Fixed access market reviews: Approach to setting LLU and WLR Charge Controls

Redacted for publication [✂]

Updated 20 August 2013

Consultation

Publication date: 11 July 2013

Closing Date for Responses: 25 September 2013

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Section 1

Executive Summary

1.1 This consultation sets out Ofcom's proposals for new charge controls for Local Loop Unbundling (LLU) and Wholesale Line Rental (WLR) services. The current charge controls expire on 31 March 2014. We are proposing that new charge controls will enter into force on 1 April 2014 and cover the period to 31 March 2017 (the Market Review Period).

1.2 In our Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 Consultation (FAMR Consultation), which was published on 3 July 2013[1], we are consulting on our view that in each of the Wholesale Local Access[2] (WLA) and Wholesale Fixed Analogue Exchange Line (WFAEL) markets, in the UK excluding the Hull Area, BT (Openreach)[3] has Significant Market Power (SMP) and that charge controls are necessary as a remedy to address Openreach's ability to fix or maintain prices at an excessively high level for services in the respective markets. This consultation forms part of our review of these markets and sets out our specific charge control proposals, including the nature, form and duration of the proposed controls.

1.3 In forming the proposals set out in this consultation, we have taken account of stakeholder responses[4] to the 2012 FAMR Call for Inputs (CFI).[5] We have also considered and had regard to, where relevant, the Competition Commission's Determination of 27 March 2013 (the Determination) following appeals brought against the current LLU and WLR charge controls.[6]

Structure of the proposed charge controls

LLU

1.4 We propose to set individual charge controls for Metallic Path Facility (MPF) rental, Shared MPF (SMPF) rental, and certain key migration services. As with the current charge controls, we propose setting separate basket controls for a defined set of MPF and SMPF ancillary services.

1.5 We are proposing to align all migration charges involving jumpering to a volume-weighted average of their incremental costs. Additionally, we propose to introduce separate charge controls for MPF and SMPF Bulk Migrations. We also propose to set

[1] *FAMR Consultation* http://stakeholders.ofcom.org.uk/consultations/fixed-access-market-reviews/
[2] The supply of copper loop-based, cable-based and fibre-based wholesale local access at a fixed location.
[3] Openreach is the access division of BT established by BT in 2005 in accordance with its Undertakings to Ofcom under the Enterprise Act 2002. Whilst the proposed SMP services conditions in this document formally apply to British Telecommunications plc, Openreach is the division of BT that provides the LLU and WLR services we are proposing to regulate. Therefore, throughout this document, we refer to Openreach as the supplier of wholesale LLU and WLR services.
[4] *Responses to 2012 FAMR Call for Inputs* http://stakeholders.ofcom.org.uk/consultations/fixed-access-markets/?showResponses=true
[5] *2012 FAMR Call for Inputs* http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/summary/condoc.pdf
[6] *the Determination* http://catribunal.org/files/1192-93_BSkyB_CC_Determination_270313.pdf

a charge control over a basket of ancillary services used for both MPF and SMPF, which we refer to as the Co-Mingling basket.

1.6 We are proposing to use CPI as the relevant index for these controls, rather than RPI which has historically been used.

1.7 We propose that the separate baskets for MPF and SMPF ancillary services are subject to CPI-X% controls respectively. This approach of setting controls on baskets of services relative to an inflation index is the same as for the controls set in the previous statement for these services. However, this time we propose to use the same X for these two baskets because costs move together.

1.8 Based on the policy proposals and financial modelling explained in this consultation, the ranges, and base case proposed for any future LLU charge controls are set out in Table 1.1. below.

WLR

1.9 For WLR, we are proposing to set charge controls for the Analogue WLR rental service (WLR Rental) and also the charges for WLR New Connection and WLR Transfer.

1.10 We also propose impose a charge control on WLR Conversion and to align the price of WLR Conversion with the price of LLU migration services involving jumpering. WLR Conversion was previously subject to a Basis of Charges obligation, not a charge control. In addition, we propose to introduce a discounted price for WLR Conversion where it is provided in combination with SMPF New Provide when simultaneously transferring a customer from MPF to WLR+SMPF.

1.11 Based on the policy proposals and financial modelling explained in this consultation, the new charge controls that we propose for WLR services are set out in Table 1.2. below.

Table 1.1: Proposed LLU charge controls 2014-17

Basket/service	2011/12[7] revenues (£m)	Current Charge 2013/14 (£)	Charge for 2014/15 base case (range) nominal (£)	Charge control for 2015/16 to 2016/17 base case (range)
MPF Rental	451	84.26	85.61 (89.55 to 82.81)	CPI-0.75% (CPI+4% to CPI-4%)
SMPF Rental	43	9.75	9.23 (9.39 to 7.92)	CPI-7.75% (CPI-6% to CPI-21%)
MPF Single Migration	31	30.65	29.91 (31.04 to 28.90)	CPI-4.75% (CPI-1% to CPI-8%)
MPF Bulk Migration	15	28.42	24.92 (25.94 to 23.95)	CPI-14.50% (CPI-11% to CPI-18%)

[7]Source: External revenues as per BT RFS 2012, page 55, for all services apart from 'MPF ancillary services basket', 'SMPF ancillary services basket', and 'Co-mingling ancillary services basket' revenues which are sourced from 2012-13 WLR/LLU Charge Control Compliance statement

Basket/service	2011/12[7] revenues (£m)	Current Charge 2013/14 (£)	Charge for 2014/15 base case (range) nominal (£)	Charge control for 2015/16 to 2016/17 base case (range)
MPF New Provide	58	45.53	41.88 (43.38 to 40.19)	CPI-10.25% (CPI-7% to CPI-14%)
SMPF Single Migration	8	30.65	29.91 (31.04 to 28.90)	CPI-4.75% (CPI-1% to CPI-8%)
SMPF Bulk Migration	2	28.42	24.92 (25.94 to 23.95)	CPI-14.50% (CPI-11% to CPI-18%)
SMPF New Provide	25	30.65	28.13 (29.20 to 27.06)	CPI-10.50% (CPI-7% to CPI-14%)
MPF ancillary services basket	[✂]	Various	n/a	CPI-8.5% (CPI-5% to CPI-12%)
SMPF ancillary services basket	[✂]	Various	n/a	CPI-8.5% (CPI-5% to CPI-12%)
Co-mingling ancillary services basket	[✂]	Various	n/a	CPI-10.75% (CPI-8% to CPI-14%)

Table 1.2: Proposed WLR charge controls 2014-17

Service	2011/12 [8]revenues (£m)	Current charge 2013/14 (£)	Charge for 2014/15 base case (range) nominal (£)	Charge control for 2015/16 to 2016/17 base case (range)
WLR Rental	2,042	93.27	90.66 (93.55 to 88.14)[9]	CPI-2.5% (CPI-0% to CPI-6%)
WLR Transfer	13	3.39	4.83 (4.99 to 4.69)	CPI+40.25% (CPI+36% to CPI+45%)
WLR Connection	68	47.11	42.59 (44.41 to 41.12)	CPI-11.75% (CPI-8% to CPI-15%)
WLR+SMPF Simultaneous Provide[10]	N/A	65.51	29.91 (31.04 to 28.90)	CPI-4.75% (CPI-1% to CPI-8%)[11]

[8]Source: Internal and External revenues as per BT RFS 2012, page 36.
[9]We propose to remove the allowance for printed directories in the WLR charge at the start of the charge control rather than through a glide path approach. This means that the percentage reduction is larger for the WLR rental in the first year.

