added products which are purchased at the discretion of the CP. They consider that Ofcom found that these arguments justified a change in the approach to WLR ECS and that a consistent regulatory approach across all WLR/LLU and ISDN30 services would benefit customers. Finally, they consider that the other regulatory obligations on ISDN30 would allow us to intervene if we considered that charges were not fair and reasonable.<sup>223</sup>

### **Our response and conclusion**

5.65 We acknowledge that respondents have expressed opposing views on our approach to ECS. C&WW agrees with our proposal to charge control these services, as in its view it is an essential element of the ISDN30 service for a significant share of its customers. It also considers that the safeguard caps on each individual ECS are appropriate and are unlikely to limit Openreach's commercial freedom. We respond to Openreach's arguments below.

### *We consider that prices of ECS should be reasonably aligned with costs*

5.66 We disagree with Openreach's assessment that the only concern that we are trying to address through the regulation of ECS, is to limit its ability to increase prices to

<sup>221</sup> Idem, p. 3.

<sup>222</sup> Idem, p. 3.

<sup>223</sup> See *ISDN30 Enhanced/Discretionary Services*, pp. 3-4.

recoup lost profits on core services. As discussed in paragraph 5.48 above, in the April 2011 Consultation we were concerned that ISDN30 ECS prices were not in line with the underlying costs of providing the services because amongst other reasons, they were significantly above the prices of WLR/LLU ECS.<sup>224</sup> Our proposed regulation of ISDN30 ECS aimed to provide the incentives for Openreach to align the prices of ECS with their underlying costs of provision.<sup>225</sup>

- 5.67 In the April 2011 Consultation we requested evidence from Openreach to show that the prices of ECS were aligned with their costs of production or that the differences between the prices of WLR/LLU ECS and ISDN30 ECS reflected differences in their underlying costs.<sup>226</sup> In the April 2011 Consultation we noted that Openreach had been unable to provide any evidence to show this. We consider that Openreach's submission of 13 September 2011 has similarly not shown that prices of ECS reflect their costs of provision.
- 5.68 Regarding Openreach's assessment that the historic and recent price movements on wholesale ISDN30 have been downwards, we recognise that the Service Harmonisation initiative which aligned fix times across WLR, LLU and ISDN services, resulted in an improvement of ISDN30's fix times for levels 2 and 3 while maintaining their prices unchanged.<sup>227</sup> However, we do not consider that this addresses our concern that the current level of prices of ECS may still not be reflective of their underlying costs of production.

*We do not believe that the prices of ECS will be constrained by market conditions*

- 5.69 We informally asked Openreach to provide further information to substantiate the view that, "...the market provides an effective constraint on ISDN30 Enhanced Service Level prices", stated in Openreach's response to the April 2011 Consultation.<sup>228</sup> In its subsequent submission in September 2011, Openreach provides a list of alternative arrangements that CPs could use to substitute for ECS. Openreach does not, however, provide any evidence showing how widely used these alternatives are among CPs. We therefore cannot assess the extent to which these arrangements may act as a constraint on ECS (at current ECS prices).<sup>229</sup> Openreach did not provide any elasticity estimates or price and volume data that would allow us

<sup>224</sup> See the April 2011 Consultation paragraph 5.51, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>225</sup> See, for example, paragraphs 5.49, 5.51 and 5.52 of our April 2011 Consultation, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>226</sup> See the April 2011 Consultation paragraph 5.51, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>227</sup> Service harmonisation decreased the fix times of maintenance levels 2 and 3. In the case of service level 2 the fix time improved from a 48 hours clear to the end of next working day. For service level 3 the fix time moved from a 24 hour clear to a ½ working day fix time. Service level 2 was kept within the rental charge and the price of level 3 remained unchanged post-harmonisation. Service level 4 was introduced at the time of service harmonisation.

<sup>228</sup> Openreach response to our April 2011 Consultation, paragraph 42, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/responses/Openreach.pdf>

<sup>229</sup> We note that even if Openreach had shown that these arrangements are extensively used by CPs as an alternative to ECS, this would not have been sufficient to conclude that they were likely to constrain the prices of ECS to the competitive level. This is because the substitutability between the two set of services may be driven by ECS' high prices. In other words, CPs may consider that these alternative arrangements are good substitutes for ECS only at their current high prices, whereas if these prices reflected costs, CPs would prefer to use ECS (rather than the alternative arrangements). This situation is sometimes known as the Cellophane Fallacy. To understand whether a service is a truly effective substitute of ECS we would need instead to assess their substitutability at ECS' competitive price.

to estimate the price elasticity of ECS and/or the degree of substitutability between the basic care and ECS at both current and lower prices. Openreach only states that Harmonisation has resulted in an increase in demand for ECS, without providing quantitative evidence to support this view (see paragraph 5.62). We consider that the demand for ECS at the current significant price premium over the price of standard care is consistent with the view that substitutability may be limited, at least for some customers.

- 5.70 Openreach indicates in its September 2011 submission that they have been unable to quantitatively assess the value of ECS to customers (as discussed in paragraph 5.63 above). We consider that, taking account of all the evidence, we cannot say that customers view ECS as 'discretionary'. Instead, we consider that some customers are likely to view ECS as an integral part of the ISDN30 service (e.g. retail customers whose business requires a high level of resilience in their fixed voice services to avoid disconnection for long periods of time), as indicated by C&WW in its response (see paragraph 5.54 above). These customers may place a high value on ECS and this could translate into a high willingness to pay for these services. We believe that the fact that around 27% of ISDN30 customers continue to purchase ECS (as shown in Table 5.5 above) at current prices shows that they are likely to be of significant value to some customers. In such circumstances, we consider that Openreach is likely to have the incentive and the ability to charge high prices to ISDN30 ECS customers.
- 5.71 In light of the above, we do not believe that market conditions will constrain the prices of ECS to be reasonably aligned with the costs of provision.

*We disagree that our proposed regulation will curtail innovation in ECS*

- 5.72 Openreach considers that price regulation of ECS is likely to make them more risk-averse to future innovations in ECS. We disagree that the introduction of ECS within the combined connections and rentals basket will limit Openreach's ability to innovate. It is our intention that the charge control should only apply to Openreach's Enhanced Care Level 3 and Level 4 products, as currently offered. We do not intend that the control should apply to genuinely new ECS. For genuinely new services, for example where Openreach introduces a new product or service either to compete with other industry offerings, or to offer a genuinely new and innovative service, they would, subject to any formal adjustment of the control, be able to charge at a level which reflects users' willingness to pay for the new service which, in turn, will depend on any perceived benefits it has relative to the existing ECS services. This will maintain appropriate incentives to innovate.
- 5.73 However, we want to ensure that consumers of the current ECS offerings remain protected, so that a rebranding or variation of an existing product should not operate to remove it from the control. Therefore, in the April 2011 Consultation, we defined ECS in the proposed Condition as "*any products that from time to time replaces or supplements those products*"<sup>230</sup>. We consider that it is appropriate to amend this definition in order that it clearly reflects our position regarding the treatment of new ECS services. We have therefore decided to modify the definition of ECS to:

*"... the products described as Service Maintenance Level 3 and Service Maintenance Level 4 in Openreach's price list correct at the date of this Statement, or any such product that, from time to time wholly or partially replaces those products"*

<sup>230</sup> Schedule 1 of the Notification to the April 2011 Consultation (Proposed Condition AAA(IS)4A.15(i))

- 5.74 This definition is found In Condition AAA(IS)4A.15(i), as set out in Schedule 1 to the Notification to this Statement at Annex 1.
- 5.75 We note also that if Openreach were to introduce new ECS services in future, these would be subject to the regulatory obligations that already apply to all services within the market for terms and conditions to be fair and reasonable and not unduly discriminatory.
- 5.76 We therefore consider that the introduction of ECS, as now defined, in the combined connections and rentals basket is unlikely to limit Openreach's incentive and scope for future innovations.
- 5.77 New evidence submitted by Openreach shows that the proportion of BT Retail customers who take levels 3 and 4 differs from the equivalent proportion for external CPs (as shown in Table 5.6 below). This further supports the imposition of a safeguard cap on each ECS level to ensure that Openreach does not concentrate price reductions (or price increases) on any of the two ECS levels for anti-competitive purposes.

**Table 5.6 Share of internal and external ECS customers on levels 3 and 4**

	Level 3	Level 4
<b>Internal</b>	✂%	✂%
<b>External</b>	✂%	✂%

*Source: Openreach 3<sup>rd</sup> S135 submission on 3 February 2012 and Ofcom.*

- 5.78 In light of the above we consider that the decision to impose price regulation on ECS will not harm Openreach's incentives or ability to innovate in the provision of ECS and is necessary to limit Openreach's ability to price ECS in an anti-competitive manner.

*We consider that a charge control is required in addition to the existing regulatory obligations*

- 5.79 Openreach considers that the existing regulatory obligations are sufficient to ensure that ECS charges are fair and reasonable (see paragraph 5.55 above). We note that these obligations were introduced in our ISDN30 2010 Market Review Statement<sup>231</sup> and since then Openreach has not modified the prices of ECS. We consider that a charge control will be likely to constrain Openreach to further align ECS prices with its underlying costs of provision.

*We consider that a different regulatory approach than in WLR/LLU ECS is justified*

- 5.80 Table 5.7 below presents the prices of the different care levels for WLR, LLU and ISDN30.

<sup>231</sup> See the Legal Instruments (pp. 68-69) in the ISDN30 2010 Market Review Statement, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30/statement/statement.pdf>

**Table 5.7 Price of service maintenance levels for WLR, LLU and ISDN30**

	WLR Premium <sup>232</sup>	LLU	ISDN30 <sup>233</sup>
Service Level 2	Included in line rental	Included in line rental	Included in line rental
Service Level 3	£37.20	£37.20	£428
Service Level 4	£48.00	£48.00	£462
Expedite repair from level 3 to 4 (price per occasion) <sup>234</sup>	£150	£150	£500

Source: *Openreach, Maintenance Options Overview, available at <http://www.openreach.co.uk/orpg/home/products/pricing/loadProductPriceDetails.do?data=o1GUUZA4oSGmoXU5lc%2BgZQD265lt6W32TNnfEUU7w1FZ6rNZujnCs99NblKJZPD9hXYmijxH6wr%0ACQm97GZMyQ%3D%3D>*

5.81 As shown in Table 5.7 above, there are significant differences in the charges of ISDN30 ECS and WLR/LLU ECS. We note that in the WLR and LLU 2012 Statement we have decided to impose an obligation on Openreach to align charges for LLU with those of WLR ECS, removing the cost orientation requirement on LLU.<sup>235</sup> We decided to impose this obligation mainly for the following reasons:

- the prices and fix times for WLR and LLU had been aligned since the introduction of Service Harmonisation (as shown in Table 5.7 above);<sup>236</sup>
- we had evidence that there was a sufficient proportion of (WLR and LLU combined) customers who would be willing to switch to basic care to act as a constraint on the level of charges of all ECS;<sup>237</sup> and
- the possibility for customers to purchase expedite repairs on a piecemeal basis when needed.<sup>238</sup>

<sup>232</sup> We include here WLR Premium instead of WLR Basic because WLR Premium for simplicity, as it makes the comparison between WLR and LLU easier to understand. In the case of WLR Basic, the prices differ from those for LLU (e.g. there is a charge for service level 2). Instead of the same prices, as in the case of WLR Premium, for WLR Basic Openreach has set prices that maintain the price differentials with LLU across service levels (i.e. the difference between the price of service level 2 and level 3 is the same for both LLU and WLR, and the same applies between levels 3 and 4). See a description [here](#).

<sup>233</sup> The prices for ISDN30 for the purpose of this comparison have been obtained by multiplying the per channel charges in each service level by 17 channels (the average number of channels on Openreach's ISDN30 circuits), with the exception of expedite repair, which Openreach charges on a per bearer basis.

<sup>234</sup> This is the only expedite repair available on ISDN30.

<sup>235</sup> The cost orientation on WLR ECS had been removed in the previous WLR charge control in 2009, see [http://stakeholders.ofcom.org.uk/binaries/consultations/wlr/statement/wlr\\_statement.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/wlr/statement/wlr_statement.pdf)

<sup>236</sup> See Section 4 of the 2012 WLR/LLU charge control statement, available at [http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc/statement/LLU\\_WLR\\_CC\\_statement.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc/statement/LLU_WLR_CC_statement.pdf)

<sup>237</sup> See paragraphs 4.400 - 4.401 of the 2012 WLR/LLU charge control statement, available at [http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc/statement/LLU\\_WLR\\_CC\\_statement.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc/statement/LLU_WLR_CC_statement.pdf)

<sup>238</sup> See paragraph 4.401 of the 2012 WLR/LLU charge control statement, available at [http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc/statement/LLU\\_WLR\\_CC\\_statement.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc/statement/LLU_WLR_CC_statement.pdf)

- 5.82 Under these circumstances, we were confident that aligning the charges of WLR and LLU would sufficiently constrain the prices of their ECS.
- 5.83 We do not consider that these conditions apply to ISDN30, in particular:
- while the fix times have been harmonised across all of Openreach's fixed exchange line services, the prices of ISDN30 ECS are significantly above those of WLR/LLU ECS and we have no evidence that this reflects differences in costs (as discussed in paragraphs 5.66 above);
  - we have no evidence of the degree of substitutability between ISDN30 ECS and basic care and we consider that market conditions are unlikely to constrain the prices of ISDN30 ECS (as explained in paragraphs 5.69 to 5.71 above); and
  - ISDN30 ECS customers also have the possibility of purchasing expedite repair services. However, these are priced at a significantly higher level than expedite repair services for WLR/LLU (as shown in Table 5.7 above).
- 5.84 We acknowledge that the regulation of ECS across Openreach access services is not straightforward and a uniform approach to regulation would not be appropriate in this instance. This is shown by the individual treatment of ECS services for WLR, LLU and wholesale ISDN30, reflecting the differing competitive conditions identified in each market.

### *Our conclusion*

- 5.85 In light of the above, we have included current ECS in the combined wholesale ISDN30 rental and connection basket and we have imposed a safe-guard cap of RPI % on each of the ECS levels.

## **We have set a safe-guard cap on DDI**

### Our April 2011 Consultation proposals

- 5.86 We discussed that Openreach provided ancillary services in addition to core wholesale ISDN30 services. We distinguished between, on the one hand those services that could be replicated by OCPs or end-users and on the other hand, other services that could not, such as Direct Dial-In (DDI) or Calling Line Identification Presentation (CLIP).<sup>239</sup>
- 5.87 There were two important ancillary services in terms of volumes and revenues.<sup>240</sup>
- DDI: with internal revenues of ₤ in 2009/10 and supplied with 90% of installations; and
  - CLIP: with revenues equal to ₤ and supplied with 40-50% of installations.<sup>241</sup>

<sup>239</sup>See the April 2011 Consultation paragraph 5.59, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>240</sup>Other calling and network features attracted low revenues and volumes and only applied to around 10% of installations

<sup>241</sup>See the April 2011 Consultation paragraph 5.60, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

- 5.88 We considered that our key concern, following regulation of core ISDN30 services, was Openreach's incentive to increase the prices of these ancillary services excessively to recover some of the lost profits on core services.<sup>242</sup>

*We proposed a safe-guard cap of RPI % on each DDI charge*

- 5.89 We noted that DDI, which applied to around 90% of installations and accounted for  $\frac{2}{3}$ % of Openreach's revenues for ancillary services, was purchased almost on a one-to-one basis with the ISDN30 rental service. This meant that unless both prices were subject to some form of control, the control on one price could be undone by increasing the price of the uncontrolled service without significantly altering total demand. Additionally, DDI could not be replicated using end-users' PBXs and therefore competition was unlikely to sufficiently constrain DDI prices.<sup>243</sup>
- 5.90 We considered three options for DDI:
- Option 1: a cost orientation requirement;
  - Option 2: an RPI-X charge control; and
  - Option 3: a safe-guard cap.<sup>244</sup>
- 5.91 We argued that a cost orientation requirement would not be appropriate because the understood benchmarks for cost orientation of DLRIC and DSAC, implied that Option 1 may allow Openreach to raise DDI charges significantly to DSAC.<sup>245</sup>
- 5.92 We did not consider that an RPI-X charge control would be appropriate and proportionate because our main concern with DDI was to limit Openreach's ability to recoup lost profits by increasing DDI prices, rather than bringing these charges in line with their FAC. Additionally, Openreach had been unable to disaggregate DDI costs from other Network and Calling Features, meaning that we would not be able to accurately estimate costs and the values of X under Option 2.<sup>246</sup>
- 5.93 We therefore proposed to adopt Option 3, imposing a safeguard cap of RPI-0% on each DDI service charge separately (i.e. on the DDI connection, DDI rental and DDI planning charges). This would prevent Openreach from increasing DDI charges to recoup lost profits from core services. By setting the safeguard cap on each DDI charge we would ensure that Openreach did not compensate small price decreases on the rental charge (which accounted for  $\frac{2}{3}$ % of all DDI revenues) with significant price increases in the other two DDI services.<sup>247</sup>
- 5.94 We considered that in spite of the unavailability of cost information, we were confident that the current prices would recover DDI costs, due to the lack of price

<sup>242</sup>See the April 2011 Consultation paragraph 5.61, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>243</sup>See the April 2011 Consultation paragraphs 5.62-5.63, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>244</sup>See the April 2011 Consultation paragraph 5.64, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>245</sup>See the April 2011 Consultation paragraph 5.66, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>246</sup>See the April 2011 Consultation paragraph 5.67, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>247</sup>See the April 2011 Consultation paragraph 5.68 and 5.70, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

regulation to date. We considered that due to the history of significant price reductions,<sup>248</sup> it was not proportionate to impose other forms of price regulation.<sup>249</sup>

*We proposed that the rest of ancillary services should not be subject to a specific charge control*

5.95 We considered that the remaining ancillary services should not be subject to any form of charge control for the following reasons:

- none of the services, including CLIP which is supplied with 40%-50% of installations, had revenues greater than £500k individually and only represented ✂ in aggregate in 2009/10;
- Openreach was unable to provide robust estimates of the costs of these services and a cost orientation obligation was not appropriate for the same reasons applying to DDI; and
- many of the services considered could be replicated by OCPs or end users, constraining Openreach's ability to increase prices.<sup>250</sup>

5.96 In the April 2011 Consultation we asked respondents the following question: *Do you agree that the DDI rental and connection services should be subject to a safe-guard cap of RPI %, whilst other ancillary services should not be subject to a specific form of price control? If not, please explain why.*

April 2011 Consultation responses

5.97 C&WW agreed with our proposal to set a safeguard cap on the three DDI charges. It considered that DDI was an essential feature of the ISDN30 product and should therefore be subject to some form of price protection. It also agreed that no specific safeguards were required for other ancillary services, given that they did not benefit from the same level of popularity.<sup>251</sup>

5.98 Openreach considered that a safeguard cap on DDI was not necessary, given the recent price reductions in DDI prices. However, it argued that if we were to impose some form of price regulation, a safeguard cap would be preferable to an RPI-X type of control. A safeguard cap would provide some pricing flexibility. Additionally, it considered that an RPI-X control on these services would be disproportionate due to their low revenues and the difficulties in complying with such a control.<sup>252</sup>

---

<sup>248</sup> See

<http://www.openreach.co.uk/orpg/home/products/pricing/loadProductPriceDetails.do?data=LKwLbNnZjX7RTVQavc3T9IPGhHskbpGUiFmWrkoVcKolMnGHsqdC0vzO163bJmh34D91D7M0q8u%2F%0AIIStlFAKw%3D%3D>

<sup>249</sup> See the April 2011 Consultation paragraph 5.69, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>250</sup> See the April 2011 Consultation paragraph 5.71, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>251</sup> C&WW response to our April 2011 Consultation, see p. 8 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/cw.pdf>

<sup>252</sup> Openreach response to our April 2011 Consultation, see para. 47 to 49 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

## Our response and conclusion

### *Treatment of DDI*

5.99 We agree with Openreach that an RPI-X on DDI services would be disproportionate. However, we consider that a safeguard cap on DDI services remains necessary to ensure that Openreach is not able to recoup lost profits in core services through price increases in DDI (a service purchased by the vast majority of wholesale ISDN30 customers). We have therefore imposed an RPI % cap on each DDI service.