Service	2011/12 [8]revenues (£m)	Current charge 2013/14 (£)	Charge for 2014/15 base case (range) nominal (£)	Charge control for 2015/16 to 2016/17 base case (range)
WLR Conversion	N/A	34.86	29.91 (31.04 to 28.90)	CPI-4.75% (CPI-1% to CPI-8%)[12]

Approach to setting the proposed charge controls

1.12 Based on the policy proposals and financial modelling explained in this consultation, we propose that the controls set out in Tables 1.1 and 1.2 involve:

- **Form of control:** charge controls, indexed by inflation, designed to align current charges to forecast efficient costs.
- **Inflation:** We propose to use the Consumer Prices Index (CPI) to index these charge controls, rather than the Retail Prices Index (RPI).
- **Efficiency:** We propose to use an efficiency range of 4% to 6% (net of the costs of achieving this efficiency). Within this, we propose to use a base case net efficiency rate of 5%.
- **Weighted average cost of capital**: an estimate of the pre-tax nominal WACC for the copper access network of 8.8%. This is consistent with the WACC estimated for the 2013 BCMR Statement, although we have undertaken sensitivity analysis based on range for the pre-tax nominal WACC of 7.8% to 9.8%.
- **Technology change:** An anchor pricing approach will be used to set charges, based on the efficient ongoing costs of providing services over a copper network, ensuring all incremental fibre costs are excluded.
- **Common costs:** Common costs will be recovered equally from MPF and WLR lines, with SMPF making no contribution to common cost recovery. This is to enable both the difference in charges between MPF and WLR and the difference between MPF and WLR+SMPF to be equal to the respective differences in long run incremental costs (LRICs).
- **Price adjustments:** Pricing adjustments will no longer be made in respect of the cost of Test Access Matrices (TAMs) or for line length.
- **Directories:** The charge control on WLR should no longer include a contribution to the cost of providing directories (i.e. the BT Phone Book).

[10]WLR+SMPF Simultaneous Provide is the term we use in this document to refer to the discounted price applied to WLR Conversions when this service is provided simultaneously alongside SMPF New Provide (see Section 4 for more details).
[11]We propose to align the charge of the WLR Conversion when it is provided simultaneously alongside SMPF New Provide with the charges of MPF/SMPF Single Migration in the first year of the charge control. The values of the Xs reflect the annual reductions in the remaining years of the charge control.
[12]We propose to align the charge of the WLR Conversion with the charges of MPF/SMPF Single Migration in the first year of the charge control. The values of the Xs reflect the annual reductions in the remaining years of the charge control.

- **Glide path:** With the exception of the directory related costs for WLR, we propose to use glide paths to bring charges into line with projected costs by the end of the control period, rather than one-off price changes at the start of the period. The proposed glide paths will also move the difference in charges between MPF and WLR and between MPF and WLR+SMPF to be equal to the difference in LRICs by the end of the charge control.

1.13 Under the base case of our proposed controls, WLR and SMPF rental charges will continue to fall and MPF rental charges will remain broadly flat in real terms. While we forecast that line volumes will increase only marginally, efficiency gains are projected to continue meaning that average unit costs for WLR and SMPF rentals are falling. For the base case, MPF rental unit costs are broadly flat because this downward pressure from efficiency gains is broadly off-set by an adjustment in the relative prices of MPF and WLR/WLR+SMPF. Specifically, we propose to set MPF, WLR and SMPF charges such that the difference between MPF and WLR/WLR+SMPF is equal to the difference in long-run incremental costs (LRIC). This reduces the difference between MPF and WLR/WLR+SMPF charges. In doing so, we will be removing the TAMs pricing adjustment so that costs which had been allocated from MPF to SMPF now remain in the MPF cost stack. We also propose to remove costs associated with paper telephone directories from the WLR cost stack.

Disclosure of financial and volume forecast models

1.14 Our modelling approach, together with the associated outputs, is explained in Section 6 and Annex 13. The previous approach to modelling involved cost-forecasting (CF) and cost allocation (CA) models based on BT's Oak model. As proposed in the CFI, we have undertaken a different modelling approach to the cost modelling for these controls based on the costs of BT's network components (based on its Regulatory Financial Statement (RFS)) and AVEs/CVEs (a top-down model). Our financial model consists of information from BT's RFS as well as information confidential to BT which we obtained using our statutory powers.

1.15 We have also prepared a volume forecast model, using publicly available Government information and industry data and BT data from its RFS and confidential data from BT and other Communications Providers (CPs) gathered using our statutory powers. Our approach to volume forecasting is explained further at Annexes 8 and 9.

1.16 We are proposing disclosure of our models as early as possible in the week commencing 15 July 2013 by publishing:

- the RAV model;
- a version of the cost model which includes non-confidential input data and formulae; and
- a version of the volume forecast model which includes non-confidential input data and formulae,

these will be available here: http://stakeholders.ofcom.org.uk/consultations/llu-wlr-cc-13.

1.17 In developing our proposals on model disclosure, we have had regard to our obligations under the Communications Act 2003 (the "Act") and our Framework for Disclosure of Charge Control Models.[13]

Broadband line testing costs

1.18 We propose to recover all Test Access Matrices (TAMs) costs from MPF and all evoTAMs (evolutionary Test Access Matrices) costs from SMPF. However, the TAMs costs allocated to MPF in the 2011/12 RFS are considerably higher than in the 2010/11 RFS and compared to our modelling in the March 2012 Statement. Since we have been unable in advance of our consultation to fully understand the reasons for this, for the purposes of this consultation, we have made a simple adjustment to equalise the broadband line testing costs for MPF and SMPF. We will continue to investigate the costs of broadband line testing and, if appropriate, seek stakeholders' views on the appropriate allocation of costs. This is discussed further in Section 6.

Quality of Service

1.19 As part of our review of the fixed access markets[14] we have also been undertaking an examination of matters relating to the quality of service delivered by Openreach in the supply of its regulated wholesale fixed access services. In the FAMR Consultation we have proposed a number of remedies relevant to quality of service, including a set of minimum standards against which Openreach will be required to deliver key provisioning and fault repair obligations.

1.20 The ranges set out above in Tables 1.1 and 1.2 for the proposed LLU and WLR charge controls do not incorporate any additional costs that may be associated with quality of service obligations. As noted in the FAMR Consultation, we propose to consult later in 2013 on the relationship between service quality and resource costs and any impact that this may have on the level of the charge controls for LLU and WLR services. Section 5 covers this in more detail.

Fault rates

1.21 In Section 5 below, we note our ongoing work to understand the likely situation in 2016/17 with respect to the relative incidence of early-life and in-life faults[15] and whether there is likely to be any enduring difference between the incidence of faults on MPF lines as opposed to WLR and WLR+SMPF lines.

1.22 For the purposes of this consultation, we have assumed that the total level of faults will remain at the 2011/12 level and the mix of faults will remain at the 2011/12 level.

1.23 In the mean time, we will continue the substantive analysis to seek to understand the relative fault rates between the different services, MPF, WLR and SMPF, and why early life failures seem to have risen so much.

1.24 Once we have completed this analysis, we intend to publish the results for consultation in the autumn. If the results of this analysis indicate that the levels of the

[13]Available at: http://stakeholders.ofcom.org.uk/binaries/consultations/784024/Charge_control.pdf
[14]The wholesale local access, the wholesale fixed analogue exchange lines, wholesale ISDN30 and wholesale ISDN2 markets.
[15]Early life failures are those occurring within 28 days of a line being commissioned, in-life failures are those occurring after 28 days.

charge controls will fall outside the ranges consulted upon here, we will also conduct a further focussed consultation on the new ranges.

Next steps

1.25 We invite comments, from interested parties, on the proposals in this document. The consultation period runs for just under 11 weeks, to 25 September 2013. We are consulting for a period of just under 11 weeks rather than 12 weeks to enable this consultation to run coterminous with the FAMR. Please see Annex 1 for details on how to respond. Following consideration of responses to the consultation we would expect to publish our Statement in early 2014.

Section 2

Introduction

Scope of this consultation

2.1 This document consults on our proposed approach to setting new LLU and WLR charge controls, in light of the provisional conclusion set out in the FAMR Consultation that such controls are necessary as a remedy to Openreach's ability to set excessive charges for LLU and WLR services. This document forms part of our review of the fixed access markets and supplements the FAMR Consultation, which was published on 3 July 2013.

2.2 In this section we summarise the background to the current LLU and WLR charge controls, the developments since the last charge control review, and our objectives for this review. In particular, we summarise:

- the significance of LLU and WLR for promoting competition in fixed line data and voice services;
- why we are carrying out this charge control review and consultation;
- the provisional conclusions set out in the FAMR Consultation;
- developments since the last review, in particular the outcome of the appeal of the current LLU and WLR charge controls; and
- our Impact Assessment and our Equality Impact Assessment in this review.

Background

Introduction to LLU and WLR services

LLU

2.3 LLU is a regulated wholesale service sold by Openreach, which is the functionally separate access division of BT. LLU allows CPs to rent a customer's local 'copper' access connection, so that they can provide voice and/or data services directly to end users using their own equipment, which is deployed in BT's exchanges.

2.4 LLU can be in the form of either Metallic Path Facility (MPF) or Shared Metallic Path Facility (SMPF). MPF allows a competing CP to provide a customer with data and voice services. SMPF allows the provision of data services to a customer, with narrowband voice services being supplied separately by Openreach. In addition to these main access products, a number of ancillary services are necessary to enable and support the provision of LLU, including tie cables, site access, co-location and power.

2.5 There has been considerable take up of LLU services by CPs competing with BT in the retail market. As at the end of 2012, over 93 per cent of premises were served from an exchange where LLU is being used.[16] In these areas, there are now at least

[16]Review of the wholesale broadband access markets 2013/14

two CPs (including BT) who are able to provide products in direct competition. The take-up of LLU has grown rapidly from less than 200,000 lines in Q3 2005 to over nine million as of April 2013.[17] CPs have taken advantage of the opportunities offered by LLU to provide services to consumers in downstream markets.

WLR

2.6 WLR is also a regulated wholesale service sold by Openreach. WLR allows CPs to rent a customer's telephone connection, so that they can provide line rental and voice services directly to end users. It provides retail customers (both residential and business) with access to narrowband telephony services, such as telephone calls, facsimile and dial-up internet access.

2.7 The FAMR Consultation provisionally concludes that WLR has been, and continues to remain a key support of effective competition in fixed narrowband services at the retail level. As we identified in the February 2013 Narrowband Market Review Consultation[18] we consider that the wholesale remedies (in particular WLR and LLU remedies), as well as BT's wholesale calls services continue to be necessary to support retail competition in narrowband markets.

2.8 The FAMR Consultation explains that we expect there to be continued material demand for WLR during the period of the market review: 1 April 2013 to 31 March 2017 (the Market Review Period), and that WLR will remain important for competition. In the FAMR Consultation,[19] we explain that there are some groups of customers for whom there are currently limited alternatives to using WLR from BT, and that to the extent this remains the case throughout the forward-looking period covered by this review, the existence of these groups of customers is likely to limit further decline in WLR.

Provisional SMP conclusions and proposed charge control remedies

2.9 In Sections 3 to 7 of the FAMR Consultation we set out our provisional conclusions that BT has SMP in, among others, the WLA and WFAEL markets in the UK excluding the Hull Area. Then in Sections 11 to 14 we set out in detail the reasoning underpinning, among others, our proposals to impose LLU and WLR charge control remedies on Openreach in these markets. This consultation sets out our proposed approach to setting these new charge controls, their form, level and duration.

Background and other developments

Previous charge control review

LLU and WLR controls set in March 2012

2.10 The current LLU and WLR charge controls were set in the March 2012 Statement and expire on 31 March 2014. They were set following our conclusion in October

[17]Ofcom *UK broadband competition reaches new milestone* 25 April 2013 http://media.ofcom.org.uk/2013/04/25/uk-broadband -competition-reaches-new-milestone/
[18]Paragraph 3.24, Ofcom Review of the fixed narrowband services markets - *Consultation on the proposed markets, market power determinations and remedies* 5 February 2013 http://stakeholders.ofcom.org.uk/binaries/consultations/nmr-2013/summary/NMR_Consultation.pdf
[19]Section 3, especially paragraphs 3.102 to 3.112, FAMR Consultation

2010 that BT had SMP in the WLA[20] and WFAEL[21] markets in the UK excluding the Hull Area, and our subsequent assessment that there had been no material changes between when the charge controls were imposed and the market reviews.

2.11 In the March 2012 Statement, we set charges for LLU and WLR services from 1 April 2012 to 31 March 2014 as set out in the tables below. We also show the current charges for the services (which for some services include the amendments following recent appeals as explained further below).

Table 2.1: LLU Charge Controls from 2012 to 2014

Basket/service	Charge control for 2012/13 (£cap / combined RPI + X)	Charge control for 2013/14	Current charge (July 2013)
MPF rental	£87.41	RPI-5.9%	£84.26
SMPF rental	£11.92	RPI-15.9%	£9.75
MPF Single Migration	£33.89*	RPI-11.3%	£30.65
MPF New Provide	£51.16	RPI-14.2%	£45.53
SMPF Single Migration	£33.89*	RPI-11.3%	£30.65
SMPF New Provide	£33.89*	RPI-11.3%	£30.65
MPF ancillary services basket	-3.6%	RPI-9%	n/a (many services)
SMPF ancillary services basket	-7.6%	RPI-13%	n/a (many services)
Co-mingling ancillary services basket	1.8%	RPI-3.6%	n/a (many services)

For MPF Single Migration, SMPF Single Migration and SMPF New Provide, the first year price is as corrected following the CC's determination in the appeals of the 2012 Statement (paragraphs 13.25 to 14.38 of the determination).

Table 2.2: WLR Charge Controls from 2012 to 2014

Basket/service	Charge control for 2012/13	Charge control for 2013/14	Current charge (July 2013)
WLR Rental	£98.81	RPI-7.3 %	£93.27
WLR Transfer	£3.29	RPI-0%	£3.39
WLR New Connection	£50.44	RPI-9.8 %	£47.11

We have set our proposals in light of the legal framework

2.12 On 3 July 2013, as part of our review of the fixed access markets, we published the FAMR Consultation, in which, at Annex 7, we set out an overview of the market

[20] http://stakeholders.ofcom.org.uk/consultations/wla/statement
[21] http://stakeholders.ofcom.org.uk/binaries/consultations/review-wholesale-fixed-exchange/statement/statement.pdf

review process, including the imposition of remedies, to provide appropriate context and understanding to the matters discussed in that review.