### *Treatment of other ancillary services*

5.100 We remain of the view that the remaining ancillary services should not be subject to any form of charge control.

## **We have developed a cost stack for ISDN30 services in the base year (2010/11)**

### Our April 2011 Consultation proposals

5.101 In our April 2011 Consultation, we proposed to use the cost stacks developed for the purposes of the WLR and LLU 2011 Consultation as the starting point for the ISDN30 cost stacks.

5.102 As part of the WLR and LLU 2011 Consultation, we developed a three stage modelling process to identify the base year costs for Openreach services (including ISDN30 rental, connections and transfers).<sup>253</sup> The modelling approach is explained in Section 7 of that Consultation, in summary:

- operating costs and capital expenditure were forecast at an Openreach level in the Cost Forecast model. These costs were calculated using an activity based *costing model, using data* based on historically observed activity levels and costs together with estimates of future demand;
- operating costs and capital expenditure were allocated to individual services in the 'Cost Allocation' model to derive unit cost estimates; and
- the capital base is established by adjusting the valuation of some of the costs of infrastructure included in the cost stacks in the RFS to create the regulatory asset value (RAV) calculated using the 'RAV Model'.

5.103 We obtained unit cost stacks for wholesale ISDN30 services from the Cost Allocation model. We considered that these models were an appropriate starting point for our analysis of wholesale ISDN30 costs. However, in order to ensure that the base year cost stacks were appropriate for forecasting ISDN30 costs to 2013/14, we also made a number of 'off-model' adjustments to the cost stacks. These were explained in detail in Annex 6 to the April 2011 Consultation.<sup>254</sup>

<sup>253</sup> See Section 7 of the WLR and LLU 2011 Consultation, available at:

<http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/summary/wlr-cc-2011.pdf>

<sup>254</sup> See the April 2011 Consultation Annex 6, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

## Updates to the model

- 5.104 As part of the WLR and LLU 2012 Statement, we have updated the data used in modelling the 2013/14 costs of providing Openreach products, including ISDN30. Specifically, we have:
- ensured that our modelled 2010/11 aggregate costs were consistent with the Openreach 2010/11 management accounts;
  - updated some of our assumptions in light of further analysis and responses to the April 2011 Consultation and the WLR and LLU 2011 Consultation; and
  - removed non-recurring IT spend allocated to Openreach in 2010/11, to ensure the cost stack was appropriate for the purposes of forecasting costs to 2013/14.<sup>255</sup>
- 5.105 In September 2011, BT's 2010/11 RFS were published. As part of the WLR and LLU 2012 Statement we considered whether we should undertake a full refresh of the Cost Forecast model to replace the 2010/11 actual/forecast data with actual data from the 2010/11 RFS. An alternative approach was to ensure that the 2011 outputs from our model were consistent with BT's actual results and to only update key significant items.
- 5.106 The analysis performed, as part of the WLR and LLU 2012 Statement, showed that our models continued to provide a reasonable basis for forecasting costs. Analysis set out in the WLR and LLU 2012 Statement showed that the Cost Forecast model produced results consistent with Openreach's March 2011 management accounts and that in the context of that Statement, it was decided that it would not be appropriate or proportionate to undertake a full model refresh.
- 5.107 We have provided a summary of our modelling approach in Annex 3, however a detailed description of the cost modelling can be found in Annex 4 to the WLR and LLU 2012 Statement.

## Conclusion

- 5.108 We continue to use the Cost Forecast, Cost Allocation and RAV models to calculate the costs of ISDN30 services in the first instance. In addition, we continue to make a number of ISDN30 specific adjustments in off-line models. These adjustments are set out below and in more detail in Annex 3.
- 5.109 As a result of the updates to the model described in paragraphs 5.104 to 5.107 above, we have used 2010/11 as the base year for the purposes of modelling the costs of wholesale ISDN30 services.

## **We have forecast Openreach's costs**

### Our April 2011 Consultation proposals

- 5.110 In its response to our Market Review, C&WW suggested that any charge control should be set by reference to the costs of an 'efficient operator' rather than

---

<sup>255</sup> This is set out in detail in Section 2 to the WLR and LLU November 2011 Consultation available at: <http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc/summary/condoc.pdf>

Openreach's costs.<sup>256</sup> It argued that Openreach's "*cost base is set at a level below that of a hypothetical efficient operator in a competitive market*" and that therefore ISDN30 charges should not be brought down to the level of Openreach's costs. The hypothetical operator would be one which, like C&WW, purchases 2Mbit/s PPCs from BT Wholesale or uses its own network infrastructure in order to supply retail ISDN30 services.

- 5.111 In our April 2011 Consultation, we stated that basing a control on Openreach's wholesale ISDN30 charges on the higher costs of another operator, real or hypothetical could make consumers worse off, as a result of higher charges, and allow inefficient operators into the market.
- 5.112 We also did not believe that we should artificially maintain high wholesale ISDN30 charges in order to encourage switching to IP based alternatives (such as SIP Trunking), which are not yet fully accepted by all users. We stated that, if our control is consistent with an anchor pricing approach, it is more likely to provide users with appropriate incentives to make an efficient choice. Users may then decide to switch once they judge the new technology to be a cheaper (or otherwise superior) alternative.
- 5.113 We noted that our proposed approach would address most, if not all, of C&WW's concerns:
- firstly, we carried out a cross-check on the differential between the combined wholesale ISDN30 rental and connection charges which would result from our proposed control, and the rental and connection charges for a 2Mbit/s PPC. We confirmed that the control would not result in the difference in the charges being reduced below the difference in the incremental costs of the two services;
  - secondly, we recognised that some of Openreach's ISDN30 assets are now largely depreciated and adjusted its costs to approximate a steady state level; and
  - finally, we assessed the extent to which the proposed charge control would lead to greater take-up of wholesale ISDN30 services in preference to PPCs and factored this into the volume forecasts used to set the control, ensuring overall internal consistency.
- 5.114 In the April 2011 Consultation we asked respondents the following question: *Do you agree with our proposal that the costs of wholesale ISDN30 services should be based on BT's costs?*

#### April 2011 Consultation responses

- 5.115 Openreach agreed that we should base the costs of wholesale ISDN30 services on its costs rather than that of a hypothetical operator. It noted, however, that its cost base is lower than a hypothetical market entrant therefore argued that its costs should be adjusted to ensure the right signals are sent to the wider market.<sup>257</sup>

<sup>256</sup> Cable & Wireless, *Review of retail and wholesale ISDN30 markets*, 15 June 2010, available at [http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30/responses/Cable\\_Wireless\\_Worldwide.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30/responses/Cable_Wireless_Worldwide.pdf)

<sup>257</sup> Openreach response to our April 2011 Consultation, see para. 50 to 52 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

5.116 Openreach considered that the following adjustments proposed by Ofcom constituted an acceptable approach:<sup>258</sup>

- adjusting the asset base of heavily depreciated assets to approximate a steady state; and
- assessing the likely impact of the proposed charge control and factoring this into volume forecasts.

5.117 C&WW remained in favour of basing the costs of wholesale ISDN30 services on costs of an efficient operator while accepting that Ofcom's adjusted anchor pricing approach achieved broadly the same outcome.<sup>259</sup>

### Our conclusion

5.118 As respondents are broadly in agreement with our approach, we have based the costs of wholesale ISDN30 services on Openreach's costs. However, as proposed in the April 2011 Consultation, we have made adjustments to approximate a steady state and we have also assessed the impact of our charge control and factored this into our volume forecasts.

### **We made further adjustments to Openreach's costs in the base year (2010/11)**

#### Our April 2011 Consultation proposals

5.119 We proposed an adjustment to Openreach's depreciated assets in the base year to reflect a steady state network for the purposes of assessing the profitability of ISDN30 services. This is explained in detail in Section 3. We proposed to make this adjustment in our calculation of the costs of wholesale ISDN30 rentals.

5.120 In addition to the steady state adjustment, we proposed a number of regulatory cost adjustments to Openreach's base year costs to ensure that they were relevant for the purpose of developing a forward looking cost forecast for wholesale ISDN30 services.

5.121 We ensured that the costs of roll-out of next generation access (NGA) were not included within the cost stacks of ISDN30 products for the purposes of modelling. Cost categories that related exclusively to NGA were excluded from the cost model. Common costs were allocated across services including NGA. We ensured that ISDN30 costs did not rise as a result of NGA, consistent with our anchor product pricing approach.

#### *We proposed a steady state adjustment*

5.122 Some of the wholesale ISDN30 assets (line-cards and access electronics) were heavily depreciated. We therefore uplifted the NRC of line-cards and access electronics to 47% of the GRC and calculated depreciation on the GRC based on Openreach's accounting asset lives to approximate a steady state.

<sup>258</sup>Openreach response to our April 2011 Consultation, see para. 50 to 52 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>259</sup>C&WW response to our April 2011 Consultation, see p. 8-9 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/cw.pdf>

*We proposed to exclude BT's revaluation of duct*

- 5.123 BT increased the 2009/10 valuation of duct to £6.5bn which represented a £1.8bn increase compared to the 2008/9 equivalent valuation. As part of this, BT estimated that the replacement value of post-1997 assets was £2.9bn.
- 5.124 As part of the WLR and LLU 2011 Consultation, we reviewed BT's methodology and considered alternative methodologies.
- 5.125 For the purposes of modelling, we used a different valuation of post-1997 duct of £2.1bn rather than BT's estimate of £2.9bn.
- 5.126 We noted that duct did not form a significant part of the ISDN30 cost stack. The impact of using our base case valuation, rather than BT's valuation, was a decrease of approximately **£0.10 per channel** for ISDN30 rentals in 2009/10. This did not impact the ISDN30 connection or transfer cost stacks as duct is not part of the asset base of these services.

*We proposed to take into account the Regulatory Asset Value (RAV) for pre-97 access copper and duct*

- 5.127 The RAV adjustment is an adjustment made by Openreach in order to restate the value of copper and duct assets acquired prior to August 1997 from a CCA value to an indexed HCA value. This approach was adopted to prevent over-recovery of costs related to assets purchased prior to 1997.
- 5.128 Openreach built a model (the RAV model) based on a methodology consistent with that set out in Ofcom's 2005 Cost of Copper Statement.<sup>260</sup> As part of the WLR and LLU 2011 Consultation, we reviewed the assumptions in the Openreach RAV model and tested the key inputs and calculations and found no material errors. On this basis, we stated that the model provided a reasonable basis for determining the RAV adjustments.
- 5.129 We proposed to base the RAV adjustment on the results generated by Openreach's model and therefore made no further adjustment to this. This was in line with the approach taken in the WLR and LLU 2012 Statement, and we considered that there was no good reason to take a different approach for ISDN30.
- 5.130 We noted that the RAV did not form a significant part of the cost stack for wholesale ISDN30 services. The impact of including the RAV adjustment in the base year costs was to reduce the ISDN30 rental unit cost by approximately **£0.20 per channel**. The RAV adjustment had no impact on the ISDN30 connection or transfer cost stacks as copper and duct are not part of the asset base of these services.
- 5.131 In the April 2011 Consultation we asked respondents the following question: *Do you agree with our proposed adjustments to Openreach's cost base in 2009/10 for core wholesale ISDN30 services?*

<sup>260</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/copper/statement/statement.pdf>

## April 2011 Consultation responses

- 5.132 C&WW agreed with Ofcom's adjustments to Openreach's cost base in 2009/10. In particular it supported the decision to exclude BT's duct revaluation figures.<sup>261</sup>
- 5.133 Openreach agreed with our proposed approach of adjusting the NRC/GRC ratio of heavily depreciated assets. It noted that 47% represented a reasonable approximation of the steady state, although argued that anything further from 50% would be disproportionate.<sup>262</sup>
- 5.134 Openreach disagreed with our approach to the valuation of duct assets. It proposed that Ofcom returned to a full CCA approach instead of applying the RAV adjustment.<sup>263</sup> As the approach taken in our April 2011 Consultation followed the approach taken in the WLR and LLU 2011 Consultation, Openreach responded more fully on the issues of RAV and Duct in its response to the WLR and LLU 2011 Consultation, and it referred readers to this.
- 5.135 Openreach also noted that Ofcom did not include pension deficit repair payments in its cost model. Openreach argued that these are a cost of BT doing business going forward and that insofar as they were efficiently incurred, they should be included when calculating the cost of ISDN30 wholesale services.<sup>264</sup>

## Our response

### *We have made a steady state adjustment*

- 5.136 There is broad agreement for our approach to estimating a steady state of Openreach's ISDN30 assets. We have uplifted the NRC of the heavily depreciated assets from 47% to 50%; consistent with the approach taken in the WBA 2012 Statement. We discuss our approach to the NRC/GRC adjustment further in Section 3 and Annex 3.

### *We excluded BT's duct revaluation and forecast RAV using an estimate of RPI*

- 5.137 As explained in the April 2011 Consultation, the approach to duct and RAV does not have a significant impact on the cost stack for ISDN30 rentals, and has no impact on the cost stack for ISDN30 connections or transfers.
- 5.138 Openreach and other stakeholders responded in detail on the proposed treatment of duct and RAV as part of the WLR and LLU 2011 Consultation, therefore we have dealt with their responses in the WLR and LLU 2012 Statement. We refer readers to Annex 1 of that Statement for a detailed discussion of this.
- 5.139 In summary, we undertook a review of our treatment of the value of duct to be used as an input to the charge controls. This review included a re-assessment of the 2005 review on the RAV of Openreach access assets. The RAV established a valuation of

<sup>261</sup> C&WW response to our April 2011 Consultation, see p. 9 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/cw.pdf>

<sup>262</sup> Openreach response to our April 2011 Consultation, see para. 55 to 56 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>263</sup> Openreach response to our April 2011 Consultation, see para. 57 to 62 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>264</sup> Openreach response to our April 2011 Consultation, see para. 63 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

assets deployed before August 1997 on a HCA basis (indexed by RPI), and assets deployed since August 1997 on a CCA replacement cost basis.

- 5.140 As set out in Section 3, and Annex 1 to the WLR and LLU 2012 Statement, we consider that the RAV methodology established in 2005 remains appropriate (i.e. to value pre-1997 assets on a HCA basis, indexed by RPI).
- 5.141 Our assessment of BT's revision of the value of post August 1997 duct is that it does not represent a reliable estimate of the CCA value for the purpose of setting regulated charges. Accordingly, we have decided to estimate the value of post August 1997 duct through a RPI indexation of BT duct expenditure since August 1997.

*We have excluded pension deficit repair payments*

- 5.142 We have not included costs related to the repair of BT's pension deficit in the cost stack for ISDN30 services. In excluding such costs, we have been consistent with our pensions review Statement<sup>265</sup> (the Pensions Review) which we published in December 2010. This contained our pensions cost guidelines<sup>266</sup> (the Pension Guidelines) which set out our general policy as to the approach we normally expect to take in relation to the treatment of BT's pension costs when assessing the efficiently incurred costs of providing relevant regulated products or services.
- 5.143 In the Pensions Review, we explained that, while we expect the Pension Guidelines to form an important consideration in relevant cases, we intend to apply the Pension Guidelines on a case-by-case basis and will always act consistently with our duties and applicable legal tests under the Act. Although the Pension Guidelines set out the approach that we would normally expect to take, each case will be considered on its own merits.
- 5.144 As specified in the Pensions Review, if we decide to depart from the Pension Guidelines in a particular case, we will set out our reasons for doing so. As a general rule, unless we consider that there has been a material change in the circumstances and background considered as part of our review, we are not expecting to depart from the Pension Guidelines.
- 5.145 As BT acknowledges, the arguments it raised in response to the ISDN30 charge control are not new. We consider that these arguments have been dealt with in the Pensions Review.
- 5.146 We do not consider that there are any factors relating to the ISDN30 charge control in particular which would support the adoption of an approach other than expressed in our Pension Guidelines. In addition, BT has not provided any new evidence to demonstrate that there has been a material change in the circumstances since the Pensions Review concluded in December 2010.
- 5.147 We also summarised our view on the points reiterated by BT in the WBA 2011 Statement.<sup>267</sup> However, we refer readers to the appropriate sections of the Pensions Review for our detailed analysis.<sup>268</sup>

<sup>265</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/btpensions/statement/statement.pdf>

<sup>266</sup> See annex 1 at:

<http://stakeholders.ofcom.org.uk/binaries/consultations/btpensions/statement/statement.pdf>

<sup>267</sup> See annex 3 at:

<http://stakeholders.ofcom.org.uk/binaries/consultations/823069/statement/statement.pdf>. We note that

Our conclusion

- 5.148 We have used 2010/11 as the base year for the purposes of establishing the costs of wholesale ISDN30 services.
- 5.149 We have adjusted the NRC/GRC ratio of heavily depreciated assets in 2010/11 to 50% to approximate a steady state. This is discussed in more detail Section 3.
- 5.150 We have excluded BT's revaluation of duct and have used an estimate of RPI to forecast both the post-97 duct and RAV.
- 5.151 For the reasons set out above, and in the Pensions Review and WBA 2011 Statement, we continue to exclude pension deficit repair payments from the cost stack of ISDN30 wholesale services.

**We forecast costs to 2013/14**Our April 2011 Consultation proposals

- 5.152 In our April 2011 Consultation, we stated that we were forecasting costs to 2013/14. In order to do this we needed to consider a number of assumptions. Table 5.8 below identifies the key assumptions we used in this Statement, provides a short description for these and shows the level of such assumptions used in the Ofcom base case scenario as set out in the April 2011 Consultation.

---

Ofcom's approach to pension deficit repair payments is under appeal by BT: Competition Appeal Tribunal, case 1187/3/3/11.

<sup>268</sup>We note that BT has appealed the WBA 2011 Statement and has challenged in that appeal Ofcom's decision not to allow recovery of PDRs. That appeal is currently being heard by the CAT and CC.

**Table 5.8 Ofcom proposed modelling assumptions for wholesale ISDN30 rental costs**

<b>Key assumption</b>	<b>Consultation proposal</b>	<b>Statement</b>	<b>Description</b>
Wholesale ISDN30 volume forecasts	19% reduction by 2013/14 (rentals)	19% reduction by 2013/14 (rentals)	Volume forecasts for wholesale ISDN30 connections, rentals and transfers. No change in the total reduction, however it is now calculated from 2010/11 to 2013/14 (rather than 09/10 to 13/14).
Steady state adjustment	NRC/GRC = 47%	NRC/GRC = 50%	We have uplifted the NRC of line-cards and access electronics to 50% of the GRC and calculated depreciation on the GRC based on Openreach's accounting asset lives. This is consistent with the approach taken in the WBA 2011 Statement.
Asset volume elasticities (AVEs)	0.5 (access electronics) 1 (line-cards)	0.5 (access electronics) 1 (line-cards)	% change in the gross replacement costs of assets for a 1% change in volumes. We have applied this assumption to forecast the adjusted asset costs for access electronics and line-cards.
Capital expenditure (capex)	Varies each year	Varies each year	For modelling purposes we have assumed capex (for access electronics and line-cards) is equal to depreciation in the first year of the proposed charge control. We have then forecast these forward by taking into account changes in the volume of core wholesale ISDN30 services.  All other capex is forecast in line with the Cost Forecast model.
Efficiency gains	4.5% (net)	4.5% (net)	Openreach's expected efficiency savings in each year of the proposed charge control period.
Weighted average cost of capital (WACC)	9.3%	9.7%	The WACC is used to calculate the return on capital employed (ROCE) which is added into the cost stack of individual services. The change reflects an update of the 'rest of BT' WACC estimated in the WBA 2011 Statement.
Inflation rate	2.5% (operating costs) 3% (pay costs)	2.5% (operating costs) 3% (pay costs)	The Cost Forecast model forecasts costs in nominal terms. We therefore have to assume an appropriate rate of inflation for Openreach's input costs.
Asset price inflation	RPI (varies each year)	RPI (varies each year)	The RAV model and Cost Allocation model assume that asset prices increase in line with RPI. We have updated the RPI forecasts in each year to reflect revised HM Treasury forecasts.

5.153 We discuss each decision in turn below, and set out the responses received and our conclusion on each issue. We set out the modelling implications of these decisions in detail in Annex 3.

## **We have forecast volumes of wholesale ISDN30 services in two stages**

### Our April 2011 Consultation proposals

*We estimated that volumes of wholesale ISDN30 rentals would decrease by around 19% from 2009/10 until the end of the charge control in 2013/14*

- 5.154 In our April 2011 Consultation we explained that we would forecast the demand for ISDN30 in two stages:
- in stage 1 we would forecast volumes at current prices ('stage 1 volume forecast') and estimate the initial values of X for core ISDN30 services using these volume forecasts; and
  - in stage 2 we would adjust the initial volume forecast to account for the impact on demand of our charge control proposals implied by the Xs estimated in stage 1 ('stage 2 volume forecast').<sup>269</sup>
- 5.155 We indicated that to estimate our Stage 1 volume forecast we used several sources of information available to us, in particular:
- stakeholder forecasts;
  - the market research conducted during the Market Review;<sup>270</sup>
  - external consultants' forecast; and
  - forecasts based on a projection of the volumes trend in 2009 – 2010 (the latest available volumes information).<sup>271</sup>
- 5.156 We explained that in assessing future ISDN30 volumes we would give more weight to stakeholders' forecasts and the market research conducted during the Market Review. Stakeholders' forecasts represented their view of the future developments in the ISDN30 market and our market research investigated ISDN30 customers' responsiveness to price changes and future demand expectations.<sup>272</sup>
- 5.157 We noted that stakeholders' forecasts showed significant variation, with forecasts ranging from 0% to a 50% decline throughout the charge control period, as shown in Table 5.9 below. Our market research found that in 2009 around 14% of ISDN30 users were considering switching away, whereas up to 44% said that they could stop using it by 2013/14. We decided to give more weight to the former figure given that

<sup>269</sup> See the April 2011 Consultation paragraph 5.101, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>270</sup> See <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30/narrowband.pdf>

<sup>271</sup> See the April 2011 Consultation paragraph 5.103, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>272</sup> See the April 2011 Consultation paragraph 5.104, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

we considered it difficult for customers to speculate about their choice of technology five years into the future.<sup>273</sup>

5.158 Based on all the evidence available to us, we forecast a Stage 1 decline in ISDN30 rental volumes of 27.5% (which is equivalent to 590k channels) from 2009/10 until 2013/14. We considered that this decline was broadly in line with both stakeholders' forecasts and the recent trends in the retail ISDN30 market. Using this volume forecast we estimated the Stage 1 values of X and derived the impact on demand of the resulting change in ISDN30 rental prices.<sup>274</sup>

5.159 We estimated that our proposed change in the ISDN30 rental charge would increase demand by around 11.5% (which is equivalent to 179k channels). The impact of our charge control proposals could be disaggregated as follows:

- the switching of ISDN30 provision from 2Mbit/s PPCs to Openreach's wholesale ISDN30 would increase the Stage 1 volumes forecast by around 0.7%;
- the increased retail demand from lower ISDN30 prices would increase the Stage 1 volumes forecast by around 5.0%; and
- the reduction in switching from ISDN30 to IP based alternatives, due to ISDN30's lower prices, would increase the Stage 1 volumes forecast by around 5.7%.<sup>275</sup>

5.160 Finally, incorporating the above impacts of our charge control proposals in the Stage 1 volumes forecast, we forecast a Stage 2 decline in ISDN30 volumes equal to 19% (which is equivalent to 411k channels) from 2009/10 until 2013/14.<sup>276</sup>

*We estimated that volumes of wholesale ISDN30 connections would decrease by around 10% from 2009/10 until the end of the charge control in 2013/14*

5.161 We explained that connections volumes were derived in a manner consistent with our forecast of rental volumes in Stage 1 and Stage 2. We derived the Stage 1 connection volumes based on our Stage 1 rental volumes, assuming that the difference between the rental volumes of two consecutive years would be equal to the amount of gross connections less churn. To estimate the level of churn, we calculated the average churn rate in the period 2004/05 to 2009/10 and applied it for each year of the charge control. We obtained the Stage 2 connection volumes applying this same methodology to our Stage 2 rentals volume forecasts. Our approach is explained further in Annex 5.<sup>277</sup>

5.162 We estimated a Stage 2 decline in wholesale ISDN30 gross connection volumes of around 10% from 2009/10 until the end of the charge control in 2013/14.<sup>278</sup>

<sup>273</sup>See the April 2011 Consultation paragraph 5.104, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>274</sup>See the April 2011 Consultation paragraph 5.105, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>275</sup>See the April 2011 Consultation paragraph 5.106, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>276</sup>See the April 2011 Consultation paragraph 5.107, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>277</sup>See the April 2011 Consultation paragraph 5.109-5.111, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>278</sup>See the April 2011 Consultation paragraph 5.112, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

*We estimated that volumes of wholesale ISDN30 transfer services would decrease by around 7.5% from 2009/10 until the end of the charge control in 2013/14*

- 5.163 In the case of transfers, we explained that the likely decline in volumes was less clear cut. On the one hand, the fact that transfers volumes should be correlated with the size of a shrinking ISDN30 market suggested that transfers volumes should decline. On the other hand, we argued that it was also possible that transfers volumes would remain fairly stable as re-sellers were expected to compete more aggressively for the remaining ISDN30 customers. We indicated that this outcome had been observed in the recent past, with transfer volumes increasing during the economic recession.<sup>279</sup>
- 5.164 In light of the above, and bearing in mind that we had estimated a 19% decline in rentals, we assumed a smaller decline of 7.5% in transfers volumes.<sup>280</sup>
- 5.165 In the April 2011 Consultation we asked respondents the following question: *Do you agree with our volume forecasts for wholesale ISDN30 rental, connection and transfer services? If not, please explain why.*

#### April 2011 Consultation responses

- 5.166 We received several responses from stakeholders. FCS agreed that a large base of ISDN30 customers would remain for at least the life of the new control.<sup>281</sup> C&WW indicated that it had no reason to doubt that our figures provided a reasonable estimate of possible future ISDN30 volumes and that they were content to accept our view of market volumes.<sup>282</sup>
- 5.167 Openreach recognised that forecasting ISDN30 volumes was a difficult task. It considered that our two-stage approach went some way to overcoming these difficulties. However, Openreach also expressed concern regarding the treatment of uncertainty in our approach. According to Openreach, although our Stage 2 forecasts sought to take into account the impact on volumes of our charge control proposals, they did not take account of, "*the additional uncertainty arising from the imposition of the charge control*". Openreach therefore considered both that our volume forecast for core ISDN30 services was too high and that the consequences of the value of X being set too high or too low were asymmetric. In particular, setting too tight a control would in its view divert investment into a legacy technology, impeding switching to a newer and superior technology. In contrast, a looser control would have limited detrimental consequences as ISDN30 was approaching the end of its life and the adoption of emerging substitutes would be encouraged. Openreach considered that such asymmetric risks should be considered alongside our demand forecasts.<sup>283</sup>
- 5.168 Verizon agreed with us that there would be a decrease in ISDN30 demand over the period of the charge control as customers increasingly chose IP based alternatives. However, it noted that although it had seen an increase in demand for IP products in the recent past, this additional demand had come from new rather than existing

<sup>279</sup> See the April 2011 Consultation paragraph 5.113-5.114, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>280</sup> See the April 2011 Consultation paragraph 5.115, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>281</sup> FCS response to our April 2011 Consultation, see p. 2 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/FCS.pdf>

<sup>282</sup> C&WW response to our April 2011 Consultation, see pp. 9-10 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/cw.pdf>

<sup>283</sup> Openreach response to our April 2011 Consultation, see para. 64-69 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

ISDN30 customers.<sup>284</sup> Verizon therefore urged caution in forecasting a too rapid a decline in ISDN30 prices due to switching to IP based alternatives. Verizon considered that for most of its line rental customers, switching to VoIP solutions would not decrease their costs significantly because the most important cost components would remain (i.e. line rental and access costs). While Verizon recognised that with IP solutions usage costs could be reduced slightly, this could be offset by higher Customer Premises Equipment (CPE) costs. In Verizon's view, there was no simple like for like comparison between ISDN30 and IP solutions. However, it considered that a straight cost comparison between the two would "*rarely conclude unequivocally that VoIP is the cheapest option*".<sup>285</sup>

### Additional volumes evidence in our December 2011 Consultation

5.169 Since the publication of our April 2011 Consultation, we have asked stakeholders to provide additional volume data under formal powers, including an update of their actual and forecast volumes.<sup>286</sup> We already discussed part of this evidence, in particular, the volumes information submitted by Openreach on 9 September 2011 and by OCPs during the course of October as a response to their 1<sup>st</sup> section 135 information request, in our December 2011 Consultation when assessing whether there had been any material changes in ISDN30 markets.<sup>287</sup> In that Consultation we argued that:

- the 6% decline in ISDN30 volumes in the period from June 2010 to June 2011 was broadly in line with our expectations, representing only a slightly smaller decline than the one projected in the April 2011 Consultation;<sup>288</sup>
- the new forecasts submitted by CPs projected smaller declines in ISDN30 volumes than they had previously forecasted in the April 2011 Consultation and that this was consistent with smaller levels of switching towards IP products than they had previously anticipated;<sup>289</sup> and
- the trend in IP volumes was consistent with the findings in both our ISDN30 2010 Market Review Consultation and Statement.<sup>290</sup>

5.170 In the December 2011 Consultation we indicated that we would continue to monitor trends between then and the publication of our Statement.

<sup>284</sup> Verizon response to our April 2011 Consultation, see para. 6 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Verizon.pdf>

<sup>285</sup> Verizon response to our April 2011 Consultation, see para. 7-8 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Verizon.pdf>

<sup>286</sup> We requested additional volume information from Openreach on 25 August 2011 (1<sup>st</sup> section 135) and 18 January 2012 (3<sup>rd</sup> section 135) and from OCPs on 13 and 14 September 2011 (1<sup>st</sup> section 135) and 18 January 2012 (2<sup>nd</sup> section 135).

<sup>287</sup> See section 4 of the December 2011 Consultation, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/summary/condoc.pdf>

<sup>288</sup> See the December 2011 Consultation paragraph 4.15 available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/summary/condoc.pdf>

<sup>289</sup> See the December 2011 Consultation paragraph 4.16 available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/summary/condoc.pdf>

<sup>290</sup> See the December 2011 Consultation paragraph 4.18 available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/summary/condoc.pdf>

## December 2011 Consultation responses

- 5.171 Several of the responses to the December 2011 Consultation commented on our approach to forecasting future ISDN30 volumes. Openreach stated that if we increased our end year volume forecast this, combined with the adoption of a two year charge control, would have the effect of increasing the risk of unintended consequences.<sup>291</sup> In that situation, Openreach argued that we should take a prudent approach and consider extending the control by an additional year.<sup>292</sup>
- 5.172 C&WW considered that ISDN30 users are more likely to respond to substantial and sudden price changes than to more gradual price reductions (even if the end pricing point was the same in the April and December 2011 Consultations).<sup>293</sup> C&WW stated that consumer behaviour is influenced by both the speed and extent of price reductions, as consumers often may have more muted responses to small price changes than to more significant ones. They argued that larger price variations could result in additional switching towards BT and that this could increase BT's wholesale market share. C&WW considered that our modelling fails to take this into account when assessing the extent of any migration away from alternative infrastructure. In its view, the steeper glide path, resulting from the move from a three to a two year control, as proposed in the December 2011 Consultation, together with the shorter control period, could result in more migrations to BT than that estimated by our models.<sup>294</sup>
- 5.173 Verizon reiterated its view that there is still likely to be significant demand for ISDN30 services from businesses at the end of the next charge control period and that ISDN30 will remain an important offering beyond March 2014.<sup>295</sup>

## Our response and conclusion

### *Responses to our April and December 2011 Consultations*

- 5.174 We note that in the April 2011 Consultation C&WW and FCS broadly agreed with our volumes forecast. Verizon agreed that there would be a decline in ISDN30 services through the period of the control but warned that we should not forecast a too rapid decline in ISDN30.
- 5.175 In the December 2011 Consultation, Verizon similarly agreed that demand for ISDN30 will remain important beyond March 2014. Regarding Openreach's argument that we should adopt a three year control in the event we increased our end year volumes forecast, we note that we have decided to maintain the final year volumes as proposed in our April and December 2011 Consultations (as discussed below in paragraphs 5.192 to 5.194).

<sup>291</sup> Openreach response to our December 2011 Consultation, paragraph 4, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/responses/Openreach.pdf>

<sup>292</sup> Openreach response to our December 2011 Consultation, paragraph 18, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/responses/Openreach.pdf>

<sup>293</sup> C&WW response to our December 2011 Consultation, page 2, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/responses/cw.pdf>

<sup>294</sup> C&WW response to our December 2011 Consultation, page 4, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/responses/cw.pdf>

<sup>295</sup> Verizon response to our December 2011 Consultation, page 1-2, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/responses/Verizon.pdf>

5.176 We address the additional comments from C&WW in its response to our December 2011 Consultation and Openreach in its response to our April 2011 Consultation in turn below.

*Our modelling reflects that consumers may respond more vigorously to larger price decreases in shorter periods of time*

5.177 In its response to our December 2011 Consultation, C&WW argues that larger and more rapid price decreases (such as the ones proposed in our December 2011 Consultation) are likely to have a bigger impact on demand than the more gradual price changes proposed in our April 2011 Consultation. It considers that our modelling does not account for this and our proposals in the December 2011 Consultation could therefore result in more switching to BT than estimated by our models.

5.178 We consider that our models do reflect to some extent that a shorter control, with steeper price declines, is likely to have a larger impact on demand. In the case of our 'Volumes forecast' model:

- we estimate that a larger price decline, in a shorter period of time, will reduce the extent of switching from ISDN30 to IP more significantly. In the April 2011 Consultation we estimated that our charge control proposals were likely to reduce switching by 89k channels (5.7% of our Stage 1 volumes forecast), whereas under our current decision this impact is equal to 98k channels (6.3% of our Stage 1 volumes forecast). This results from the modelling assumptions used, as further explained in Annex 5; and
- we estimate that, as a result of the market expansion effect, there are likely to be more additional channels, in every year of the control, under a two year than a three year control. However, this is offset by the delay in our control and the fact that we have assumed - in line with stakeholders' responses - that the size of the ISDN30 market will decline over the next years due to substitution towards IP based services. For these reasons, we estimate that there are likely to be an additional 65k channels (4.2% of our Stage 1 volumes forecast) as a result of the charge control compared to 78k channels (5.0% of our Stage 1 volumes forecast) in the April 2011 Consultation (see Annex 5).

5.179 Overall, under our current decision we estimate that the charge control is likely to result in 163k additional channels (10.9% of our Stage 1 volumes forecast) from the two effects described above, compared to 167k channels (11.5% of our Stage 1 volumes forecast) in the April 2011 Consultation.

5.180 In the case of our "Switching model" we disagree with C&WW's view that larger percentage changes in prices should result in further switching from PPCs to ISDN30. Switching from supply using PPCs to Openreach's WLR ISDN30 offering is determined by the CPs using PPCs, rather than end users. We consider that CPs' choice is unlikely to be influenced by the percentage change in WLR ISDN30 prices. Instead, this choice is likely to be determined by how the level of WLR ISDN30 prices compare to the cost of supply using PPCs. Although we have decided to impose a steeper glide path, WLR ISDN30 prices will be above the level we proposed in the April 2011 Consultation throughout the control and therefore this is likely to result in lower levels of switching. For this reason, we have estimated that 6k channels (5% of the channels that would have otherwise been supplied using PPCs) are likely to switch as a result of our control, compared to 11.5k channels (10% of the channels

that would have otherwise been supplied using PPCs) in the April 2011 Consultation. We discuss this in more detail in Annex 6.

- 5.181 We note, however, that the differences between the impact of our charge control in the April 2011 Consultation and under our current assumptions (both as regards the impacts estimated by our 'Volumes forecast' and 'Switching models') have a marginal effect on the value of X and are diluted by our rounding of X to the next 0.25%.
- 5.182 We disagree with C&WW's view that our control is likely to significantly increase Openreach's wholesale market share. Both Openreach and OCPs are likely to benefit from the increase in retail demand and decrease in switching to IP resulting from our charge control. We have checked that the proposed charge control does not reduce the differential between the price of wholesale ISDN30 and PPCs (the more upstream alternative means of supply) below the difference in their incremental costs. By maintaining a price differential that is as least as large as the difference in the cost of providing the services, the proposed control will maintain incentives for efficient investment in infrastructure.

*We have accounted for uncertainty and risk in our volumes forecast*

- 5.183 We consider that any forecast of future volumes will be subject to uncertainty, particularly, in the case of services such as ISDN30 whose demand is expected to change significantly in the near future. We have also tried to account for the impact of our charge control proposals on demand for ISDN30 when modelling future volumes.
- 5.184 We consider that there are additional factors that are likely to mitigate the risk that our volumes forecast will get out of line with future volumes, in particular:
- the adoption of a two, rather than three, year charge control; and
  - the update in stakeholders volumes (actuals and forecasts), which only dates back to February (see paragraphs 5.188 to 5.190 below), and which show that current ISDN30 volumes have been in line with our forecasts.
- 5.185 In our volumes forecast, we have taken account of all the evidence available to us and made reasonable allowance for uncertainties surrounding the likely future ISDN30 volumes.
- We have used relatively conservative assumptions throughout our volumes modelling; and
  - we have also adjusted the ISDN30 asset base to account for several heavily depreciated assets and this has resulted in a cost increase of £39 per channel in 2010/11.
- 5.186 We therefore disagree with Openreach that we should further account for asymmetric risks by, for example, setting the value of X towards the lower end of our range. We consider that to do so would have important negative consequences, in particular:
- higher charges for end users; and
  - a distortion of investment incentives on existing wholesale inputs or future technologies if prices are not reflective of the underlying costs of supply.

*We consider our volumes forecast is consistent with the available evidence*

5.187 Openreach considers that our end year volumes forecast for core ISDN30 services is too high. We disagree with Openreach's view for the following reasons:

- we have used relatively conservative assumptions when modelling future ISDN30 volumes;
- C&WW and FCS broadly agreed with our volumes forecast in the April 2011 Consultation and Verizon has warned against forecasting too fast a decline in ISDN30 volumes (see paragraph 5.166 and 5.168 above); and
- our volumes forecast is broadly in line with the latest available evidence on ISDN30 volumes from stakeholders, as well as all other evidence available to us (as discussed in Annex 5).

*Additional evidence submitted since our December 2011 Consultation*

5.188 Since the December 2011 Consultation we have received further evidence from stakeholders, included in their submissions to our section 135 requests of 18 January 2012. This evidence included, amongst other, an update on ISDN30 volumes for the June, September and December 2011 quarters. We describe this evidence in more detail below.

5.189 We note that since the April 2011 Consultation, we have changed the base year of the charge control from 2009/10 to 2010/11 (see paragraph 5.148). To facilitate the comparison between stakeholders' forecasts in the April 2011 Consultation (which used 2009/10 as the base year), their latest forecasts (submitted in response to our 18 January 2012 section 135 information request) and our current ISDN30 volumes forecast (which uses 2010/11 actual volumes as the base year), we have calculated the percentage change in ISDN30 volumes between 2010/11 (our current base year) and 2013/14 (the end year of the control) implied by stakeholders' forecasts in the April 2011 Consultation.<sup>296</sup> We have applied this same adjustment to all the evidence we relied on in the April 2011 Consultation. Table 5.9 shows all the evidence we have relied on in assessing future ISDN30 volumes.