2.13 This consultation does not seek to duplicate all of the information provided in the FAMR Consultation, which details the reasoning underpinning our proposals to impose LLU and WLR charge control remedies on Openreach and is therefore relevant to understanding the context for the proposed LLU and WLR charge controls.

2.14 This consultation sets out our proposed approach to setting the LLU and WLR charge controls, their form, level and duration. As a consequence, we consider the application of each of the relevant legal tests under the Act to these aspects of the controls. In particular, in Section 8 below we set out our reasoning as to why we consider our proposed charge control conditions meets each of those relevant tests.

2.15 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 BT's investment in wholesale local access and wholesale fixed analogue exchange lines.

2.16 Secondly, we consider whether the proposed 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.

2.17 Thirdly, we need to ensure that the condition proposed remains consistent with 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.

2.18 Under section 3, 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.

2.19 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. We consider that the objective of securing the availability throughout the UK of a wide range of electronic communications services was particularly relevant to the market reviews, and therefore to the proposed regulation in this review.

2.20 In performing our duties, we are also required to have regard to a range of other considerations, as appear to us to be relevant in the circumstances. We consider the desirability of promoting competition in relevant markets, the desirability of encouraging investment and innovation in relevant markets and the desirability of encouraging the availability and use of high speed data transfer services throughout the United Kingdom are particularly relevant to this review.

2.21 Section 4 of the Act requires us to act in accordance with the six European Community requirements for regulation. In the 2013 FAMR Consultation, we consider that the first, third, fourth and fifth of those requirements were of particular relevance to the market review, namely to promote competition in the provision of electronic communications networks and services, associated facilities and the supply of directories; to promote the interests of all persons who are citizens of the European Union; to take account of the desirability of Ofcom's carrying out of its functions in a manner which, so far as practicable, does not favour one form of or means of providing electronic communications networks, services or associated facilities over another, i.e. to be technologically neutral; 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.

2.22 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.

The Draft EC Recommendation

2.23 In accordance with section 4A of the Act we must also take due account of all applicable recommendations issued by the European Commission under Article 19(1) of the Framework Directive.

2.24 Of particular relevance to this aspect of our review of the fixed access markets is the EC's draft recommendation on non-discrimination and costing ('the Draft EC Recommendation'), published in December 2012.[22] The Draft EC Recommendation sets out a common approach for NRAs when imposing obligations of non-discrimination, price control, cost accounting (in particular, cost orientation), and provides further guidance on the regulatory principles established by the NGA Recommendation (in particular the conditions under which cost-orientation of wholesale access prices should or should not be applied). This is a draft and may not come into force in its current form. However, as the draft is expected to be adopted in advance of our final statement, we have had regard to the provisions as currently drafted for the purposes of this consultation.

2.25 We note that we must take utmost account of any recommendation ultimately made, but that in light of particular factors in the context of the market being reviewed, it may be appropriate to depart from such recommendation. To the extent that our proposals are not consistent with the Draft EC Recommendation, we set out in this document our reasons for this.

BEREC Common Position

2.26 In considering our proposals for remedies insofar as they apply to the wholesale local access markets we must also take utmost account of the BEREC Common Position on remedies in the market for wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location imposed as a consequence of a position of significant market power in the relevant market.

[22]EC, Commission recommendation of XXX on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment, draft of 7 December 2012, www.ec.europa.eu/digital-agenda/en/news/draft-commission-recommendation-consistent-non-discrimination-obligations-and-costing.

2.27 We have analysed the objectives identified in the BEREC Common Position and the related competition issues with reference to our market analysis. We have ensured that our proposed charge controls are consistent with the best practice remedies identified in the BEREC Common Position.

2.28 We consider the following common positions to be relevant to the proposed LLU and WLR charge controls:

2.28.1 BP32, BP33, BP34, BP35 which are considered in the FAMR Consultation at 10.183, 10.280 and from 11.224; and

2.28.2 BP41, BP42, BP43, BP44, BP45, BP46, BP47 and BP48.

2.29 We consider that our proposals are consistent with these Common Positions.

We have taken into account our specific policy objectives when developing our proposals

2.30 Our specific policy objectives in proposing the charge controls for LLU and WLR, services are:

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

2.31 We have adopted these policy objectives when developing the charge control proposals. We believe that these policy objectives flow out of and are consistent with 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.

Appeals

2.32 We have taken into account the determinations of the appeals of the March 2012 Statement.

2.33 Two appeals were brought to the Competition Appeal Tribunal ("Tribunal") under section 192 of the Act against our March 2012 decision to set charge controls for LLU and WLR services. Both appeals concerned price control matters and so were

referred by the Tribunal to the Competition Commission ("CC") for determination (the "Appeals").

2.34 BT raised nine grounds of appeal relating to the following aspects of Ofcom's approach to setting the charge controls and the modelling: (i) the treatment of efficiency for corporate overheads, (ii) cumulo forecasts, (iii) the treatment of Copper Recovery Income, (iv) a calculation error for migration charges, (v) service levels, (vi) the allocations for "Test Head" equipment, (vii) the price adjustment for line testing equipment, (viii) the RAV adjustment, and (ix) copper work activity units (although this ground was withdrawn following Ofcom's Defence).

2.35 Sky and TalkTalk (as joint appellants) raised a further six grounds of appeal, relating to the follow aspects of Ofcom's approach to modelling: (i) volume forecasts, (ii) fault rates for "young lines", (iii) cumulo rates, (iv) duct indexation, (v) Copper Recovery Income, and (vi) the line length adjustment (although this final ground was subsequently withdrawn).

2.36 EE intervened in support of BT in relation to the grounds of appeal relating to Test Head equipment and the price adjustment and in support of Sky and TalkTalk in relation to the ground of appeal on volume forecasts.

2.37 The CC issued its Final Determination in the Appeals on 27 March 2013. The CC upheld Ofcom's decision on many aspects of the Appeals. However, in summary, the CC upheld BT's grounds of appeal on: cumulo, copper recovery income, migration charges, and Test Heads. Further, the CC upheld Sky/TalkTalk's grounds of appeal on volume forecasts and fault rates.

2.38 On 29 April 2013 the Tribunal made directions requiring Ofcom to make specified corrections to the charge controls for MPF rental, SMPF rental, WLR rental and two migration services. The CC could not specify a remedy in relation to the fault rate ground of appeal brought by Sky and TalkTalk. This ground of appeal was therefore remitted to Ofcom to investigate and correct the error identified.

2.39 Ofcom gave effect to the Tribunal's directions on 30 April 2013 by publishing the Statement Charge control for LLU and WLR services - Adoption of revised SMP Services Conditions following the Competition Appeal Tribunal's Directions of 29 April 2013.[23] This document amended the charge controls for the rental services with prospective effect for the remainder of the period to 31 March 2014 as follows:

Table 2.3: Amended 2013/14 LLU and WLR charge controls

Service	Pre-CC 2013/14 charge ceiling (£ per line)	Corrected 2013/14 charge ceiling (£ per line)
MPF Rental	£85.04	£84.26
SMPF Rental	£10.40	£9.75
WLR Rental	£94.75	£93.27

2.40 In formulating the proposals set out in this consultation, we have taken full account of the conclusions reached on the issues raised in the Appeals and the CC's Determination.