---

<sup>296</sup> We have done this by, firstly, calculating the end year volumes implied by the forecast submitted to the April 2011 Consultation with base on the year 2009/10 (i.e. Mar-10) and, secondly, using this end year volumes to estimate the implied percentage change with respect to current 2010/11 volumes (i.e. Mar-11).

**Table 5.9 Various forecasts for wholesale ISDN30 rental volumes (change between March 2011 and March 2014)**

	Range of assumptions	
	April 2011 Consultation	Latest
Stakeholder forecasts	≈[0% to -50%]	≈[0% to -40%] <sup>297</sup>
Market research	- 11% to -43%	- 11% to -43% <sup>298</sup>
External consultants forecast <sup>299</sup>	≈[-20% to -30%]	≈[-20% to -30%]

5.190 As shown in Table 5.9, the latest submissions from stakeholders show that they anticipate smaller declines in ISDN30 volumes than previously forecast. The latest forecasts are more closely aligned with our April 2011 Consultation forecast (that wholesale ISDN30 volumes would decline by 27.5% from 2009/10 to 2013/14, or 27% from 2010/11 to 2013/14).

5.191 We have not updated the market research and external consultants' forecasts and for this reason they both show the same percentage decline under the 'April 2011 Consultation' and the 'Latest' column in the table above.<sup>300</sup>

*We estimate that volumes of wholesale ISDN30 rentals will decrease by around 19% by the end of the charge control in 2013/14*

5.192 Based on the above evidence, we have decided to maintain the end year (i.e. March 2014) absolute volumes forecast that we proposed in our April 2011 Consultation, for the following reasons:

- The latest stakeholders' forecasts presented in Table 5.9 above (which show smaller declines in ISDN30 volumes than stakeholders' forecasts in the April 2011 Consultation) have converged towards our forecast in the April 2011 Consultation.
- Our forecast falls broadly in the middle of the decline predicted by our market research.
- In the April 2011 Consultation we expected that volumes would decline annually by 7.7% between 2009/10 and 2013/14 (resulting in a 27.5% decline over the period). Maintaining the absolute end year volumes forecast used in the April 2011 Consultation implies that we forecast a circa 10% in ISDN30 volumes

<sup>297</sup> Stakeholder's forecasts relate to their submissions during the course of February 2012.

<sup>298</sup> The figures from the market research relate to the survey conducted in our Market Review, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30/statement/statement.pdf>.

<sup>299</sup> The external consultants forecasts relate to the third party forecast discussed in our April 2011 Consultation, paragraphs A8.22 to A8.25, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>.

<sup>300</sup> As we discussed in our December 2011 Consultation (see paragraph 4.14 of the December 2011 Consultation, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/summary/condoc.pdf>), we did not consider it necessary to conduct this survey again. We have not requested additional third party forecasts (as discussed in Annex 5).

between 2010/11 and 2013/14. We acknowledge that during the year 2009/10 to 2010/11, ISDN30 volumes have declined by less than this. However, we consider that there are significant uncertainties surrounding the future development of the ISDN30 market (as shown by the variability in stakeholders' forecasts or the changes in ISDN30's short term trend). In particular, we consider that general economic conditions or an acceleration of switching towards IP could affect ISDN30 in the next two years. For this reason, and in line with our April 2011 Consultation proposals, we have decided to put less weight on ISDN30's short term trend than on stakeholders' forecasts and our market research; and

- We also note that due to the shorter control period adopted, it is less likely that our forecast will become significantly misaligned with the actual volumes. However, if such misalignment occurred, we would be able to correct this in just 23 months.

5.193 Adopting the same end year volumes forecast that we proposed in the April 2011 Consultation results in a Stage 1 decline in wholesale ISDN30 volumes of 27% (i.e. 575k channels) from 2010/11 to 2013/14. Using our volume forecasts from Stage 1, we have first estimated the change in the price of wholesale ISDN30 rentals (i.e. the value of X) implied by this initial forecast and we have then calculated the impact of the resulting price decline on demand for wholesale ISDN30 rental services. Based on our analysis, our proposed initial decrease in the rental price would increase our Stage 1 volume forecasts by around 10.9% (which is equivalent to 169k channels). This is for the following reasons:<sup>301</sup>

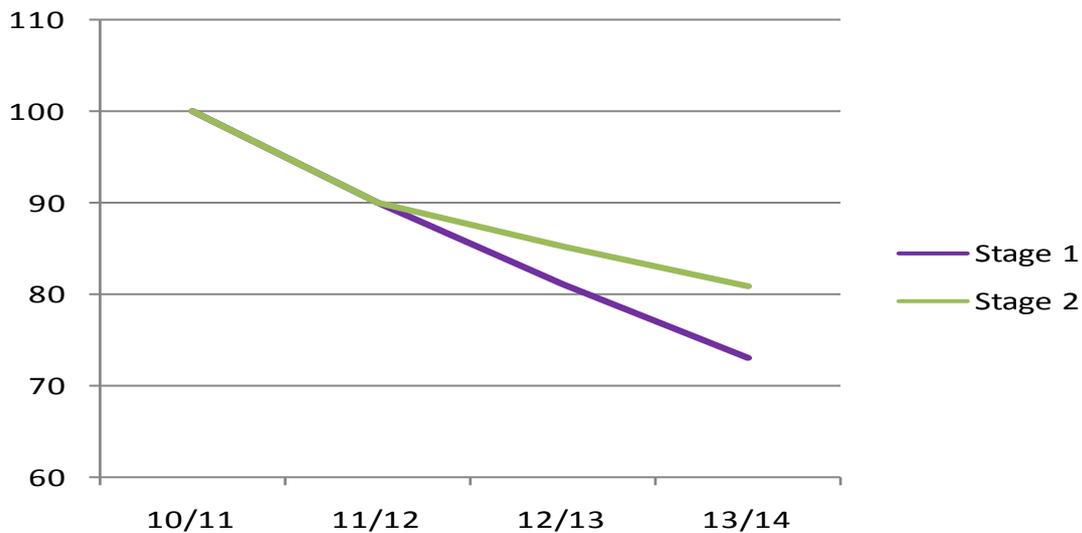
- switching of ISDN30 provision from 2Mbit/s PPCs to Openreach's wholesale ISDN30 services. This would increase Stage 1 end year volumes by around 0.4%;
- increased retail demand for ISDN30. This would increase Stage 1 end year volumes by around 4.2%; and
- reduced switching to IP-based alternatives. We consider that a reduction in the wholesale ISDN30 price is likely to decrease the extent of switching to IP based alternatives, increasing Stage 1 end year volumes by around 6.3%.

5.194 Following from the above we have forecasted an overall Stage 2 decline in wholesale ISDN30 rental volumes of 19% (i.e. 406k channels) from 2010/11 to 2013/14 (see Figure 5.2 below).

---

<sup>301</sup> For details of the calculations of the volume effects of our proposed charge control, see Annex 5.

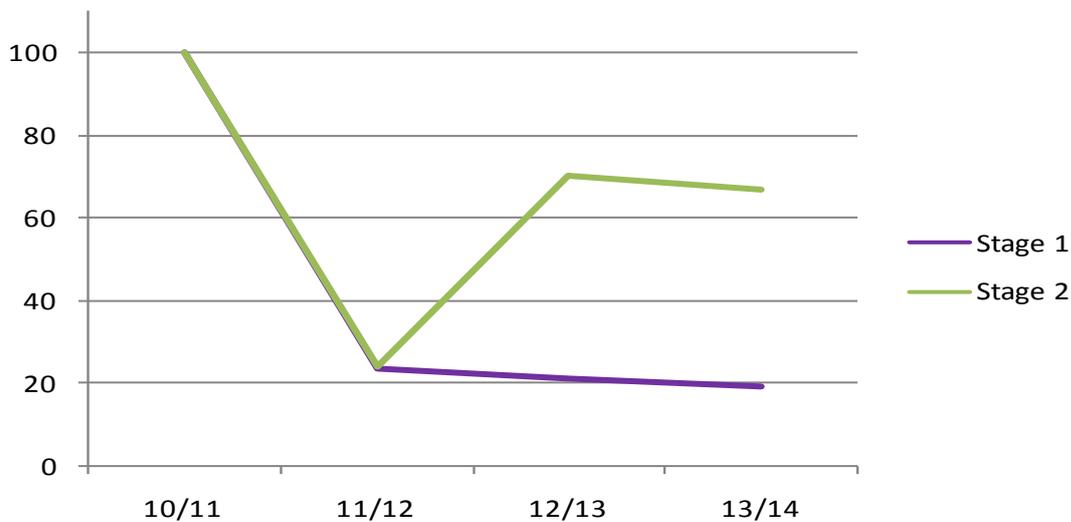
**Figure 5.2 Ofcom volume forecast trend for wholesale ISDN30 rental services (indexed to 100 in 2010/11)**



*We estimate that volumes of wholesale ISDN30 connections will decrease by around 34% by the end of the charge control in 2013/14*

- 5.195 As explained above in paragraph 5.161, connections volumes are derived in a manner consistent with our forecast of rental volumes in Stage 1 and Stage 2.
- 5.196 We estimate a Stage 2 decline in wholesale ISDN30 gross connection volumes of around 34% from 2010/11 to 2013/14 (see Figure 5.3 below). The change in our connections forecast, relative to the April 2011 Consultation, is consistent with the view that rental volumes will decline faster over the period 2010/11 – 2013/14, as assumed under our final rentals volumes forecast. We explain how connections volumes are calculated in more detail in Annex 5.

**Figure 5.3 Ofcom volume forecast trend for wholesale ISDN30 connection services (indexed to 100 in 2010/11)<sup>302</sup>**

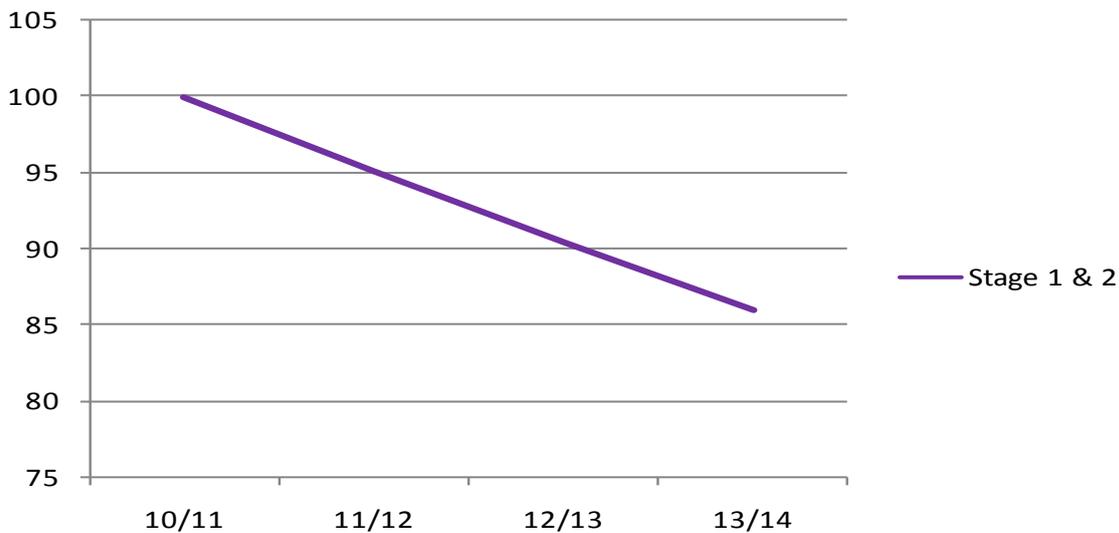


*We estimate that volumes of wholesale ISDN30 transfer services will decrease by around 14% by 2013/14*

- 5.197 We remain of the view that it is likely that transfers volumes will remain more stable than rentals as re-sellers are expected to compete more aggressively for the remaining ISDN30 customers. This is supported by the latest transfers volumes, as discussed in paragraph 5.28 above.
- 5.198 In light of the above, and bearing in mind that we have estimated a 19% decline in rentals, we assume a smaller decline of 14% in transfers volumes (see Figure 5.4 below). The change in our transfers forecast, relative to the April 2011 Consultation, is consistent with the view that rental volumes will decline faster over the period 2010/11 – 2013/14, as assumed under our final rentals volumes forecast.

<sup>302</sup>Although we have imposed a two year charge control period (between 2011/12 and 2013/14), our latest historic data is for 2010/11 which means we also forecast volumes for 2011/12.

**Figure 5.4 Ofcom volume forecast trend for wholesale ISDN30 transfer services (indexed to 100 in 2010/11)<sup>303</sup>**



## We forecast our steady state adjustment to 2013/14

### Our April 2011 Consultation proposals

5.199 As described in Section 3, we proposed to adjust the heavily depreciated wholesale ISDN30 assets (line-cards and access electronics) in the base year to reflect a network at steady state (steady state adjustment). We proposed to implement this adjustment in the base year by:

- uplifting the NRC/GRC ratio to 47%;
- calculating the ROCE on the uplifted NRC; and
- calculating the resulting depreciation based on Openreach's asset lives and GRC.

5.200 Once we calculated the adjusted depreciation for 2009/10, we assumed that in a steady state, capital expenditure and disposals would be equal to the 2009/10 depreciation. As the Cost Forecast model is in nominal terms, we forecast the elements of the steady state adjustment to 2013/14 by applying the asset inflation rate used in the RAV model (RPI<sup>304</sup>):

- capital expenditure was forecast using an estimate of RPI p.a. and efficiency of 4.5% and adjusted to reflect declining volumes;

<sup>303</sup> Although we have proposed a three year charge control period (between 2010/11 and 2013/14), our latest historic data is for 2009/10 which means we also forecast volumes for 2010/11.

<sup>304</sup> We forecast RPI in line with the WBA charge control consultation of 4.4% in 2010/11, 3.6% in 2011/12, 2.7% in 2012/13 and 3% in 2013/14. This is based on Treasury forecasts. See <http://stakeholders.ofcom.org.uk/binaries/consultations/823069/summary/condoc.pdf>

- disposal values were forecast to increase at the projected rate of RPI in 2010/11 and at the estimated rate thereafter;
- depreciation was calculated as the GRC for each year divided by the accounting asset lives; and
- the ROCE unit cost was calculated as the NRC for each year multiplied by the proposed WACC of 9.3%.

*We proposed to forecast the GRC of access electronics and line-cards using an AVE of 0.5 and 1 respectively*

- 5.201 We proposed to forecast the adjusted GRC of line-cards and access electronics in proportion with the appropriate asset volume elasticity (AVE). An AVE measures the percentage change in GRC for a 1% change in volumes. This approach has been widely used in other charge controls we imposed on BT (for example the 2009 Network Charge Control and 2009 Leased Lines Charge Control).
- 5.202 We considered that access products in general benefit from economies of scale and therefore a 1% change in volumes would have an effect on the cost of access products of less than 1%.
- **We proposed to use an AVE of 0.5 for access electronics.** This is consistent with an AVE for access products which we have used in some previous charge controls.<sup>305</sup>
  - **We proposed to use an AVE of 1 for line-cards.** We considered that there were no economies of scale associated with line-cards, with one line-card being required per line. In addition, we assumed that the reduction in rental volumes would be primarily due to switching to new technology, which is likely to be done on a site by site basis, rather than by reductions in the number of channels per line.
- 5.203 In the April 2011 Consultation we asked respondents the following question: *Do you agree with our proposed AVEs for line-cards and access electronics?*

#### April 2011 Consultation responses

- 5.204 Openreach stated that our approach to AVEs represented a good approximation for the purposes of the steady state adjustment.<sup>306</sup> Although it acknowledged that the line-card component includes a number of fixed costs where the AVE may be less than 1, it noted that, for simplicity, our assumption of an AVE of 1 was appropriate.
- 5.205 C&WW stated that our AVE assumption appeared reasonable.<sup>307</sup>

<sup>305</sup> For example, in the 1996 Price Control Review Statement Oftel stated "Oftel has considered each of the cost and asset volume relationships for growth in access lines and the volume of calls over the network. Oftel has used, in relation to access, asset volume and cost volume relationships in the region of 0.4-0.6 (that is a 1% increase in the volume of access lines would lead to an increase in assets and costs of between 0.4 and 0.6%)" (paragraph 6.30).

[http://www.ofcom.org.uk/static/archive/oftel/publications/1995\\_98/pricing/pri1997b/chap6.htm](http://www.ofcom.org.uk/static/archive/oftel/publications/1995_98/pricing/pri1997b/chap6.htm)

<sup>306</sup> See para 70-71 at: <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>307</sup> See p 10 at: <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/CW.pdf>

Our conclusion

5.206 Respondents considered our approach to AVEs for the purposes of forecasting the steady state adjustment was reasonable. We have therefore forecast the adjusted GRC of the heavily depreciated assets using an AVE of:

- 0.5 for access electronics; and
- 1 for linecards.

5.207 In addition, changes in a number of assumptions affect the forecast of the steady state adjustment to 2013/14. We set out a detailed explanation of our methodology for forecasting the steady state adjustment in Annex 3.

5.208 In summary, the steady state adjustment forecast is calculated as follows:

- capital expenditure is forecast using an annual estimate of RPI (see paragraphs 5.263 to 5.273) and net efficiency of 4.5% (see paragraph 5.222 to 5.237) and adjusted to reflect declining volumes;
- disposal values are forecast to increase at the annual estimate of RPI from 2010/11;
- depreciation is calculated as the GRC for each year divided by the accounting asset lives; and
- the ROCE unit cost is calculated as the NRC for each year multiplied by the proposed WACC of 9.7% (see paragraphs 5.238 to 5.257).

5.209 We discuss changes in these assumptions in more detail below.

### **Capital expenditure is forecast in our Cost Forecast model and supplemented by the steady state adjustment**

#### Our April 2011 Consultation proposals

5.210 One of the key issues raised by Openreach during the ISDN30 market review was that a charge control could increase demand for wholesale ISDN30 services and could potentially require additional investment. Openreach argued that such investment is likely to be inefficient because declining demand for ISDN30 in the long term would mean that new assets would quickly become surplus to requirements. Our view was that the risk of inefficient investment is low.

5.211 For the purposes of forecasting Openreach's costs we projected Openreach's future capital expenditure in the Cost Forecast model based on our projected volumes and in combination with data from Openreach. This data included:

- 5.211.1 forecast labour time spent on capital programmes, and;
- 5.211.2 the level of capitalisation (proportion of labour costs that relate to capital expenditure and are therefore treated as capital expenditure).

5.212 Therefore when we input our Stage 2 volumes, which aimed to capture the slower volume decline as a result of our proposed charge control, increased capital expenditure was forecast.

- 5.213 Our steady state adjustment also allowed for additional capital expenditure (for line-cards and access electronics) which might be required in the future to maintain an on-going network. We did not adjust this to take into account Openreach's possible re-use of certain assets. Specifically, these assets include line-cards which are not currently manufactured and which Openreach replace using existing and returned stock if required. Line-cards make up a small proportion (less than 10%) of the capital expenditure forecast as part of the steady state adjustment.
- 5.214 Our analysis indicated that the required capital expenditure in 2013/14 was around £6m based on the Cost Forecast model with an additional £67m based on the steady state adjustment in 2013/14.
- 5.215 In the April 2011 Consultation we asked respondents the following question: *Do you agree with our proposed approach to forecasting capital expenditure for core wholesale ISDN30 services?*

#### April 2011 Consultation responses

- 5.216 C&WW expressed a concern that lower pricing could artificially stimulate demand for ISDN30 which could result in stranded assets. It considered that the only way Ofcom could be confident that this would not be the case, would be to choose an X at the lower end of the range.<sup>308</sup>
- 5.217 Openreach agreed with our approach to forecasting capital expenditure. In particular, it agreed with our proposal to not adjust capital expenditure to reflect any potential re-use of equipment.<sup>309</sup>

#### Our conclusion

- 5.218 Respondents agreed with our proposed approach to forecasting capital expenditure for ISDN30 services. We have calculated capital expenditure in the Cost Forecast model, using the two-stage approach to volume forecasts (which is discussed in detail in Annex 5.)
- 5.219 We consider that this approach will capture additional demand which is caused by a reduction in prices. We discuss this in more detail in Annex 6.
- 5.220 In addition, we have calculated additional capital expenditure using our steady state model. The steady state model is adjusted to include additional capital expenditure that would be required to maintain a steady state. We do not make an adjustment to reflect any potential re-use of assets as we consider that the potential for this is small.
- 5.221 We have calculated new capital expenditure of £73m for the year 2013/14, for ISDN30 rentals, as a result of the steady state adjustment. In addition, within our Cost Forecast model, we estimate new capital expenditure of £9m for ISDN30 rentals. This results in a total estimate of capital expenditure in 2013/14 of £82m.

#### **We have used an annual efficiency target of 4.5% (net)**

<sup>308</sup>See p 10 at: <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/CW.pdf>

<sup>309</sup>See para 72 at: <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

## Our April 2011 Consultation proposals

- 5.222 In our April 2011 Consultation, we noted that one of the main benefits of the RPI-X form of charge control is that it creates incentives on the charge controlled firm to increase its efficiency. It does this by allowing the firm to keep any super-normal profits that it earns by realising efficiency savings greater than those assumed in the cost forecasting model. We assume that Openreach will make the efficiency savings needed for costs to reach an efficient level at the end of the control period.
- 5.223 As part of the WLR and LLU 2011 Consultation,<sup>310</sup> we estimated the target efficiency of Openreach as a whole to be within the range 3.5% to 5.5%. The mid-point of this (4.5%) was used for the purposes of cost modelling. This represented a single rate to be applied to costs, including capital expenditure. This 4.5% is net of the costs of achieving the efficiency targets (this was equivalent to a 5% gross efficiency target).
- 5.224 In arriving at the above efficiency range, we considered the historical levels of efficiency achieved by Openreach, the benchmarking exercises conducted on behalf of Ofcom (and Openreach) and Openreach's own forecasts.
- 5.225 We considered that the above range was also appropriate for wholesale ISDN30 services, as the potential efficiency gains were considered at an Openreach level which included the costs of ISDN30 services. In addition, in a KPMG report<sup>311</sup> on Openreach efficiency, the core costs of ISDN30 services were considered to be similar in nature to Openreach's IT costs which were directly benchmarked. These costs were then extrapolated and form part of the total efficiency savings identified in that report. The KPMG report formed part of our analysis in arriving at the proposed range.
- 5.226 Based on the above we proposed to use an efficiency range of 3.5% and 5.5% for wholesale ISDN30 services.
- 5.227 In the April 2011 Consultation we asked respondents the following question: *Do you agree with our proposed efficiency assumption range of 3.5% to 5.5% for core wholesale ISDN30 services?*

## April 2011 Consultation responses

- 5.228 Openreach argued that the range proposed by Ofcom was too high, and was not supported by the evidence. It argued that a rate of 3.5% would be more appropriate.
- 5.229 As the approach to estimating the efficiency target in our April 2011 Consultation followed the approach taken in the WLR and LLU 2011 Consultation, Openreach responded more fully on the issue of efficiency in its response to the WLR and LLU 2011 Consultation, and it referred readers to this.<sup>312</sup>
- 5.230 C&WW noted that, as an end of life product, the scope for efficiency savings for ISDN30 services is low. However, it noted that it considers BT is able to act in a more efficient manner when delivering all products.

<sup>310</sup><http://stakeholders.ofcom.org.uk/consultations/wlr-cc-2011/>

<sup>311</sup>[http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/annexes/Efficiency\\_Review\\_Report.PDF](http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/annexes/Efficiency_Review_Report.PDF)

<sup>312</sup>See para 73-78 at: <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

5.231 C&WW argued that there should be a degree of consistency between the efficiency target for ISDN30 and PPCs/AI services as a result of the degree of common costs. C&WW referred to the 2009 leased line charge control efficiency assumption of 2.8% for AI services.<sup>313</sup>

### Our response and conclusions

5.232 Openreach's argument that the range estimated in the WLR and LLU 2011 Consultation was too high was set out in more detail in its response to that consultation. As part of the WLR and LLU 2012 Statement, we considered stakeholder responses and revised historical data and internal and external evidence. Based on the analysis in the WLR and LLU 2012 Statement, we consider that our net efficiency target of 4.5% balances our objectives of reflecting Openreach's ability to reduce costs whilst maintaining incentives for efficiency improvements. Our approach to efficiency is set out in detail in Annex 3 to the WLR and LLU 2012 Statement.

5.233 In relation to C&WW's comment on the leased lines charge control, we consider that using a rate set in 2009 is not an appropriate basis for an efficiency target for the purposes of forecasting costs to 2013/14.

5.234 In relation to C&WW's comment that the scope for efficiency savings for an end of life product is low, we note that we are modelling a hypothetical ongoing network in which it is appropriate to assume that efficiency savings arise.

5.235 We also note that, although demand for ISDN30 services is in decline, our volume forecast suggests that a sufficient level of demand is expected to remain over the charge control period and may remain so for some years after that.

5.236 For the reasons set out above and in paragraph 5.225, we consider that the efficiency target set in the WLR and LLU 2012 Statement should apply to ISDN30 services.

5.237 We have therefore used a net efficiency rate of 4.5% in our cost modelling for ISDN30 services to calculate the steady state adjustment from 2010/11 to 2013/14.

### **We have used the rest of BT WACC of 9.7%**

#### Our April 2011 Consultation proposals

5.238 In our April 2011 Consultation we noted that we had set out our latest estimates of BT's WACC in the WBA 2011 Consultation. These included the following pre-tax nominal rates:

- copper access services: 7.9% - 9.4%; and
- rest of BT: 8.5%-10%.<sup>314</sup>

5.239 We explained that the two ranges reflected differences in "systematic risk", that is, in the extent to which demand for the services is correlated with the economic cycle. In

<sup>313</sup>See p 10 at: <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/CW.pdf>

<sup>314</sup> See the April 2011 Consultation paragraph 5.134, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

the case of copper access services, whose demand is relatively stable over the economic cycle, the cost of capital is lower than in the case of the rest of BT.<sup>315</sup>

5.240 We considered that the rest of BT rate should be applied to ISDN30 services. This is because ISDN30 is inherently a business service and faced with a downturn, businesses are more likely to reduce their consumption of wholesale ISDN30 services than residential customers are to dispense with their single fixed voice and broadband connection.<sup>316</sup> This view was supported by the fact that ISDN30 services had been more significantly affected by the economic downturn in 2009/10 than copper lines (as shown in Annex 4).

5.241 We therefore proposed that wholesale ISDN30 services should be subject to the rest of BT rate, the range proposed in the WBA consultation being 8.5% to 10.0% with a mid-point of 9.3%.<sup>317</sup>

5.242 In the April 2011 Consultation we asked respondents the following question: *Do you agree with the range of WACC proposed for wholesale ISDN30 services?*

#### April 2011 Consultation responses

5.243 We only received responses from C&WW and Openreach to this question. C&WW considered that the same WACC should be applied to PPCs and wholesale ISDN30, given that they share similar equipment and assets and the products are in a similar phase in their lifecycle. On this basis, C&WW considered that we should apply the rest of BT rate to ISDN30 as we do with PPCs.<sup>318</sup>

5.244 Openreach agreed that we should apply the rest of BT rate to wholesale ISDN30 services, for the following reasons:

- a business-only service such as ISDN30 is subject to greater systematic risk than copper lines, as shown by the stronger decline in ISDN30 volumes than copper lines in 2009/10;
- ISDN30 shares more assets with PPCs (which are subject to the rest of BT rate) than with copper lines;
- it is more difficult to forecast ISDN30 volumes than demand for copper lines; and
- demand for ISDN30 services is more correlated with the economic cycle than copper products.<sup>319</sup>

5.245 Additionally, Openreach disagreed with the level of the rest of BT WACC. This is explained further in paragraph 5.251 below.

<sup>315</sup> See the April 2011 Consultation paragraph 5.134, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>316</sup> See the April 2011 Consultation paragraph 5.135, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>317</sup> See the April 2011 Consultation paragraph 5.137, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>318</sup> C&WW response to our April 2011 Consultation, see pp. 10-11 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/cw.pdf>

<sup>319</sup> Openreach response to our April 2011 Consultation, see para. 80 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

## Our response and conclusions

5.246 We note that stakeholders' responses refer to two separate issues. On the one hand, which rate should be applied to wholesale ISDN30 services (the 'rest of BT' or the 'Copper access' rate) and, on the other hand, whether the level of the rest of BT rate (applicable to wholesale ISDN30 services) is appropriate. We discuss these issues in turn below.

### *We have applied the 'rest of BT' rate to wholesale ISDN30 services*

5.247 Both C&WW and Openreach agree that we should apply the 'rest of BT' rate to wholesale ISDN30 services. C&WW states that the same rate used for PPCs should apply to wholesale ISDN30, given that the two services share similar equipment and assets and are in a similar phase of their lifecycle.

5.248 We agree with C&WW that the 'rest of BT' rate should apply to wholesale ISDN30, however, we note that the equipment and common assets shared between this service and PPCs is not the main factor determining our decision. As discussed in paragraphs 5.239 to 5.240 above and in Annex 4, the main factor in deciding the appropriate cost of capital for a service is its 'systematic risk', the correlation between demand for this service and the economic cycle.

5.249 Openreach similarly agrees with our proposal to use the 'rest of BT' rate for wholesale ISDN30, citing several factors that we discussed in our April 2011 Consultation when deciding that we should apply the 'rest of BT' rate to wholesale ISDN30.<sup>320</sup> We agree with Openreach and have no further comments on its response.

### *We have used a WACC of 9.7% for the 'rest of BT' rate*

5.250 In our April 2011 Consultation, we stated our intention to use the WACC as estimated in the WLR and LLU 2011 Consultation. In the WLR and LLU 2011 Consultation, we invited stakeholders to comment on our approach to estimating the cost of capital and provide evidence to support their views.

5.251 Openreach stated that it disagreed with the level of the 'rest of BT' WACC proposed in our April 2011 Consultation. It indicated that its response to the WBA charge control consultation included its detailed response on this matter,<sup>321</sup> along with a third party report.<sup>322</sup> Openreach also stated that the WLR/LLU and ISDN30 modelling should apply the same RPI assumption used in the WBA charge control.<sup>323</sup>

5.252 In reaching our decision on the appropriate cost of capital in the WBA 2011 Statement, we took account of the specific responses on the cost of capital (and subsequent new data) submitted in relation to both the WLR and LLU 2011 Consultation and the WBA 2011 Consultation. Our analysis of responses relating to the cost of capital, including those made in response to the WLR and LLU 2011

<sup>320</sup> See the April 2011 Consultation's Annex 7, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>321</sup> See BT's WBA charge control consultation response at <http://stakeholders.ofcom.org.uk/binaries/consultations/823069/responses/BT1.pdf>

<sup>322</sup> See <http://stakeholders.ofcom.org.uk/binaries/consultations/823069/responses/BT4.pdf>

<sup>323</sup> Openreach response to our April 2011 Consultation, see para. 81-82 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

Consultation, and our conclusions on the individual parameters were set out in detail in Section 6 of the WBA 2011 Statement.<sup>324</sup>

- 5.253 The revised nominal pre-tax cost of capital estimate for the 'rest of BT', as set out in the WBA 2011 Statement is 9.7%.
- 5.254 We note that the inflation assumption of 3% used in the estimation of the WACC is consistent with the 3% RPI assumption applied to assets in the calculation of holding gains/losses for 2013/14 (see paragraph 5.273 below).
- 5.255 In the WBA 2011 Statement, we stated our intention to apply the cost of capital estimates in subsequent relevant charge controls, providing the estimates remain relevant. As part of the WLR and LLU 2012 Statement, we assessed the individual parameters of the WACC to identify whether they continued to remain relevant.
- 5.256 In summary, we observed a potential downward movement in the risk-free rate, and potential increase in the asset beta, however:
- We consider that updating the cost of capital to take account of recent movements in the asset beta and the risk free rate would not materially change the overall estimate of the WACC from that estimated in July 2011; and
  - given the uncertainty around these parameters and the overall margin of error in estimating the WACC, we do not think there is sufficient evidence to warrant a change in the WACC.
- 5.257 Given the proximity of the WLR and LLU 2012 Statement to this Statement, we consider this analysis remains appropriate. We have therefore used a 'rest of BT' rate of 9.7% in estimating the costs of wholesale ISDN30 services to 2013/14.<sup>325</sup> We explain this further in Annex 4.

**We have used inflation of 2.5% to forecast operating costs, 3% to forecast pay costs and RPI to forecast holding gains and losses.**

#### Our April 2011 Consultation proposals

*We proposed to use non-pay cost inflation of 2.5% and pay cost inflation of 3%*

- 5.258 In the April 2011 Consultation, we noted that the Cost Forecast model is calculated in nominal terms therefore we needed to apply an appropriate rate of inflation to forecast Openreach costs forward to 2013/14.
- 5.259 Historically, we have used RPI as a reasonable proxy when forecasting cost inflation. However in the 2009 OFFR Statement,<sup>326</sup> we explained that while RPI may be appropriate for forecasting cost inflation in the long term, it was less appropriate for short term cost forecasting. This is because it was considered that forecast reductions in RPI inflation would not be reflected in similar reductions in Openreach's input cost inflation (as the former resulted from reductions in mortgage rates and VAT which are not part of Openreach's costs).

<sup>324</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/823069/statement/statement.pdf>

<sup>325</sup> We note that the cost of capital estimated in the WBA 2011 Statement is under appeal by BT: Competition Appeal Tribunal, case 1187/3/3/11.

<sup>326</sup> <http://stakeholders.ofcom.org.uk/consultations/openreachframework/statement/>

- 5.260 Similarly, current forecast increases in RPI are unlikely to be reflected in Openreach's input cost inflation (as they include the effect of the increase in VAT in January 2011 and longer term forecasts reflect an expectation that mortgage interest rates will rise).
- 5.261 Based on the above, we assumed that Openreach's input costs (including ISDN30 costs) would increase at a rate below that currently forecast for RPI. For the purposes of our base case, we assumed an annual rate of 2.5% for the charge control period.
- 5.262 We also assumed that Openreach's pay costs would increase at a rate above that of other operating costs, as has previously been the case. For the purposes of our base case we assumed an annual rate of 3% for pay costs for the charge control period.

*We proposed to forecast holding gains (losses) using an estimate of RPI*

- 5.263 Holding gains (losses) are increases (decreases) in the replacement cost of CCA assets during a period. In order to forecast costs to 2013/14, we need to take account of this increase (decrease) in our modelling.
- 5.264 In line with the WLR and LLU Consultation, we proposed to forecast holding gains (losses) on assets at the rate of RPI for 2010/11. We then forecast holding gains based on average RPI of 3% per annum from 2011/12 to 2013/14. We considered that this should apply equally to the forecast of holding gains (losses) in relation to wholesale ISDN30 services. We also applied this as the appropriate rate of asset inflation in our steady state adjustment.
- 5.265 We stated our projection of RPI for the next 3 years in the WBA 2011 Statement based on HM Treasury forecasts published in November 2010. We proposed to use 4.4% for 2010/11. We considered that 3% represented a reasonable estimate of inflation for the period 2011/12-2013/14.
- 5.266 In the April 2011 Consultation we asked respondents the following question: *Do you agree with our proposed approach to inflate operating costs at 2.5% p.a., pay costs at 3.0% p.a. and holding gain/losses at an average RPI of 3.0% p.a.?*

April 2011 Consultation responses

- 5.267 Openreach agreed that it was appropriate to reduce forecast RPI to estimate non-pay inflation. However, it disagreed with our approach to forecasting pay costs. Openreach argued that pay costs should be inflated by reference to RPI, taking into account real increases in pay rates. This argument was set out in detail in Openreach's response to the WLR and LLU 2011 Consultation.<sup>327</sup>
- 5.268 C&WW stated that our inflation assumptions to be used in forecasting costs appeared reasonable.<sup>328</sup>

<sup>327</sup> Openreach response to our April 2011 Consultation, see para. 83-87 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>328</sup> C&WW response to our April 2011 Consultation, see p 7 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/cw.pdf>

## Our response and conclusions

5.269 Openreach provided a detailed response to the appropriate measure of pay inflation in its response to the WLR and LLU 2011 Consultation. We considered its response in addition to responses of other stakeholders in the WLR and LLU 2012 Statement. We noted:

*“The range of stakeholder views around the likely level of pay inflation (from 1% less than RPI to 1% more than RPI) illustrates the difficulty in arriving at a robust estimate of what might happen to pay levels in the next few years. We note that pay has historically been linked (if only indirectly) to RPI and in light of the ongoing economic uncertainty, we consider that it reasonable to assume that pay inflation will be similar to RPI inflation rather than trying to predict increases will be slightly above or below this level. On this basis we have assumed pay will increase at a rate of 3%.”<sup>329</sup>*

5.270 As part of the WLR and LLU 2012 Statement, we updated our forecasts of RPI, to take account of more recent HM Treasury Forecasts. This was to ensure that our estimation of inflation remained appropriate. We noted in particular, that forecasting inflation remains difficult. Based on HM Treasury forecasts, we stated that an assumption that RPI inflation might average around 3% in 2012/13 and 2013/14 appeared reasonable. After stripping out an estimate of the impact of expected changes in interest rates, we estimated that BT’s underlying rate of inflation would be around 2.5% (on the assumption that Openreach’s costs would increase at a rate below forecast RPI).

5.271 We have updated our forecasts of RPI in each year to be used for the purposes forecasting holding gains/losses. We set the revised assumptions out below:

**Table 5.10 RPI forecasts to be used in forecasting holding gains/losses**

Source	2010/11	2011/12	2012/13	2013/14
Statement	5.3%	4.9%	3.4%	3.0%
April 2011 consultation	4.4%	3.0%	3.0%	3.0%

5.272 We have applied an annual inflation rate of 2.5% for non-pay costs and 3% for pay costs when forecasting the costs for ISDN30 services. This is in line with the approach taken in the WLR and LLU 2012 Statement.

5.273 We have used an estimate of RPI for each year (as set out in Table 5.10 above), for the purposes of forecasting holding gains/losses. We have used these rates for forecasting the steady state adjustment to 2013/14 (this is set out in detail in Annex 3).

### **We have calculated ISDN30 costs reflecting the above adjustments**

5.274 Using the above adjustments and assumptions, we have forecast the costs for wholesale ISDN30 services from 2010/11 to 2013/14.

<sup>329</sup>This is set out in detail in paragraph 6.55 to the WLR and LLU 2012 Statement at: <http://stakeholders.ofcom.org.uk/consultations/llu-wlr-further-consultation/statement>

5.275 Based on these assumptions, in Table 5.11 below we show the unit costs for wholesale ISDN30 rental<sup>330</sup> services. In addition, in Annex 3 we provide the total costs of the wholesale ISDN30 rentals and connections basket which also includes ECS.

---

<sup>330</sup> Although we have proposed a single basket including wholesale ISDN30 rentals, connections and enhanced care services in Table 5.11 we have only shown the unit costs for the rental services. This is because ISDN30 rentals account for the majority of the revenues in this basket.

**Table 5.11 Ofcom Base Case unit cost stacks for wholesale ISDN30 rental services<sup>331</sup>**

	ISDN30 - Rental (Standard)			
	2010/11	2011/12	2012/13	2013/14
	£/channel	£/channel	£/channel	£/channel
<i>Unit costs from cost allocation model:</i>				
Current Pay	3	3	4	4
Other Operating Costs	1	1	1	1
Transfer Charges <sup>332</sup>	5	4	5	5
Internal Cost of Sales <sup>333</sup>	37	38	44	48
Other Operating Income	0	0	0	0
Internal Capitalisation	0	0	0	0
Depreciation excl holding gains	8	7	8	8
Holding Gains	-5	-3	-3	-3
<b>Operating Cost inc Depreciation</b>	<b>48</b>	<b>50</b>	<b>59</b>	<b>62</b>
<i>Off-model cost adjustments:</i>				
Steady state adjustment	39	43	43	44
Reduction in connection Sales + General admin	0	0	0	0
Reallocation of excess transfer costs <sup>334</sup>	2	2	2	2
ROCE @ 9.7%	7	7	8	8
<b>Total Cost</b>	<b>96</b>	<b>59</b>	<b>112</b>	<b>116</b>
MCE per model <sup>335</sup>	161	146	144	134
<b>Volumes (k)</b>	<b>2,131</b>	<b>1,919</b>	<b>1,819</b>	<b>1,725</b>

<sup>331</sup> The base year (2010/11) in this case uses our forecasting assumptions which includes a lower WACC of 9.7% and the impact of moving transfer costs in excess of revenues into the rental cost stack, it therefore differs slightly from the base year calculated for the purposes of assessing Openreach's profitability for ISDN30 services in Section 3.