[23] http://stakeholders.ofcom.org.uk/consultations/wlr-cc-2011/charge-control-april2013/

Impact assessment and Equality impact assessment (EIA) framework

Impact assessment

2.41 The analysis presented in this document constitutes an impact assessment as defined in section 7 of the Act.

2.42 Impact assessments provide a valuable way of assessing different options for regulation and showing why the preferred option was chosen. They form part of best practice policy-making. This is reflected in section 7 of the Act, which means that generally we have to carry out impact assessments where our proposals would be likely to have a significant effect on businesses or the general public, or when there is a major change in Ofcom's activities. However, as a matter of policy Ofcom is committed to carrying out impact assessments in relation to the great majority of our policy decisions. For further information about our approach to impact assessments, see our guidelines, "Better policy-making: Ofcom's approach to impact assessment."[24]

Equality impact assessment

2.43 Annex 6 of the FAMR Consultation sets out our EIA for the market reviews. Ofcom is separately required by statute to assess the potential impact of all our functions, policies, projects and practices on race, disability and gender equality. EIAs also assist us in making sure that we are meeting our principle duty of furthering the interests of citizens and consumers regardless of their background or identity.

2.44 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. 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, in consumers in Northern Ireland, or on disabled consumers compared to consumers in general. Similarly, we do not consider that our proposals will have a particular impact on consumers in different parts of the UK or on consumers with low incomes.

Consultation period

2.45 We intend to consult for a period of just under 11 weeks, with a deadline for responses of 25 September 2013.

2.46 We are consulting for a period of just under 11 weeks rather than 12 weeks to enable this consultation to run coterminous with the FAMR consultation enabling stakeholders to respond to both consultations together. We consider that this is appropriate given that, from a legal and procedural perspective, this charge control review is part of our overall review of fixed access markets – i.e. it forms part of our assessment of the appropriate remedies which should be imposed, where there has been a finding of SMP, based on the nature of the competition problem identified in the relevant markets.

[24] http://stakeholders.ofcom.org.uk/binaries/consultations/ia_guidelines/summary/condoc.pdf

Structure of document

2.47 The remainder of this consultation document is set out in the following structure:

- Section 3 - covers the economic and regulatory background to the setting of cost based charges for LLU and WLR;
- Section 4 - covers charge control design, including basket structure;
- Section 5 - refers to our review of Openreach's quality of service and fault rate and covers how these may impact on the LLU and WLR charge controls;
- Section 6 - covers charge control cost modelling for the LLU and WLR charge controls;
- Section 7 - covers the levels of our proposed LLU and WLR charge controls; and
- Section 8 - covers implementation of the proposed charge controls including our assessment of the proposals against the applicable legal tests.

2.48 Annexes cover:

- Annex 1: Responding to this consultation;
- Annex 2: Ofcom's consultation principles;
- Annex 3: Consultation response cover sheet;
- Annex 4: Consultation Questions;
- Annex 5: Copper and duct valuation (Regulatory Asset Value);
- Annex 6: Differentials between MPF and WLR/WLR+SMPF;
- Annex 7: Efficiency;
- Annex 8: Volume Forecasting;
- Annex 9: Volume Forecasting Model;
- Annex 10: Technical requirements of migration;
- Annex 11: Cost Model Documentation;
- Annex 12: Cost Model;
- Annex 13: Detailed Cost Modelling Assumptions;
- Annex 14: Treatment of cumulo rates within the charge control;
- Annex 15: Cost of capital;
- Annex 16: Brattle Group Report on BT Group Beta;

- Annex 17: Draft Legal Instruments;
- Annex 18: Sources of Evidence; and
- Annex 19: Glossary.

Section 3

Economic and regulatory background to the setting of cost-based charges for LLU and WLR

Summary of proposals

3.1 In this section we explain why we propose the following with reference to the LLU and WLR charge controls:

- **Form of control:** We propose to introduce a charge control, indexed by inflation, designed to align current charges to forecast efficient costs. See paragraphs 3.3 to 3.11 below.
- **Cost standard:** Total costs to be recovered from the charge controls will, with the exception of pre-1997 local access ducts, be forecast on the basis of current cost accounting fully allocated costs (CCA FAC). See paragraphs 3.23 to 3.26 below.
- **Duct valuation:** The CCA FAC cost base will be subject to an adjustment in that the regulatory asset valuation (RAV) of the pre-1997 local access duct and copper assets will be based on their historic cost accounting (HCA) value, indexed for inflation (this is referred to as the RAV adjustment). See paragraphs 3.27 to 3.33 below.
- **Technology change:** An anchor pricing approach will be used to set charges, based on the efficient ongoing costs of providing services over a copper network, ensuring all incremental fibre costs are excluded. See paragraphs 3.34 to 3.62 below.
- **Common costs:** Common costs will be recovered equally from MPF and WLR lines, with SMPF making no contribution to common cost recovery. This is to enable both the difference in charges between MPF and WLR and the difference between MPF and WLR+SMPF to be equal to the respective differences in long run incremental costs (LRICs). See paragraphs 3.63 to 3.81 below.
- **Price adjustments:** Pricing adjustments will no longer be made in respect of the cost of Test Access Matrices (TAMs) or for line length. See paragraphs 3.83 to 3.104 below.
- **Directories:** The charge control on WLR should no longer include a contribution to the cost of providing directories (i.e. the BT Phone Book). See paragraphs 3.105 to 3.126 below.
- **Duration:** We propose a three-year control. See paragraphs 3.127 to 3.138 below.
- **Glide path:** With the exception of the directory related costs for WLR, we propose to use glide paths to bring charges into line with projected costs by the end of the control period, rather than one-off price changes at the start of the

period. The proposed glide paths will also move the difference in charges between MPF and WLR and between MPF and WLR+SMPF to be equal to the difference in LRICs by the end of the charge control. See paragraphs 3.139 to 3.154 below.

- **Inflation:** We propose to use the Consumer Prices Index (CPI) to index these charge controls, rather than the Retail Prices Index (RPI). See paragraphs 3.155 to 3.191 below.

3.2 We also address the implications of the Draft EC Recommendation for technology choice for our proposals. See paragraphs 3.192 to 3.202 below.

Form of control

We propose to apply an indexed charge control

3.3 We propose an inflation indexed charge control for the MPF, WLR and SMPF services in question, in which the price cap is annually updated for inflation minus an adjustment (the so-called "X" in RPI-X or CPI-X). This form of control has been tried and tested over many years for telecoms charge controls. It has a number of desirable properties, as explained below, such that we consider it is the form of control that would be most consistent with our duties. A particular feature of this form of control is that it gives BT incentives to enhance its efficiency and make efficient investments. This is an important consideration for us and something we must consider under section 88 of the Act.

3.4 Price cap regulation (rather than 'rate of return' regulation) provides an incentive to make efficiency gains over and above those forecast as part of the control. If BT is able to deliver the required services at a lower cost than has been forecast, it can keep the profits resulting from these savings. In this way, price cap regulation provides incentives to 'outperform' the control and improve efficiency over time. Customers also benefit in the longer term, as these additional efficiency gains can be shared through lower prices when the charge control is reset.

3.5 Price cap regulation can also provide incentives for efficient investment. The level of the charge control is set to allow the firm to earn a reasonable rate of return (the cost of capital) if it is efficient, and a consistent approach can be taken over charge control periods to encourage such investment.

3.6 We have also considered whether alternative forms of charge control might be appropriate in the current circumstances. In particular, we have considered whether "cost-plus" or "retail-minus" regulation might be more appropriate.