<sup>332</sup> Transfer charges include a reallocation of BT group costs to Openreach.

<sup>333</sup> BT Operate levies charges against Openreach, referred to as 'Internal Cost of Sales' charges. These charges include line-card rental costs, and other costs such as access and backhaul. These are levied on the basis of costs incurred.

<sup>334</sup> We are implementing an RPI % safe-guard cap on transfers, therefore we recover excess transfer costs through the combined wholesale ISDN30 rentals and connections basket. As rentals make up the majority of the revenues in this basket, we would expect Openreach to recover these costs in the rental price. We discuss this in more detail in Annex 3.

<sup>335</sup> The MCE used to calculate ROCE unit cost above does not include the steady state adjustment uplift. This is because the steady state uplift in the ROCE is included within the steady state adjustment above.

5.276 The above table shows that:

- we would expect the price of rentals to decrease from the current level of £141/channel to around £116/channel by 2013/14;
- the steady state adjustment is the most material adjustment, amounting to around 37% of the unit cost stack in 2013/14; and
- the unit costs of rentals is forecast to increase from £96/channel in 2010/11 to £116/channel in 2013/14 (i.e. by around 20%) due to the forecast decline in volumes.

## **We have not made one-off adjustments to starting charges**

### **Our approach to one-off adjustments in the April 2011 Consultation**

5.277 In deciding the appropriate form of the charge control on wholesale ISDN30 in the April 2011 Consultation we assessed the need for one-off adjustments to starting charges. Below we summarise our findings in the April 2011 Consultation, stakeholder's responses to these, and our final decision.

### **We did not propose any one-off adjustments to the starting prices of wholesale ISDN30 services**

#### Our April 2011 Consultation proposals

#### *The charge for wholesale ISDN30 rentals was within benchmarks*

5.278 In the April 2011 Consultation we proposed not to make one-off adjustments to the starting charges of wholesale ISDN30 rentals for the following reasons:<sup>336</sup>

- the rental charge had been within the DLRIC and DSAC benchmarks<sup>337</sup> for the years 2007/08 to 2009/10, meaning that there was no a priori risk of distortions from the current level of charges;
- ISDN30 prices had been stable for some time, without recent price increases;
- we expected the rate of return to decrease as volumes were expected to decline;
- even without one-off cuts, the value of X was not unusually high;
- a one-off reduction to FAC would have been followed by price increases, as volumes declined, and this was undesirable because it would have curtailed price stability; and
- even if we recognized that high prices could result in an inefficient choice of wholesale inputs, the evidence from our modelling indicated that the impact of this was likely to be small and in any case would tend to encourage investment in competing infrastructure.

<sup>336</sup> See the April 2011 Consultation paragraph 5.153-5.157, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>337</sup> We use LRIC figures as appropriate benchmarks in the context of this review. See paragraph 4.90 above

5.279 In the April 2011 Consultation we asked respondents the following question: *Do you agree that one-off adjustments to the starting charges of wholesale ISDN30 rental services are not required? If not, please explain why.*

*The individual connection charges were outside benchmarks but the combined connections and rentals charges were within these benchmarks*

5.280 In the case of connections, we explained that the average connection charge had been within our adopted cost benchmarks in 2007/08 and 2009/10, but not in 2008/09. We noted however that Openreach had indicated that the 2009/10 figure was the most robust. As this was also the most recent, we gave this more weight than the others and so we did not propose one-off cuts on the rental charge.<sup>338</sup>

5.281 We explained that the two individual connection charges (i.e. the *per channel* and *per new site* charges) were outside benchmarks and that this suggested that some rebalancing of both charges could be desirable. However, we noted that imposing such rebalancing on individual connection charges was not appropriate as we did not have the information necessary to enable us to set the correct relative charges. We also noted that connections and at least a single year's rental would be purchased together. For this reason we investigated whether various combinations of the two connection charges or combinations of the connection charges and rentals were below their aggregate DSAC.<sup>339</sup>

5.282 We estimated that any customer connecting more than  $\infty$  channels in a single year at a single site was likely to pay a price for connections above the aggregate DSAC for the two connection charges. In light of the market research conducted in our Market Review, which showed that around 5% of all businesses surveyed had more than 300 ISDN30 channels across their organisation, we considered that there could be some large customers connecting more than this level of channels at a single site.<sup>340</sup>

5.283 When considering the two connection charges and one year rental charge in aggregate, we estimated that a customer would need to purchase more than  $\infty$  channels at a single site to pay an aggregate price above the aggregate DSAC. We considered it highly unlikely that any of Openreach's customers would connect such amount of channels to a single site.<sup>341</sup> We also estimated that if we considered the two connection charges and two year rental together, no ISDN30 customer would be paying a price above their aggregate DSAC.<sup>342</sup>

5.284 Under these circumstances we concluded that the connection charges were likely to be below their DSAC for the majority of customers and, for those customers for which this was not the case, the aggregate connection and rental charge was likely to be below their DSAC. In addition, we did not consider that there was potential for

<sup>338</sup> See the April 2011 Consultation paragraphs 5.160-5.162, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>339</sup> See the April 2011 Consultation paragraphs 5.163-5.168, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>340</sup> See the April 2011 Consultation paragraphs 5.169-5.175, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>341</sup> See the April 2011 Consultation paragraphs 5.176-5.177, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>342</sup> See the April 2011 Consultation paragraphs 5.178, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

discrimination in favour of BT Retail arising from the current structure of connection charges.<sup>343</sup>

5.285 In light of the above, we did not propose to make one-off adjustments to the starting prices of connection charges.<sup>344</sup>

5.286 In the April 2011 Consultation we asked respondents the following question: *Do you agree that one-off adjustments to the starting charges of wholesale ISDN30 connection services are not required? If not, please explain why.*

*We did not propose to make one-off adjustments to the starting charges of wholesale ISDN30 transfers*

### Our April 2011 Consultation proposals

5.287 In the April 2011 Consultation we noted that the transfer charge had been below FAC and DLRIC throughout the period 2007-2010.<sup>345</sup> We discussed whether we should bring transfer charges into line with FAC but considered that this was not appropriate for the following reasons:

- it would amount to a large price adjustment, which risked disrupting the wholesale and retail markets, while a gradual transition was more likely to be appropriate; and
- it was not necessary for efficiency reasons, as prices below FAC could also be efficient as long as overheads were recovered from other services.<sup>346</sup>

5.288 We therefore considered two additional options. Option 1 consisted of applying an RPI % safe-guard cap on transfer charges whereas under Option 2 we would allow charges to rise gradually to DLRIC.<sup>347</sup> We considered that a safe-guard cap was preferable for the following reasons:

- low transfer charges promote competition by keeping switching costs low. We were therefore concerned that an increase in transfer charges to DLRIC could risk undesirable effects such as the introduction of new charges for migrating customers, higher Early Termination Charges (ETCs) or increase in the length of Minimum Contract Periods (MCPs);<sup>348</sup> and

<sup>343</sup> See the April 2011 Consultation paragraphs 5.179-5.180, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>344</sup> See the April 2011 Consultation paragraphs 5.181-5.183, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>345</sup> See the April 2011 Consultation paragraphs 5.185, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>346</sup> See the April 2011 Consultation paragraphs 5.186-5.187, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>347</sup> See the April 2011 Consultation paragraphs 5.188, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>348</sup> See the April 2011 Consultation paragraphs 5.189-5.191, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

- we did not consider that the current low transfer charge could lead to inefficient levels of switching because, in spite of being below DLRIC, we believed it was likely to be above the short-term marginal costs of providing this service.<sup>349</sup>

5.289 We therefore concluded that we would not implement any one-off adjustments to the starting charges of transfer services.

5.290 In the April 2011 Consultation we asked respondents the following question: *Do you agree with Ofcom's approach to the pricing of wholesale ISDN30 transfer charges during the next charge control? If not, please explain why.*

#### Additional evidence in the December 2011 Consultation

5.291 In the December 2011 Consultation we noted that following the April 2011 Consultation we had requested updated cost information on wholesale ISDN30 services for 2010/11 under formal powers. This new cost data supplied by Openreach was significantly different from the 2009/10 figures we had relied upon in the April 2011 Consultation and we explained that when we discussed this with Openreach they subsequently provided a further set of cost data which was again different.<sup>350</sup>

5.292 We indicated that the new evidence would have affected the analysis in the April 2011 Consultation as to how many customers might pay a price above DSAC in the case of connection charges. However, we did not consider it appropriate to rely on the 2010/11 figures from Openreach to assess the need for one-off adjustments for the following reasons:

- there was a lack of consistent data for the period 2007 to 2010;
- the 2010/11 data was not consistent with the FAC estimates in Ofcom's regulatory model, which we use to set wholesale ISDN30 charges; and
- we considered the Ofcom model to be more accurate because, amongst other reasons, it had been audited by Ernst & Young and the current outputs suggested that relevant charges were within reasonable bounds.<sup>351</sup>

5.293 We noted that it was important to put in place an appropriate control to deal with the identified risk of excessive pricing to ensure consumers' best interests are protected and identified our concern over potential delays to the imposition of this control. We indicated that we were not minded to further revisit Openreach's cost figures due to the lack of robust data and the fact that one-off cuts were not supported by the output of our model or any additional market specific factors.<sup>352</sup>

#### April 2011 Consultation responses

5.294 We received responses from three stakeholders: UKCTA, C&WW and Openreach. UKCTA considered that in this charge control it was appropriate to take a cautious

<sup>349</sup> See the April 2011 Consultation paragraphs 5.192-5.198, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>350</sup> See the December 2011 Consultation paragraph 1.8, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/summary/condoc.pdf>

<sup>351</sup> See the December 2011 Consultation paragraph 1.9, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/summary/condoc.pdf>

<sup>352</sup> See the December 2011 Consultation paragraph 1.10, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/summary/condoc.pdf>

approach. It therefore fully supported our decision not to impose adjustments to starting charges as these could immediately undermine market confidence.<sup>353</sup>

- 5.295 C&WW similarly strongly opposed one-off adjustments to starting charges due to their implications on alternative suppliers. It argued that in the case of ISDN30, where some CPs have made significant investments in their own infrastructure and in PPCs, a sudden change in wholesale prices would be 'potentially destabilising', leaving no time to adjust their investment decisions.<sup>354</sup>
- 5.296 Openreach agreed that there was no strong evidence suggesting that the current charges for wholesale ISDN30 rentals created any distortions. Openreach stated its preference, in line with our proposals, for a glide path that ensured that there were no immediate impacts on demand from the charge control. It noted that a one-off adjustment to starting charges would be particularly risky as it could increase demand inefficiently and send wrong pricing signals to developers of SIP-based alternatives.<sup>355</sup>
- 5.297 In the case of connection charges, Openreach considered that one-off adjustments were only justified in exceptional circumstances and in situations where the existing level of charges could lead to significant distortions. It considered that our analysis demonstrated that there was no strong evidence of distortions arising from the current level of connection charges. Openreach also expressed its preference for a glide path that would ensure that the control would not lead to immediate shocks to demand, particularly in a market subject to significant uncertainties such as ISDN30.<sup>356</sup>
- 5.298 Openreach considered that prices should generally reflect efficiently incurred costs and recognised that the current transfer price was below its LRIC costs. In the case of wholesale ISDN30 transfers, Openreach agreed that maintaining the price below its LRIC would be beneficial as this would encourage CPs to use the transfer, rather than the connection, service when migrating an end user. In Openreach's view this would ensure that the existing assets were re-used.<sup>357</sup>

### Our response and conclusions

- 5.299 In light of our arguments in the April and December 2011 Consultations and the responses from Openreach, C&WW and UKCTA, we continue to believe that one-off adjustments to the starting charges of wholesale ISDN30 services are not appropriate.

### *Regulation of Featurenet's migration services*

- 5.300 In their consultation responses both UKCTA and C&WW discussed the ability of BT's Featurenet customers to migrate to other suppliers. According to both, there was no migration process from BT's service which risked locking in BT's Featurenet

<sup>353</sup> UKCTA response to our April 2011 Consultation, see para. 7 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/UKCTA.pdf>

<sup>354</sup> C&WW response to our April 2011 Consultation, see p. 11 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/CW.pdf>

<sup>355</sup> Openreach response to our April 2011 Consultation, see para. 88-90 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>356</sup> Openreach response to our April 2011 Consultation, see para. 91-93 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>357</sup> Openreach response to our April 2011 Consultation, see paragraph . 94-96 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

customers. Both stakeholders urged us to impose a specific remedy that would allow customers to migrate without hindrance.<sup>358</sup>

5.301 To the extent that migration issues exist, the impacts of these issues are outside the scope of this Statement. To the extent that such concerns could raise competition issues these would not affect the decisions regarding the type of price control for wholesale ISDN30 services that are set out in this Statement. We note that Featurenet is downstream of ISDN30 markets. We recognise that Featurenet is an inherently complex service and requires close end-customer coordination. To the extent that any migration issues exist, we would normally expect that solutions would be sought through existing industry processes in the first instance.

## We have assessed the level of the proposed charge control

5.302 Our proposals for the relevant values of X are shown below.

5.303 The value of X for the wholesale ISDN30 rentals and connections basket using our proposed base case assumptions is -13.84% (or -13.75% when rounded to the nearest quarter percentage).

**Table 5.12 Our conclusions for the values of X for core wholesale ISDN30 services**

Baskets	Services included	Proposed control	Proposed safe-guard cap
Wholesale ISDN30 Rental & Connections	Rental per channel per year Connections - Fixed - Per channel Enhanced care services - Service level 3 - Service Level 4	RPI-13.75%	RPI+5% (on the average connection charge) RPI % (on each enhanced care service)
Wholesale ISDN30 transfers	Charge per 30 channel access bearer	RPI %	N/A
Wholesale ISN30 Direct dial-in ('DDI')	Wholesale ISN30 DDI - Planning (connection) - Connection per DDI - Rental per DDI	RPI % (on each DDI charge)	N/A

## We have assessed the implications of the proposed charge control

5.304 In our April 2011 Consultation we assessed the implications of our proposed charge control by:

<sup>358</sup> C&WW response to our April 2011 Consultation, see p. 12 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/CW.pdf> and UKCTA response to our April 2011 Consultation, see para. 9 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/UKCTA.pdf>

- investigating OCPs' incentives to invest in efficient competing infrastructure; and
- estimating the likely proportion of ISDN30 channels provided over 2 Mbit/s PPCs which would switch to wholesale ISDN30.

### **The charge control will maintain OCPs' incentives to invest in efficient competing infrastructure**

#### Our April 2011 Consultation proposals

- 5.305 In the April 2011 Consultation we explained that retail ISDN30 services could be supplied using two other wholesale inputs: 2Mbit/s PPCs and MPF, although no operator was at the time using MPF (for a technical description of the provision of ISDN30 using PPCs and MPF see Annex 2).<sup>359</sup>
- 5.306 We conducted a cross-check to ensure that the differences between the combined connections and rentals charges for 2Mbit/s PPCs and the equivalent proposed charges for wholesale ISDN30 were at least as great as the differences in their LRICs.<sup>360</sup> This would ensure that CPs' choice of wholesale inputs would be based on the cost minimising option whilst preserving incentives for upstream investment thus ensuring that productive and dynamic efficiency would be maintained. We noted that this approach had been upheld by the CC in its determination<sup>361</sup> in the OFFR appeal.<sup>362</sup>
- 5.307 We explained that we had decided to consider the differentials of connections and rentals in aggregate because:
- we considered some flexibility to vary relative connection and rental prices was desirable; and
  - setting the differentials of both services to separately equal the LRIC differentials would have effectively tied both products' pricing structure and this was unnecessary<sup>363</sup> as the choice between the two wholesale inputs did not depend on either the price of connections or rentals alone.<sup>364</sup>
- 5.308 We indicated that we had also conducted a high level check on the cost differences between MPF and wholesale ISDN30; although for the reasons set out in Annex 7

<sup>359</sup> See the April 2011 Consultation paragraph 5.205, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>360</sup> According to Openreach the cost estimates submitted to us and used in the incremental cost analysis were pure LRICs, with the only exception of some cost components relating to PPCs, which were DLRICs.

<sup>361</sup> Competition Commission, *The Carphone Warehouse Group plc v Office of Communications*, Determination, Case 1149/3/3/09, 31 August 2010, paragraph 3.163, available at:

[http://www.competition-commission.org.uk/appeals/communications\\_act/wlr\\_determination.pdf](http://www.competition-commission.org.uk/appeals/communications_act/wlr_determination.pdf).

<sup>362</sup> See the April 2011 Consultation paragraph 5.206, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>363</sup> We noted that this was without prejudice to the possibility that an excessive charge for connections or rentals could be harmful in itself and hence not fair and reasonable.

<sup>364</sup> See the April 2011 Consultation paragraph 5.207, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

we were confident that changes in wholesale ISDN30 prices would not have an impact on OCPs' choice between MPF and wholesale ISDN30.<sup>365</sup>

5.309 We proposed to estimate the incremental cost differences using the costs of PPCs and wholesale ISDN30 in the base year (i.e. 2009/10). We recognised that an assessment using the costs at the end of the charge control (i.e. 2013/14) would have been preferable but was impracticable for the reasons explained in Annex 7. We nonetheless carried out some sensitivity analysis on our results and on the basis of these results we argued that we were confident that the price differentials resulting from our proposals would be at an appropriate level.<sup>366</sup>

5.310 Our April 2011 Consultation findings can be summarised as follows:

- the aggregate connections and rentals LRIC for a wholesale ISDN30 circuit including 30 channels<sup>367</sup> was £~~10~~ whereas it was only £~~10~~ in the case of a 2Mbit/s PPC, a difference of £~~10~~<sup>368</sup> in 2009/10;<sup>369</sup>
- we calculated that the price of connecting and renting a 2Mbit/s PPC after certain adjustments to the PPC price to make it comparable to an ISDN30 circuit (as discussed further in Annex 7), was £~~10~~,<sup>370</sup>
- the price for the aggregate wholesale ISDN30 connection and rental service that would exactly reflect the LRIC differentials between the two wholesale inputs would be £~~10~~ (i.e. the estimated price of a 2Mbit/s PPC connection and rental plus the estimated LRIC differential between this wholesale input and wholesale ISDN30);<sup>371</sup>
- the aggregate FAC for a wholesale ISDN30 circuit connection and rental including 30 channels was £~~10~~, therefore, the difference between the wholesale ISDN30 FACs in 2009/10 and the current PPC prices was above their difference in LRICs by ~~10~~% [more than 20%]<sup>372,373</sup> and

<sup>365</sup> See the April 2011 Consultation paragraph 5.208, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>366</sup> See the April 2011 Consultation paragraph 5.209, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>367</sup> In order to compare the LRIC differentials between wholesale ISDN30 and a 2Mbit/s PPC we considered an ISDN30 circuit including 30 channels. This meant that differences in cost did not result only from differences in the capacity taken for ISDN30 and greatly simplified the analysis. In Annex 7 we reproduce the LRIC calculation in our April 2011 Consultation and its underlying assumptions.

<sup>368</sup> This difference was smaller than the one between the two figures shown previously because in our analysis we had only accounted for LRIC differences that would remain after assuming that both wholesale inputs were used to supply the same end user, as discussed further in Annex 7.