3.7 As with price cap regulation, cost-plus regulation would allow BT to recover incremental costs plus an appropriate mark-up for common costs and a reasonable rate of return. Under this approach, charges are set equal to actual costs including the allowed rate of return in each year of the control. In theory, this would ensure that BT is able to recover the costs of provision of its services, whilst ensuring that customers are protected from prices being set well above costs.

3.8 The key concern often identified with a cost-plus control is that it has poor incentive properties, as BT would earn the allowed rate of return regardless of how well it controlled its costs. In particular, BT would have limited incentives for cost minimisation, since any reductions in costs would be passed on directly to customers. Therefore, whilst in theory it would be efficient for prices to reflect actual

costs, there would not be an incentive to minimise those costs and bring them to efficient levels.[25]

3.9 Retail-minus regulation controls the margin between the wholesale charge and the relevant downstream prices, rather than the absolute level of charges. The aim of retail-minus regulation is to ensure that charges for wholesale services are set at a level which allows efficient operators to compete in the downstream market using the wholesale input in question.

3.10 However, since the absolute level of wholesale charges would not be controlled, a retail-minus control would normally do little to prevent prices from rising above the competitive level and so is unlikely to be appropriate where upstream market power is entrenched.[26] As a result, we consider that retail-minus based charge controls on MPF, WLR and SMPF services are unlikely to be appropriate for the purpose of protecting consumers from excessive prices. This is an important issue in addressing the competition problems we have identified in the FAMR Consultation and something that we must consider under section 88 of the Act in imposing any price controls.

3.11 We therefore believe that price regulation based on an inflation indexed cap minus an allowance for forecast efficient costs (i.e. RPI-X or CPI-X) is likely to best meet our objectives and be most consistent with our duties.

Question 3.1: *Do you agree with our proposal to impose an inflation indexed price cap? Please provide reasons to support your views.*

CCA FAC with a RAV adjustment as the relevant cost standard

Promoting efficiency to benefit competition and consumers

3.12 Our objective when setting charge controls, as prescribed by the Act, is to set such conditions as appear to us appropriate for the purposes of promoting efficiency, promoting sustainable competition and conferring the greatest possible benefit on the end-users of public electronic communications services.[27] We are also required to have regard to the extent of investment made in the relevant services by the entity on whom the charge controls will apply. We therefore aim to set charges to incentivise efficient behaviour that will promote competition and benefit consumers whilst allowing BT to recover efficiently incurred costs. There are different aspects to economic efficiency: allocative efficiency, productive efficiency (which are together known as static efficiency), and dynamic efficiency.

Allocative efficiency

3.13 Allocative efficiency involves allocating resources to produce the goods and services that consumers value most. For allocative efficiency, the price of a service should

[25] See the discussion of the different types of efficiency below.
[26] For further discussion of the circumstances in which a retail-minus approach may be appropriate, see Annex C of Oftel, '*Access to Bandwidth: Delivering Competition for the Information Age*', November 1999, available at: http://www.ofcom.org.uk/static/archive/oftel/publications/1999/consumer/llu0799.htm
[27] Section 88 Communications Act 2003

reflect its forward-looking marginal (or incremental) costs.[28] Prices at forward looking marginal costs ensure that users who value a service by at least as much as the marginal cost of providing them with the service are able to purchase it and that they will bear the costs of their usage.

3.14 Forward-looking costs can themselves be divided into incremental costs and common costs. [29] Pricing to recover only marginal or incremental costs of each service is unsustainable because the firm would not be able to recover common costs. Recovery of common costs in prices, by means of mark-ups over incremental cost on at least some services is therefore necessary. Pricing rules have been developed which minimise this inefficiency, by setting prices on the basis of demand elasticity (a measure of how responsive demand is to price). However, this approach to pricing, known as Ramsey pricing, itself has practical difficulties since a large amount of information on the elasticity of demand is needed.[30] This means that regulators typically use other methods to set prices in practice, such as setting them on the basis of Fully Allocated Costs (FAC) or LRIC+EPMU (equal proportionate mark-ups).

3.15 Costs incurred in the past cannot be influenced by current or future consumption and production. Therefore, on allocative efficiency grounds alone, prices should not be set to take them into account.

Productive efficiency

3.16 Productive efficiency involves minimising the costs of production. For productive efficiency, the relative prices of MPF and WLR/WLR+SMPF should give CPs an incentive to choose the wholesale service that minimises the total costs of providing downstream voice and broadband services. To ensure that the cost-minimising choice between these alternative wholesale inputs is made, the price differentials between (i) MPF and WLR and (ii) between MPF and WLR+SMPF should be equal to the absolute difference in their incremental costs.[31]

Dynamic efficiency

3.17 Dynamic efficiency refers to the improvements in efficiency that occur over time as innovation results in the development of new goods and services, and as technological advances and investment allow the production of current and future goods and services at lower resource cost.

3.18 Dynamic efficiency means that firms have the correct incentives to invest (e.g. in new infrastructure and production techniques) and to innovate (e.g. to generate new products). Consistent and stable decision making is particularly important for

[28]Marginal cost is a special case of incremental cost where the increment is one unit of output. A large proportion of the costs of telecoms networks are fixed in the short run, and short run marginal costs can be very low. Setting prices in relation to short run marginal costs would therefore generally understate the costs of telecoms services. LRIC is generally considered to be a more appropriate measure for this reason.

[29]Common costs are forward-looking costs which are shared between services and not incremental to any single service.

[30]Under Ramsey pricing, elasticities of demand are used to allocate common costs. Services with higher elasticities of demand (demand is more sensitive to price) attract lower mark-ups than services with lower demand elasticities.

[31]See the determination of the Competition Commission in "The Carphone Warehouse Group plc v Office of Communications *Case 1149/3/3/09*", 31 August 2010, Section 2. Paragraph 2.12 for a succinct statement of this principle.

dynamic efficiency. An environment that is regulated in a consistent and predictable way over time is more likely to be favourable to investment.

Balancing the economic efficiency trade-offs

3.19 In our regulatory assessment we put significant weight on allocative efficiency, and so our starting point will generally be to set charges based on forward-looking costs. In this regard a methodology based on (CCA) is likely to be superior to one based on Historic Cost Accounting (HCA) because it is often a better approximation of forward looking costs. It will often be the case that prices set on the basis of CCA asset values provide appropriate incentives for investment and consumption because in many situations CCA values will closely approximate the costs of the resources needed to provide a service today.

3.20 This is only true, however, if the assets in question will actually require replacement. For assets such as duct, replacement is not likely and the asset can be regarded as a 'sunk asset'. In the case of sunk assets, the cost of replacement is not therefore part of the operator's forward-looking costs. If setting prices to achieve allocative efficiency were the only objective, then prices would not be set on a CCA (or indeed HCA) basis, but rather on the basis of forward-looking costs excluding all sunk costs.

3.21 Disregarding sunk costs may be consistent with allocative and productive efficiency objectives, but not necessarily with encouraging dynamic efficiency. If investors believed that their costs, once sunk, would be regarded by the regulator as irrelevant for pricing purposes, they would be reluctant to invest in assets which could be regarded as sunk once the investment had been made.

3.22 Hence, we allow BT to recover the costs of duct in MPF and WLR charges. We consider that making the RAV adjustment (see from paragraph 3.27) is consistent with the recovery of sunk costs on dynamic efficiency grounds, whilst avoiding future over-recovery of costs.

Proposal to use CCA FAC as the cost standard

3.23 We propose to continue to use CCA FAC as the basis for forecasting the efficient costs of LLU and WLR. We also propose to continue with the RAV adjustment to prevent over-recovery of the costs of certain older assets – in particular, duct and copper – as discussed further below.

3.24 The CCA FAC approach was used to set the current LLU and WLR charge controls, as well as the controls before that. CCA FAC has generally been used by Ofcom in the setting of other charge controls applied to BT and has been considered previously by the CC in the context of the appeal of the LLU and WLR charge controls in force from 2009 to March 2011. It can also be reconciled to BT's regulatory financial statements (RFS), which are published by BT and independently audited.

3.25 As in these previous examples,[32] we prefer to use CCA FAC as a proxy for LRIC+equiproportional mark up (EPMU) as it is the more practical option and given that there is little to choose between them on efficiency grounds. Both are generally

[32]See, for example, Ofcom, paragraphs 3.14 – 3.21, "*Charge control review for LLU and WLR*", 7 March 2012 http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf

consistent with basing charges on forward-looking costs and therefore, as explained above, usually give more appropriate signals for entry and investment than HCA.[33]

3.26 While we consider CCA FAC (with the RAV adjustment) to be relevant as a measure of costs in total, we do not necessarily consider this to be an appropriate standard for capping individual charges in all cases or for determining relative charges. In some situations, it may be appropriate to set charges at LRIC without any mark-up, because in those circumstances the efficiency or competition advantages of LRIC outweigh the practical benefits of FAC.[34] In other situations, it may be appropriate to set a control on the average price for a basket of a number of services on the basis of FAC, but to allow freedom for the prices of individual services within the basket to be above or below FAC.[35] In addition, as in the case of MPF and WLR charges which we discuss from paragraph 3.77 below, it may be appropriate to set charges such that the difference between them is equal to LRIC.

Question 3.2: *Do you agree with Ofcom's proposal to use a CCA FAC methodology to establish the cost base for the next LLU and WLR charge controls? Please provide reasons to support your views.*

RAV adjustment and the valuation of duct for setting charge controls

RAV adjustment applied to pre-1997 copper and duct assets

3.27 For the purpose of setting charge controls, we propose to make an adjustment to the CCA value for BT's access copper and duct assets. For assets acquired before August 1997, the Regulatory Asset Value (RAV) is used instead of the CCA value. The RAV is based on the HCA value of pre-1997 assets at the end of 2004/2005, increased each year by RPI. This is less than the CCA value by an amount known as the RAV adjustment.

3.28 Our reasons for making the RAV adjustment are described in detail in Annex 5. In summary, the RAV adjustment is made because:

- if the full CCA value of the pre-1997 assets were used to set charges, BT would over-recover the costs of these assets through future charges. Over-recovery would result because, before 1997, these assets were valued on an HCA basis, but in 1997, they were re-valued upwards to their CCA value. Without the RAV adjustment, this increase in value during the assets' lifetime would create a windfall gain for BT;

- using the RAV rather than the full CCA value for these assets is more consistent with efficient charging and giving incentives for efficient investment in alternative networks. This is because, as ducts are sunk assets (that is, assets which will not need to be replaced), their true forward looking cost is very low, and well below either the CCA or HCA values. However, we allow BT to recover (but not over-recover) the sunk costs of duct to preserve incentives for investment, and the RAV is consistent with this; and

[33]The exception to this general principle being sunk assets such as BT's ducts.
[34]See Ofcom, "*LLCC PPC points of handover pricing review*", 26 January 2011, for a discussion of when it may be appropriate to set charges at LRIC: http://stakeholders.ofcom.org.uk/binaries/consultations/points-handover-pricing/summary/main.pdf
[35]See, for example, Ofcom, "*Business connectivity market review*", 28 March 2013 at http://stakeholders.ofcom.org.uk/consultations/business-connectivity-mr/final-statement/

- removing the RAV adjustment could harm LLU-based competition. It could also send a signal that regulatory consistency over time could not be relied on, and this could undermine prospects for future investment more generally.

3.29 In proposing to continue to make the RAV adjustment, we have taken into account the CC's consideration of this issue in the appeals of the current controls. The CC found that Ofcom did not err in making the RAV adjustment and agreed with Ofcom that:

- BT would over-recover the costs of the pre-1997 assets in the absence of the RAV adjustment;[36]
- duct costs are largely sunk and that this means that "increasing the price would reduce allocative and productive efficiency, as Ofcom said";
- some weight should be placed on the benefits for regulatory stability of keeping the RAV adjustment; and
- a reduction in investment incentives "should only be a concern if *efficient* investment would be deterred" (emphasis in original).[37]

3.30 The CC concluded that "the main issue here again appears to be whether the current charging methodology [ie the RAV] captures the forward-looking costs better than BT's alternative and…we think that it does".

3.31 Over time the RAV adjustment will gradually disappear as the pre-1997 assets become fully depreciated. The reasoning for our RAV approach was set out in detail in Section 3 (from paragraph 3.59) and Annex 1 of the March 2012 Statement.[38]

Post 1997 copper and duct assets

3.32 For post-1997 copper and duct assets we propose to continue to use CCA. The opening value for post-1997 copper assets is therefore BT's absolute valuation.[39] However, because it is difficult to forecast movements in copper prices going forward, for the purposes of our forecast we propose to index copper by RPI. This is the approach we have adopted in other charge controls including the previous LLU and WLR charge controls and the recent leased line charge control.[40]

3.33 We propose to estimate the CCA value for post-1997 access duct on the basis of capital expenditure indexed by RPI, the same approach we took in the March 2012 Statement. We understand from BT that it plans certain changes to its duct valuation

[36]Paragraphs 8.140 – 8.182, Competition Commission, determination in "British Telecommunications Plc v Office of Communications" Case 1193/3/3/12, 27 March 2013. In paragraph 8.175, the CC says: "we determined that Ofcom *could* rely on its theoretical model in making its assessment of over-recovery" (emphasis in original).
[37]Paragraphs 8.235 – 8.242, Competition Commission, determination in "British Telecommunications Plc v Office of Communications" Case1193/3/3/12, 27 March 2013.
[38]Ofcom, *Charge control review for LLU and WLR services*, 7 March 2012 http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf
[39]Under the absolute valuation method, the replacement cost of assets is estimated by multiplying the quantity of assets in place by the estimated current price of the relevant assets – rather than by applying a price trend to previous asset values.
[40]Ofcom, *Business Connectivity Market Review - Review of retail leased lines, wholesale symmetric broadband origination and wholesale trunk segments*, 28 March 2013 http://stakeholders.ofcom.org.uk/consultations/business-connectivity-mr/final-statement/

methodology and we have reconsidered the rationale for indexation by RPI in the light of these. Our proposal is that indexation by RPI remains appropriate. This and other details of the RAV adjustment are explained in Annex 5.

Question 3.3: *Do you agree with our proposal that, for the purposes of these charge controls, BT's pre-1997 duct assets should continue to be valued on an indexed historic cost (RAV) basis? Please provide reasons to support your views.*

Question 3.4: *Do you agree with our proposal that, for the purposes of these charge controls, BT's post-1997 duct assets should be valued on a CCA basis based on capital expenditure indexed by RPI? Please provide reasons to support your views.*

Technology choice

Our proposals in the 2012 FAMR CFI

3.34 In the 2012 FAMR CFI we explained that, in general, we prefer to set charges using costs and asset values derived from the most efficient available technology that performs the same function as the current technology.[41] This is sometimes described as the modern equivalent asset (MEA) approach to pricing.