<sup>369</sup> See the April 2011 Consultation paragraph 5.210-5.211, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>370</sup> See the April 2011 Consultation paragraph 5.211, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>371</sup> See the April 2011 Consultation paragraph 5.211, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>372</sup> Some of the cost differences in the accounting data were due to differences in customer mix or cost allocation methodology rather than in the underlying incremental costs. We therefore excluded these from our preferred calculation of the incremental costs differential. However, although we did not report the results in the April 2011 Consultation, we explained that we had conducted an additional cross-check on the services' LRIC differentials by including all the incremental cost differences between the two services, whatever their source. Under this approach we accounted for any cost difference between the two wholesale inputs, as long as it increased the magnitude of the differential,

- the high-level check on the likely differentials between the two services by 2013/14 showed that the differences in the aggregate prices of connections and rentals of wholesale ISDN30 and PPCs were likely to exceed the difference in their incremental costs by  $\times$ % [more than 30%].<sup>374</sup>

5.311 In light of the above, we were confident that the differences between the aggregate charges of PPCs and wholesale ISDN30 were at least as large as their LRIC differentials.<sup>375</sup>

5.312 We did not believe that we should intentionally set prices to promote the use of PPCs or other upstream infrastructure. Instead we considered that the differential should not *be less* than the difference in LRICs so that incentives to invest in upstream infrastructure were maintained. We argued that this was consistent with good incentives to make the correct choice between these two alternative ways of providing retail ISDN30 services whilst maintaining incentives to invest in infrastructure.<sup>376</sup>

5.313 In the April 2011 Consultation we asked respondents the following question: *Do you agree with our analysis of the LRIC differentials? If not, please explain why.*

#### Additional evidence in our December 2011 Consultation

5.314 In our December 2011 Consultation we explained that we had received additional information under formal powers<sup>377</sup> in which the only CP that had expressed interest in providing ISDN30 over LLU indicated that its plans were still at the trial stage. This CP expected to launch its LLU-based service in  $\times$ , although this was subject to improvements to the multi-line porting process. We explained that this CP's current plans were to offer only a very limited ISDN30 service ( $\times$ ), and that their main focus for future service development would be on the provision of SIP Trunking rather than ISDN30. Additionally, we noted that, in the event this CP managed to provide its new service, it only expected to supply around  $\times$  channels by the end of the charge control period. This represented a small fraction ( $\times$ %) of the 1.7m channels forecast on Openreach's network by the end of the charge control.<sup>378</sup>

#### April 2011 Consultation responses

5.315 We only received responses to this question from C&WW and Openreach. Openreach stated that we should be cautious when comparing wholesale inputs using an analysis based on LRIC differentials because these did not account for lifecycle effects. It considered, for example, that in cases where products have

---

even when we believed such difference was the consequence of the cost allocation methodology adopted, rather than the result of genuine differences in costs. In this case, we estimated that the difference between the ISDN30 FAC costs and the 2Mbit/s PPC prices in 2009/10 was still larger than the difference in their incremental costs by around  $\times$ % [more than 10%].

<sup>373</sup> See the April 2011 Consultation paragraph 5.212, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>374</sup> See the April 2011 Consultation paragraph 5.213, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>375</sup> See the April 2011 Consultation paragraph 5.212, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>376</sup> See the April 2011 Consultation paragraph 5.212 and 5.214, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

<sup>377</sup> See  $\times$  section 135 submission of 10 October 2011.

<sup>378</sup> See our December 2011 Consultation paragraphs 4.27-4.28, available at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/summary/condoc.pdf>

different levels of future costs or demand an analysis based on LRIC differentials could be inappropriate. However, in the particular instance of wholesale ISDN30 and PPCs, both mature products which are used to provide similar retail services, they did not object to us using the LRIC differentials as a cross-check against distortions.<sup>379</sup>

5.316 C&WW did not specifically comment on our approach to estimating the LRIC differentials. It noted however that we had stated our intention not to promote PPC based services over Openreach's wholesale ISDN30 offering, while at the same time we did not wish to undermine existing investment in downstream infrastructure. C&WW considered that we should be very careful not to damage CPs' existing investments and therefore urged us to set the value of X at the lower end of the range proposed in our April 2011 Consultation.<sup>380</sup>

5.317 We did not receive any response relating to our LRIC differential analysis in the December 2011 Consultation.

### Our response and conclusion

*We have used the LRIC differentials analysis as a cross-check on our charge control decisions*

5.318 As stated in our April 2011 Consultation, the LRIC differentials analysis is a cross-check on our charge control proposals which we use to check that they will not distort CPs' investment decisions. We note that Openreach agreed that the LRIC differential analysis is appropriate for this purpose in the case of wholesale ISDN30 and PPCs.

*We consider that we have taken the necessary steps to ensure that efficient infrastructure investment is not distorted as a result of our control*

5.319 In relation to C&WW's concerns that we should ensure that CPs' investment are not harmed by adopting an X towards the lower end of the range proposed in our April 2011 Consultation, we disagree that this would be appropriate for the following reasons:

- we have already used relatively conservative assumptions in our modelling where appropriate, as well as the uplift on Openreach's asset base to bring it to an appropriate steady-state level, to ensure that we do not set a too tight control (as discussed in paragraph 5.185 above);
- our incremental cost analysis shows that under our charge control decision the differences in prices between wholesale ISDN30 and PPCs are likely to exceed the differences in their LRICs and therefore the incentives for efficient investment will be maintained (see Annex 7);
- the switching analysis shows that, even under relatively conservative assumptions, the volumes of channels switching from PPC provision to Openreach's wholesale ISDN30 are likely to be relatively small (see Annex 6); and

<sup>379</sup>Openreach response to our April 2011 Consultation, see para. 97-98 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>380</sup>C&WW response to our April 2011 Consultation, see p. 12 at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/CW.pdf>

- our decision not to impose one-off cuts to the starting wholesale ISDN30 charges (adopting a glide-path instead) will limit the impact of our charge control on CPs' investment decisions (see paragraph 2.28 of our December 2011 Consultation).

*We consider that a high level cross-check on LLU is still appropriate*

5.320 In our April 2011 Consultation we argued that we had only carried out a high level cross-check of the LRIC differentials between wholesale ISDN30 and MPF mainly because there were no OCPs using MPF to provide ISDN30 services. We consider that the evidence in our December 2011 Consultation (discussed in paragraph 5.314 above) is consistent with this view. We therefore consider that conducting only a high level cross-check on these differentials remains appropriate.

*We are not conducting an update of the LRIC differentials analysis in 2010/11*

5.321 As discussed in Annex 7, the LRIC differentials analysis in our April 2011 Consultation was based on Openreach's costs in the financial year 2009/10 (i.e. our base year costs at the time). We have not updated our LRIC differentials model using Openreach's 2010/11 cost data for the following reasons:

- prices of wholesale ISDN30 services have remained unchanged since our April 2011 Consultation<sup>381</sup>
- the LRIC differentials analysis is a cross-check on our values of X, rather than used to set the charge control values;
- we have concerns with Openreach's 2010/11 LRIC cost data supplied for wholesale ISDN30 for the reasons discussed in paragraphs 5.291-5.293 and we consider that the outputs of our Cost Forecast model provide more reliable cost data; and
- in placing reliance on Openreach's LRIC cost data for the purposes of a cross check, we prefer to rely on the 2009/10 data as this is more closely aligned with our Cost Forecast model outputs.

5.322 We therefore consider that the results of our April 2011 Consultation LRIC differentials model are sufficient to carry forward. Additionally, we note that we did not receive any comments from stakeholders on our approach to modelling the LRIC differentials in the April 2011 Consultation.

5.323 We note however that since the April 2011 Consultation we have changed some of the assumptions used in our Cost Forecast model which also affect the LRIC differential analysis (see Annex 3 for a description of the assumptions used in our Cost Forecast model). For this reason, in Annex 7 we have updated our LRIC modelling to be consistent with the assumptions used in our Cost Forecast model. Additionally, we have reduced the duration of the control from three to two years (as discussed in paragraphs 4.41 to 4.44) and this has resulted in changes to the values of X. We explained this in detail in the December 2011 Consultation. We have also updated BT's PPC prices to reflect the prices applicable in January 2012. We note however that these changes do not alter our position in the April 2011 Consultation (as discussed further in Annex 7).

<sup>381</sup> We have nonetheless checked that our assumptions regarding the likely future prices of PPCs have been broadly consistent with BT's changes to PPC prices since our April 2011 Consultation, as discussed further in paragraph A6.77.

5.324 In light of the above, we remain of the view that our charge control will ensure that CPs make the correct choice between wholesale ISDN30 and PPCs when supplying retail ISDN30 services, whilst maintaining incentives to invest in infrastructure.

### **A small proportion of PPC based channels will switch to wholesale ISDN30**

#### Our April 2011 Consultation proposals

5.325 In the April 2011 Consultation we explained that we had taken into account how our charge control proposals would impact OCPs' choice between the two wholesale inputs they use to supply ISDN30 retail services: 2Mbit/s PPCs and wholesale ISDN30. We indicated that we had developed a model (the 'Switching model') which estimated the likely extent of switching from PPCs to wholesale ISDN30 as the price of the latter decreased following our charge control.

5.326 We noted that according to our Switching model, the volume of channels switching from PPCs to wholesale ISDN30 was likely to be in the range of 10,758 to 39,421 channels (equivalent to 9% to 31% of the total volume of channels that would have been provided using PPCs during the charge control period). The lower end of this range resulted from assuming the lower estimate of OCP's costs of supply using PPCs and the lower PPC prices assumed, as discussed further in Annex 6. In contrast, the higher end of the range resulted from assuming the higher OCP costs of supply using PPCs and the higher PPC prices.

5.327 We noted that for the purposes of our base case scenario (used to derive the values of X in our Cost Forecast model) we assumed the low OCP costs of supply using PPCs and an average of the high and low PPC price scenarios. This resulted in an estimate of 11,494 channels switching from PPCs to wholesale ISDN30. We explained that we had adopted this scenario because we believed it was the more plausible (as discussed further in Annex 6) and because it was consistent with our conservative approach to a charge control for this market.<sup>382</sup>

5.328 We noted that our model had used relatively conservative assumptions and that we would expect switching volumes to be towards the lower end of the range considered. We noted that CPs were currently providing ISDN30 using PPCs where an assessment of costs using our model showed it was not economical. We argued that ISDN30 provision using PPCs could also be motivated by other factors that were difficult to account for in modelling, such as economies of scope (i.e. the provision of several services using common infrastructure) or due to CPs' expectation that they could gain additional customers in future. We thought the effect of these additional factors would be that PPC usage could remain at higher levels than predicted by the model.

5.329 In the April 2011 Consultation we asked respondents the following question: *Do you agree with our analysis assessing the extent of switching from 2Mbit/s PPCs to wholesale ISDN30 services? If not, please explain why.*

#### April 2011 Consultation responses

5.330 We received responses from C&WW, UKCTA and Openreach. Openreach considered that we were right to assess the impact of our charge control proposals

---

<sup>382</sup> We explained that this scenario can be considered conservative because it resulted in a number of channels switching towards the lower end of the range considered, implying that it would result in smaller number of channels on Openreach network and lower values of X.

on switching from 2Mbit/s PPCs to wholesale ISDN30. It noted that it did not have the cost information necessary to validate our modelling approach but that our model and the level of detail used to investigate this issue would help to assure that the prices proposed were unlikely to lead to significant switching and that inefficient investment requirements from Openreach were likely to be minimised.<sup>383</sup>

- 5.331 C&WW stated that it had no reason to doubt that our modelling approach was appropriate although it considered that the extent of switching was very difficult to predict. They indicated that they would like to avoid any switching from alternative infrastructure to BT's offering, as it would not be beneficial for consumers to have a growing proportion of wholesale supply on a very large supplier such as Openreach.<sup>384</sup>
- 5.332 C&WW noted that even if we had indicated that we were using conservative assumptions, almost a third of all circuits would migrate to BT at the upper end of the range of our modelling. It considered that this would concentrate market power on BT and could potentially leave some alternative supplier without the critical mass needed to offer a product. C&WW considered that we should do everything possible to support alternative infrastructure and, while they understood the reasons why we did not want to actively promote it, equally nothing should be done to undermine it. For this reason, they considered that a low value of X would strike the correct balance between delivering consumer price cuts while still allowing choice at the infrastructure level. In C&WW's view, undermining infrastructure investments was likely to be more harmful than allowing prices to be set at a slightly higher level to allow an alternative infrastructure to remain viable.<sup>385</sup>
- 5.333 UKCTA stressed that under our modelling assumptions around 11-31% of ISDN30 channels delivered over PPCs could eventually switch to Openreach's wholesale product. They considered that it was beneficial to retain the maximum of services on a competitive infrastructure and urged us to ensure that the prices proposed would limit migrations away from PPCs. They argued that CPs should not be penalised for past investment and that we should ensure regulatory certainty to avoid undermining past investment, which would have consequences beyond the ISDN30 market.<sup>386</sup>

### Our response and conclusion

- 5.334 We recognise that Openreach agrees with our approach to assessing the impact of our charge control proposals on switching from PPCs to wholesale ISDN30.
- 5.335 In relation to C&WW and UKCTA's suggestion that we should adopt the X at the lower end of our proposed range, we disagree with this for the reasons discussed in paragraph 5.319 above.
- 5.336 We acknowledge that our Switching model estimated that the number of PPC channels switching to wholesale ISDN30 would be in the range of 9% to 31% of the volume of channels that would have been provided over PPCs throughout the period

<sup>383</sup> Openreach response to our April 2011 Consultation, see para. 99-100 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>

<sup>384</sup> C&WW response to our April 2011 Consultation, see p. 12 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/CW.pdf>

<sup>385</sup> C&WW response to our April 2011 Consultation, see p. 13 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/CW.pdf>

<sup>386</sup> UKCTA response to our April 2011 Consultation, see para. 8 at

<http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/UKCTA.pdf>

of the charge control.<sup>387</sup> However, we note that we considered that a level of switching around 9% of the total volume of PPC channels provided was more plausible for the following reasons:

- CPs are likely to view most existing PPC supply costs as sunk;
- CPs are already supplying end users using PPCs where it would not seem economical to do so (indicating that there may be economies of scale and/or scope which are difficult to capture in the model); and
- an average of the two PPC pricing scenarios was more likely (for the reasons discussed in Annex 6) leading to lower levels of switching than if we had assumed the high PPC price scenario.

5.337 Additionally, we note that, in our December 2011 Consultation we changed the duration of our charge control from three to two years, and that the values of X have changed as a result. Both the delay in the introduction of our charge control and the change in the values of X impact our estimates of the level of switching. We estimate that the level of switching will be 6.4k channels or around 5.2% of the total PPC volumes that would have been provided over the period of the charge control. This is less than we forecasted in the April 2011 Consultation because the price of wholesale ISDN30 will be higher throughout the charge control than previously projected and due to the delay in the introduction of the charge control, as further discussed in Annex 6.

5.338 In any case, the share of the market supplied using PPCs is small and so any impact on the market arising from switching to wholesale ISDN30 is necessarily limited. We therefore remain of the view that our charge control decision will have a limited effect on switching from PPCs to wholesale ISDN30.

5.339 We are similarly do not believe that setting artificially higher wholesale ISDN30 charges to promote alternative infrastructure investment. To do so could make consumers worse off, as a result of higher charges, and allow inefficient operators into the market.

## **The charge control condition meets our duties and the Communications Act tests**

### **Section 86**

5.340 Before we consider whether the condition set under the Notification to this Statement meets the test laid down in the Act, we first need to consider whether we are able to set an SMP condition under the authority of the previously conducted Market Review.

5.341 Section 86 of the Act restricts Ofcom from setting an SMP condition other than when also making a market power determination unless the condition is set by reference to a market power determination;

- a. which has been reviewed and, in consequence of that review, is reconfirmed in the notification setting the condition; or

<sup>387</sup> See the April 2011 Consultation paragraph A9.75, available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf>

- b. in a market where Ofcom is satisfied that there has been no material change since the determination was made.

5.342 In the December 2011 Consultation we set out our assessment of whether there had been a material change in the market since our market power determination made in the ISDN30 2010 Market Review, and proposed that we were satisfied that there had not been. We therefore proposed that we would be entitled to set an SMP condition under the authority of section 86(1)(b).

5.343 We discuss in Section 3 above the basis for our decision that we are satisfied that there has not been a material change in the market since the market power determination made under the ISDN30 2010 Market Review.

### **Powers under section 87 and 88**

5.344 As discussed in Section 2, we are setting a price control as an SMP Condition under section 87 of the Act. 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.

5.345 In setting a charge control, section 88 also requires that we must take account of the extent of the investment in the matters it relates to.

5.346 In the ISDN30 2010 Market Review Statement we found that there was, based upon the evidence that was available at the time, a relevant risk of adverse effects arising from price distortion and therefore it was appropriate to set a condition under section 88. Following our detailed assessment of the profitability of wholesale ISDN30 services, and taking into account all of the comments made during the April and December 2011 consultations, we consider that this risk still remains and it is appropriate to set an SMP condition under section 87(9).

5.347 In the April 2011 Consultation we considered how the proposed Condition AAA(IS)4A satisfied the tests under section 88. In their consultation responses, Openreach expressed concern about the potential for inefficient investment if the control was set as proposed<sup>388</sup> and UKCTA<sup>389</sup> and C&WW<sup>390</sup> both cautioned that too steep a control could hinder competition and harm consumers.

5.348 In response to our December 2011 Consultation, Openreach suggested that the proposed two year control did not strike the right balance between allocative and productive and dynamic efficiency, and Verizon and C&WW both raised concerns over the steeper glide path and its effect on end user incentives.

<sup>388</sup> Openreach response <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/Openreach.pdf>, paragraph 1

<sup>389</sup> UKCTA response <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/UKCTA.pdf>, paragraph 4

<sup>390</sup> C&WW response executive summary <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/responses/CW.pdf>

5.349 We discuss these comments, and our response in more detail at paragraphs 4.34 to 4.49 above.

5.350 We address below, how the condition meets the section 88 test, taking into account the comments made by stakeholders.

The control is appropriate for the purpose of promoting efficiency

5.351 We consider that the SMP Condition is appropriate for the purpose of promoting efficiency.

5.352 In the absence of sufficiently material competitive pressures, we believe that Openreach would have limited incentives to seek to reduce its costs of providing wholesale ISDN30 services. By setting an RPI-X charge control, Openreach is encouraged to increase its productive efficiency. This is achieved by allowing Openreach to keep any super-normal profits that it earns within a defined period by reducing its costs over and above the savings envisaged when the charge control was set. The benefits of any cost savings would potentially accrue to the regulated company in the short run and this would give Openreach incentives to make those efficiency savings. Over time, these cost savings are likely to be passed to consumers through reductions in prices, either as a result of competition or through subsequent charge controls. This form of price regulation is also preferable to a rate of return type of control. In addition:

- by bringing prices more in line with costs, our charge control proposals will increase allocative efficiency; and<sup>391</sup>
- when forecasting Openreach's forward looking costs for wholesale ISDN30 services we have assumed underlying efficiency gains of 4.5%. In coming to a view of the likely efficiency of Openreach's costs, we have 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)).

5.353 By setting a single basket for wholesale ISDN30 connections and rentals, we also provide Openreach the flexibility to change its prices to meet the necessary demand conditions by recovering common costs in the most efficient manner across these two services.

5.354 We have also explained in Section 4 that, although the change to a two year control would change the balance between the dynamic and allocative efficiency incentives, we considered that a two year control appropriate, and considered at paragraph 4.40 to 4.45, above that a two year control was appropriate for the purpose of promoting efficiency in this market.

The control is appropriate for the promotion of sustainable competition and conferring the greatest possible benefits on end users

5.355 We also consider that the proposed charge controls are appropriate to ensure sustainable competition and to confer the greatest possible benefits on users of public electronic communication services.

---

<sup>391</sup> When prices better reflect the underlying costs of production, allocative efficiency is enhanced. Meeting demand at cost-reflective prices will result in resources being allocated to the goods or services that consumers value most.

- 5.356 Preventing excessive pricing via an RPI-X type charge control will benefit consumers. Wholesale customers will benefit from bringing wholesale ISDN30 prices more in line with Openreach's overall costs. Since there is effective retail competition in this market, as found in the Market Review, this will result in retail competitors passing any reductions in wholesale ISDN30 prices onto end-users. This will ensure that end users' decision to migrate to IP services in future will be based on a comparison of the characteristics of the products when charged at the competitive level, rather than on artificial incentives to migrate away from ISDN30 because it is priced excessively.
- 5.357 Although our proposed charge control applies to baskets of services, we have proposed appropriate safe-guards to ensure that Openreach does not use the pricing flexibility offered to it in an anti-competitive manner to the detriment of any end-user.
- 5.358 Our proposals to keep the wholesale ISDN30 transfers charges at current levels in real terms will also help competition in the retail market to the benefit of end users. This means it is unlikely that OCPs will start charging for transferring customers from other CPs, or increase the length of the minimum contract periods (MCPs) or start introducing early termination charges (ETCs) as a result of our charge control.
- 5.359 Further, by setting the charge controls at a level where the difference between the prices of 2Mbit/s PPCs and wholesale ISDN30 are at least as large as the difference in their respective LRICs, we ensure that OCPs will always have an incentive to choose the wholesale input which minimises overall costs to the benefit of end-users. We considered that this, along with our switching analysis (which shows that switching from PPC supply to Openreach's ISDN30 offering is likely to be relatively small) addresses C&WW's concern that a control that required too much of a reduction in wholesale prices could hinder competition by rendering alternative access providers unable to compete.
- 5.360 Finally, we have considered the effect of setting a two year control period, noting the responses of stakeholders to our December 2011 Consultation, and consider that the charge control, as set, remains appropriate for the purpose of promoting sustainable competition, and that in maintaining the reduction of prices to cost over the course of the control, it is also appropriate for the purposes of conferring the greatest possible benefits on end users.

### Investment matters

- 5.361 In setting this control we have taken into account the need to ensure that Openreach has the correct incentives to invest and innovate. We have considered the risk, suggested by Openreach during the Market Review, and repeated in its response to the April 2011 Consultation, that a charge control might deter investment in new technologies. We consider that we have taken this properly into account:
- we have recognised the fact that Openreach's asset base for wholesale ISDN30 services is heavily depreciated and we have adjusted for this to ensure that the costs included in our model are representative of an ongoing network at steady state. By doing so we have ensured that wholesale ISDN30 prices are not unduly depressed and end users' incentives to migrate to IP based services are not distorted;
  - in modelling Openreach's likely costs, we have built in a reasonable return on capital employed to provide an adequate return on Openreach's investment, and we have projected costs on the basis of reasonable assumptions, as discussed in Annex 3;and

- we have estimated the additional take up of wholesale ISDN30 services which may result from our proposed charge control and included this in our overall volume forecasts to ensure that Openreach is able to recover all of its costs.
- 5.362 We have set the price of wholesale ISDN30 transfers at the current level, which is below the cost which Openreach allocates to transfers, in real terms. Our charge controls will allow Openreach to recover the shortfall through the combined wholesale ISDN30 connections and rentals basket.
- 5.363 We have also sought to ensure that the charge control does not undermine efficient investment by conducting a LRIC differentials analysis, considering the potential for switching away from PPCs and generally taken account of investment incentives when considering other decisions, such as whether to impose one off adjustments on starting charges.
- 5.364 All of our analysis, as described above, has been updated to take effect of our proposal in the December Consultation to set a two year control.
- 5.365 We think that our charge control strikes a good balance between potential risk and reward. 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 it turns out that costs are lower than anticipated when the charge control was set.

### **We have considered the section 47 tests**

- 5.366 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.

5.367 We are satisfied that this test is met.

### The control is objectively justifiable

- 5.368 As regards objective justification, Openreach's SMP in the provision of wholesale ISDN30 services allows it to set charges unilaterally and, in the absence of any controls, prices are likely to continue to be set above the competitive level. This would have adverse impacts on consumer welfare and is likely to distort investment incentives. Our charge control has been structured to ensure that, where appropriate, wholesale ISDN30 prices are brought in line with Openreach's overall costs, based on the provision of an efficient, ongoing service, whilst ensuring that Openreach is able to recover its costs, including a reasonable return on its investment.
- 5.369 The control is also objectively justifiable in that the benefits of RPI-X charge controls, which we are proposing to implement, are widely acknowledged as an effective mechanism to reduce prices in a situation where competition does not act to do so.

The control does not discriminate unduly

5.370 The charge control does 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 have been 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 Openreach as it is the only CP to hold SMP in this market (for the UK excluding the Hull Area) and the control seeks to address the resulting identified market failure, including Openreach's ability and incentive to set excessive charges for services falling within the controls.

The control is proportionate

5.371 The charge control is proportionate for all the reasons set out above. Openreach'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. Openreach is however, allowed to recover a reasonable return on investment. Openreach will also have incentives to continue to invest and develop its access network. Moreover, the maximum charges Openreach is allowed to set over the period of the control has been formulated using information on its costs (adjusted to account for ISDN30's status as a legacy product) and a consideration of how these costs will change over time. We have also only imposed controls on services within the market that we consider need to be controlled.

5.372 For all the reasons set out above, we consider that the charge control pursues our policy objectives and the means employed to achieve those terms are both necessary and the least burdensome to address effectively the identified concerns.

The control is transparent

5.373 Finally, for reasons discussed above, we consider that the charge control is transparent. Their aims and effect are clear and they have been drafted so as to secure maximum transparency. The Condition is set out in full in the Notification at Annex 1 of this Statement. The intended operation of the control is aided by our explanations in this accompanying Statement. We have also set out the likely impact on charges for the duration of the control.

**We have considered sections 3 and 4 of the Act**

5.374 We also consider that the proposed charge control Condition meets our duties under sections 3 and 4 of the Act.

5.375 For the reasons set out above, we consider that the proposed control will, in particular, further the interests of citizens and of consumers in relevant markets by the promotion of competition in accordance with section 3 of the Act. In particular, we have had regard to the desirability of promoting competition in relevant markets and the desirability of encouraging investment and innovation in relevant markets.

5.376 Furthermore, we consider that, in accordance with section 4 of the Act, the charge control will, in particular, promote competition in relation to the provision of electronic communications networks and will encourage the provision of Network Access for the purpose of securing efficiency and sustainable competition in downstream markets for electronic communications networks and services, resulting in the maximum

benefit for retail consumers of ISDN30 services by encouraging a pass through of any wholesale price reductions to the competitive retail market.

## Section 6

# Charge control implementation

## Introduction

6.1 In this section we explain how the charge control for wholesale ISDN30 services is structured and how the condition, AAA(IS)4A, will work in practice. In particular we discuss the following:

- How the condition is intended to work alongside other regulation in the ISDN30 wholesale exchange line market;
- How the condition sets the baskets of services discussed in Section 5 above;
- The values of X for each service;
- The effect of changes that Openreach make to the prices of controlled services;
- How we calculate whether Openreach is complying with the charge ceilings created by the RPI-X style of control, including;
  - How we determine what the overall change of prices has been for each service or group of services; and
  - What information we require from Openreach to enable us to monitor its compliance with the controls; and
- How the condition allows for corrections where there has been over or under recovery.

6.2 In setting condition AAA(IS)4A we have had regard to the decisions made in relation to the WBA and WLR/LLU charge controls recently set by Ofcom. We consider that the RPI-X control, as set, is consistent in its application and effect with the controls set under those reviews.

6.3 We will, as required by the Act and as we have set out in paragraph 26 of the Notification of our decisions at Annex 1, notify the Secretary of State, the European Commission, and BEREC of our decision in accordance with section 48C of the Act.

## Interaction with other remedies

6.4 The ISDN30 2010 Market Review Statement imposed a number of SMP conditions on Openreach in the wholesale ISDN30 exchange lines market. These conditions currently place a number of obligations on Openreach in relation to how they offer wholesale ISDN30 services. For example, Openreach are required to:

- provide network access on reasonable request (AAA(IS)1);
- not to unduly discriminate in relation to matters connected with network access (AAA(IS)2);
- publish a reference offer (AAA(IS)5);

- notify charges and technical information (AAA(IS)6(a) and (b));
  - publish Key Performance Indicators (KPIs) (AAA(IS)7 and KPI Direction); and
  - provide wholesale ISDN30 exchange line services (AAA(IS)10).
- 6.5 Each of these conditions will remain in force. The above mentioned obligations would therefore work alongside the charge controls imposed in this review. We discuss in Section 5, how some conditions already constrain Openreach's ability to price freely, and that in some cases (such as for most ancillary services) this provides a sufficient constraint without the need to impose a specific price control remedy under section 87(9) of the Act.
- 6.6 In particular we discuss in paragraphs 5.20 and 5.79 whether the existing requirements to provide network access on fair and reasonable terms, conditions and charges and not to unduly discriminate in such matters sufficiently constrain Openreach in the provision of certain ISDN30 wholesale services.
- 6.7 In reaching our decisions in this Statement on the ISDN30 charge control, we have considered whether the charges we have set are consistent with the obligation in SMP Condition AAA(IS)1(a) to provide network access "*on fair and reasonable terms, conditions and charges...*". Having done so, it is our view that the prices we set out in this Statement are consistent with that Condition.
- 6.8 Additionally, an interim price control (SMP condition AAA(IS)4) set under the ISDN30 2010 Market Review Statement imposed a fixed charge ceiling in relation to rental, connection and transfer ISDN30 wholesale services.
- 6.9 As we have decided to impose a cost based RPI-X control, which imposes new ceilings on these services, it is no longer appropriate to maintain the interim charge ceilings. Therefore SMP condition AAA(IS)4 will be revoked in its entirety from the date that the new Condition AAA(IS)4A comes into force ([date]).

### **We make no amendments to the current level of reporting for wholesale ISDN30 services**

- 6.10 The ISDN30 2010 Market Review Statement also confirmed that the relevant financial reporting SMP conditions should continue to be imposed on this market. SMP Conditions OA1 – 34 set the framework for specific financial reporting obligations to be imposed on BT in the wholesale and retail markets to which they apply. A direction (made under SMP Condition OA2, and reviewed on an annual basis by Ofcom), then specifies what specific reports are required for each market. This direction is reviewed on an annual basis by Ofcom, prior to the end of a financial year, to ensure that it can be updated to incorporate any decision made in market reviews conducted since the last review.
- 6.11 As we have explained in Section 5 above, the ISDN30 2010 Market Review Statement decided that cost accounting information should be reported by Openreach in relation to ISDN30 in order to support any price control imposed by this review. As the control imposed as a result of this review only comes into force on [date], and therefore part way through the 2012/2013 financial year, any amendment to the financial reporting direction would be made in the review that we anticipate conducting next year. SMP condition AAA(IS)4A, imposed under this review, will therefore provide the authority and scope for any proposal made to amend the

financial reporting direction next year, where stakeholders will get a further opportunity to comment.

- 6.12 This review does not therefore, make any amendments to the current level of reporting for the wholesale ISDN30 market because Openreach are required to report accounting separation data as currently specified in the financial reporting direction.

## The Condition

- 6.13 The new SMP services condition AAA(IS)4A has three key effects; it:
- sets charge controls until 31 March 2014 for the services specified;
  - ensures that average charges for services subject to charge controls do not change by more than the value of 'RPI-X' as specified; and
  - requires Openreach to provide information annually to Ofcom to enable compliance monitoring.
- 6.14 Condition AAA(IS)4A is set out in full at Schedule 1 of Annex 1.

## Basket Structure

- 6.15 In Section 5 we have discussed our decision to set a combined basket for wholesale ISDN30 rentals and connections (with a safeguard cap on the average connection charge) and a separate basket for transfers. We have also included enhanced care services in this basket. In the same section we have also discussed our decision to set a safeguard cap on DDI services.
- 6.16 We have structured the Condition to effect those decisions:
- The condition, at AAA(IS)4A.1(a), creates a combined basket for wholesale ISDN30 Rental Services, ISDN30 Connection Services and ISDN30 Enhanced Care Services:
    - ISDN30 Connection Services are defined to include the separate *per-installation* and *per-channel charges*. AAA(IS)4A.8 proposes a sub-cap of RPI+5% for the average charges for Connection Services. This would allow Openreach the freedom to set the individual per-installation and per-channel charges subject to the overall sub-cap.
    - ISDN30 Enhanced Care Services are defined to include the separate *Service Level 3 and Service Level 4* charges (as currently provided). AAA(IS)4A.9 proposes a sub-cap of RPI+0% for each of the enhanced care service. Should Openreach replace these services, these replacement services would also be with the scope of the control.
  - We have decided that transfer services, for the reasons discussed in Section 5, should be placed in a separate basket. AAA(IS)4A.1(b) creates that single service basket subject to an RPI % safeguard cap.
  - We have decided to control each of the three separate DDI services which are identified in AAA(IS)4A.1(c), (d) and (e) as Planning, Connection and Rental services, respectively. This structure means that each charge will be subject to

an RPI % safeguard cap, such that the price of any element of the service will not be able to increase in real terms.

## The values of X

6.17 The values of 'X' for service or basket are set out in Table 6.1.

**Table 6.1 Values of X and relating Conditions**

Baskets	Control	Condition
Rental and Connections		Condition AAA(IS)4A.7a
- Line rental per channel per year	Year 1-2	
- Connection charge per-installation	RPI – 13.75%	
- Connection charge per-channel		
- Service Maintenance Level 3 and 4 (enhances care services)		
Safe-guard cap on average connection price	RPI+5%	Condition AAA(IS)4A.8
Safe-guard cap on each enhanced care service	RPI %	Condition AAA(IS)4A.9
Transfer		Condition AAA(IS)4A.7b
- Charge per 30 channel access bearer	Year 1-2 RPI %	
DDI – Planning	RPI %	Condition AAA(IS)4A.7c
Connection per DDI	RPI %	Condition AAA(IS)4A.7d
Rental per DDI	RPI %	Condition AAA(IS)4A.7e

### We have set formulae to show how the Percentage Change will be calculated for each service

6.18 We have set controls on both single product services and multi product baskets. At AAA(IS)4A.3 we have set out the formula that we will use (and expect Openreach to use) to determine the Percentage Change for single service baskets.

6.19 In relation to multi-service baskets, as set out at AAA(IS)4A.4, the formula is necessarily more complex in order to take account of the number of products/services within the basket. As we have discussed in Section 4, we will monitor Openreach's compliance with the controls using the prior-year revenue

weight approach. The prior year revenue weight formula is shown at AAA(IS)4A.4 in relation to the proposed basket control.

- 6.20 We have set a safe-guard cap of RPI+5% on the average connection charge. At AAA(IS)4A.8 we have set out the formula to be used based on the single basket formula, but tailored to reflect that it is the average of the per-channel and per-site charges to be controlled.
- 6.21 The formulae are consistent with the approach we have taken in previous charge controls including the recently set LLU/WLR services also provided by Openreach.
- 6.22 Additionally, we have at AAA(IS)4A.2, required that Openreach take all reasonable steps to secure that the revenue it accrues as a result of all individual Charge Changes during any Relevant Year shall be no more than that which it would have accrued had all of those Charge Changes been made on a fixed point in the year (generally, 1 April; adjusted for the First Relevant Year). In order to assist Openreach, we have set out a formula that can be used to demonstrate compliance. If more than one Charge Change was made by Openreach, they would still need to ensure that they could show that they had satisfied this obligation.

### **We will adjust the value of X in the first year**

- 6.23 The first controlled period, referred to in the Condition as the 'First Relevant Year' will be [date] to 31 March 2013. As the Condition comes into force after 1 April 2012, we need to make a number of modifications so that it applies appropriately to the shorter period of the first.
- 6.24 We considered in the April 2011 Consultation whether to make an adjustment to the first year X or apply the control based upon prices at the start of the First Relevant Year. We proposed the former approach, consistent with the methodology adopted in setting the the WBA charge controls<sup>392</sup>. We invited views on the alternative approach, but received no comment from any stakeholder.
- 6.25 We therefore consider it is appropriate to adjust the value of X as we proposed in the Consultation and have set the first year X on an modified basis to reflect this.
- 6.26 These modifications allow for the possibility that Openreach might change its prices between 1 April 2012 and the actual start of the new control. They are necessary in order to make sure that the value of X we set is appropriate to the level of charges at the start of the control period rather than to the level of charges on 31 March 2012. The aim will be to ensure that the effect of the control by the end of the control period is the same as it would have been, had the control come into effect on 1 April 2012. If we did not take account of price changes between 31 March 2012 and the start of the control, the value of X might be either too low or too high, resulting either in prices which were below projected cost, or which were above projected cost and so did not give the best deal for consumers.
- 6.27 The formula set out in Condition AAA(IS)4A has been designed to achieve this objective and is consistent with the WBA charge controls. This "First Year X" will be calculated by using the following formula:

<sup>392</sup> WBA Charge Control statement published 20 July 2011

<http://stakeholders.ofcom.org.uk/binaries/consultations/823069/statement/statement.pdf>

*First Year X = (1+ change in RPI) – [ Sum{wi \* Pm,i} / Sum{wi \* P0,i} ]\* (1+ change in RPI – X),*

Where:

*wi* is the weight of the service in the basket as calculated in paragraph AAA(IS)4A.6;

*P0,i* is the published charge made by the Dominant Provider for the individual service *i* that forms part of the basket immediately preceding the Relevant Year, excluding any Discounts offered by the Dominant Provider;

*Pm,i* is the published charge made by the Dominant Provider for the individual service *i* that forms part of the basket on 1 April 2012, excluding any Discounts offered by the Dominant Provider; change in RPI is the change in the Retail Prices Index in the period of 12 months ending on 31 October 2011 expressed as a percentage (rounded to two decimal places) of that Index as at the beginning of that period; and

*X* is value set out in the relevant paragraph of AAA(IS)4A.7.

- 6.28 This calculation does not affect the safe-guard caps imposed on DDI services and each enhanced care service.

## **The rules that Openreach needs to follow to determine compliance with the controls**

### **Openreach is allowed to carry over differences in the average charge for a basket to the next charge control year**

- 6.29 For the main charge control baskets, namely wholesale ISDN30 Rentals and Connections, wholesale ISDN30 transfers and wholesale ISDN30 DDI baskets, Openreach will be able to carry over any price reductions it makes in excess of the requirements of the charge control for that year.
- 6.30 That is, if Openreach'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 Openreach's compliance with the control in the following year will be the level of charges Openreach was required to achieve, rather than the level it actually achieved.
- 6.31 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).
- 6.32 Paragraphs AAA(IS)4A.5 and AAA(IS)4A.6 of the proposed condition define the 'Excess' and 'Deficiency' scenarios set out above to give effect to our intention.
- 6.33 It should also be noted that AAA(IS)4A.9 provides for the case where, in the last year of the control, if it is likely that the change in price of a controlled service (the

Percentage Change) will exceed the relevant Controlling Percentage, then Ofcom can direct that Openreach should make an appropriate adjustment of its charges.

### **We have set out the information Openreach is required to supply to Ofcom**

- 6.34 We have set out at AAA(IS)4A.10 the information that we propose Openreach needs to supply to us in order for us to be able to monitor its compliance with the control. This information is required to be supplied by Openreach on an annual basis, by no later than the 31 June after the end of the relevant financial year (three months after 31 March). It should be noted that although the period of the control ends on 31 March 2014, the Condition itself would remain in force in order to maintain the obligation to supply data (and should it be necessary to direct an adjustment of pricing in the event of non-compliance).
- 6.35 The level and nature of information required is consistent with other recently set controls.

### **Conclusion**

- 6.36 We consider that Condition AAA4(IS)4A is transparent in its intent, and is consistent with the way in which we have imposed RPI-X controls in the past. We believe that the form of control as proposed meets our duties and obligations under sections 3 and 4 of the Act, and, for the reasons set out above also meets the tests under sections 47 and 88 of the Act.