3.35 We explained our view that, although gradual technological change can be addressed by the MEA approach, more radical technological changes may pose significant challenges. When technology is changing rapidly, we also consider (and in some cases, prefer) the adoption of an approach that we refer to as 'anchor pricing'.

3.36 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 and/or would enable it to provide higher quality services for which consumers are willing to pay a premium. At the same time, consumers of existing services are 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.

3.37 We have used the anchor pricing approach to set a number of charge controls in the past, including both the last two controls on LLU and WLR charges. The general efficiency and practicality arguments for the approach are discussed at length in the CC's determination in the appeal of the 2009 charge control by the Carphone Warehouse Group (now TTG).[42] In our 2012 review of the LLU and WLR charge controls, we confirmed that the proposed controls would lead to prices which were no higher than they would have been in the absence of investment in and migration to NGA services, and hence were consistent with the principle of anchor pricing.[43] The approach has also been used to set other controls, including those on charges for BT's call conveyance and interconnection services (see September 2009 NCC

[41]Paragraphs 6.11 to 6.22, Ofcom, *Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 – call for inputs,* 9 November 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/summary/condoc.pdf
[42]See in particular the Competition Commission's (CC) decision in "*the Carphone Warehouse Group plc v Office of Communications*", August 2010, case 1149/3/3/09, where this approach is referred to as the "technology neutral" approach.
[43]See for example, paragraph 3.3 Ofcom, *Charge control review for LLU and WLR services*, 7 March 2012 http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf

statement[44]) and wholesale broadband access (WBA) services (see July 2011 WBA charge control statement)[45].

3.38 In the 2012 FAMR CFI we set out our view that it would not be appropriate to use fibre to the premises (FTTP) as the MEA for setting prices for existing services (such as MPF, SMPF and WLR). We explained that the scope for error in using FTTP to determine the cost of services delivered over the existing copper network would be considerable, both in determining the costs of an MEA network and also the calculation of how much to reduce (or 'abate') the costs of the FTTP assets to take account of the lower functionality of the existing copper network.

3.39 We therefore proposed to adopt an anchor pricing approach in which regulated charges for current generation access services (i.e. MPF, SMPF and WLR) are set as if there were no deployment and take-up of NGA (in particular FTTP) services.

3.40 We also noted that a significant part of the asset base for any of these networks relates to the duct assets. As noted above, there is now a well established regulatory approach to valuing these assets based on a RAV model, rather than considering the full replacement cost of the duct network.

Responses to the 2012 FAMR CFI

3.41 BT said that it "...believes it is essential to maintain the correct level of cost recovery for the copper network. BT has no plans to close down the existing copper network and it will remain the primary infrastructure in the UK for carrying voice, current and next generation broadband for the foreseeable future. Therefore, it is entirely appropriate that the price of these services should be anchored to CGA technology. If this approach is adopted then it follows that the cost of all lines would be modelled as if they were entirely copper-based. This approach would also be in line with the prevailing view that there is no prospect of fibre becoming the Modern Equivalent Asset (MEA) for the copper network in the foreseeable future."

3.42 BT also said:

"Ofcom's anchor pricing approach suggests costs should be modelled as if NGA did not exist. That is to say:

Where there is an FTTP line, it should be treated as a copper line, recovering the same or similar common costs as either an MPF line or a WLR line (there being no copper to the site);"

Where there is an FTTC line, there will be either an MPF line or a WLR line in place, so common CGA costs are already recovered in the charges for MPF and/or WLR."

3.43 CWW said:

[44]Ofcom, *Review of BT's Network Charge Controls* 15 September 2009 http://stakeholders.ofcom.org.uk/binaries/consultations/review_bt_ncc/statement/nccstatement.pdf ,. Note, however, that in February 2013, we consulted on setting charges for call conveyance (specifically call origination and call termination) on the basis of a next generation network, see Ofcom, *Review of the fixed narrowband services markets, http://stakeholders.ofcom.org.uk/consultations/nmr-13/*

[45]Ofcom, *WBA charge control* 20 July 2011http://stakeholders.ofcom.org.uk/binaries/consultations/823069/statement/statement.pdf,

"We consider for the next period that copper will play the larger role in the provision of access services.

Presently we are convinced by Ofcom's arguments that it is too early to adopt NGA as the MEA. We look forward to a wider stakeholder debate on the outcomes one could expect following either approach or whether any intermediate options are viable. We note that the Commission is currently consulting upon a recommendation of relevance but that the implementation of that is not until end 2016. We expect that this consultation and conclusions thereof will have progressed substantially during the course of this review period."

3.44 Sky said that:

"The appropriate costing methodology in the fixed access markets is one that:

- is based upon the costs of BT's actual copper network as opposed to a fibre-based modern equivalent asset ("MEA") approach or the anchor pricing approach favoured by Ofcom. Both direct and indirect costs related to fibre should be excluded from the relevant LLU and WLR cost stacks and base year calculations;
- minimises the uncertainty caused by volatility in copper input prices; and
- apportions common costs equally between MPF and WLR unless there is a strong case to adopt a different approach."

3.45 While Sky agreed with Ofcom that it was inappropriate to use an MEA approach based on next generation access, it did not consider that the anchor pricing approach that Ofcom proposed was appropriate:

" 11. […] Sky considers that the appropriate approach in this instance is one that is founded upon BT's costs of providing LLU and WLR. Under this approach, fibre-related costs – both direct and indirect – would be excluded from the costs stacks for WLR and LLU and fibre-based services would make an appropriate contribution to common costs.

12. This approach differs to the proposed anchor pricing approach put forward by Ofcom whereby all access services are assumed to be copper-based (irrespective of whether some are actually fibre-based). In Sky's view, Ofcom's hypothetical access network model would not offer any real benefits over the approach described above but, adversely, would entail increased risks of over-/under-recovery and could not be easily reconciled to BT's actual deployment costs."

3.46 TalkTalk said: "Ofcom has proposed using an anchor based pricing approach – we are unsure whether this will be of any benefit."

3.47 Two papers by Frontier Economics were submitted by Sky and TalkTalk which gave more detail on the modelling approach proposed.46 In the "cost standard" paper, Frontier Ecnomics suggests that the "approach based on BT's actual network and

[46]Frontier Economics, *Fixed Access markets reviews: Call for Inputs – Ofcom's proposals for cost modelling for the LLU and WLR charge controls*, and *A report on Ofcom's proposals for the cost standard to be used for LLU and WLR charge controls,* both January 2013, http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BSkyB_and_TTG_cost_implemen1.pdf and http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BSkyB_and_TTG_cost_standard1.pdf

actual costs that Ofcom has used to date" would be preferable to one based on "costs calculated for a hypothetical all copper network", as such hypothetical models "tend to be more complex and uncertain". Frontier Economics also recommends that a "focussed inspection" of base year costs be carried out to ensure the exclusion of all NGA costs and that a check be made on whether roll out of FTTC is associated with elevated fault rates. However, Frontier Economics also states that "Ofcom's proposed approach, to recover the common costs of the local access network equally between all customers appears a pragmatic approach, with little potential loss in efficiency".

3.48 Virgin Media and Verizon agreed with Ofcom's proposed approach.

Proposals on technology choice for setting charges

3.49 We propose to set charges using an anchor pricing approach based on the costs of a hypothetical ongoing copper access network as outlined in our 2012 FAMR CFI. An anchor pricing rather than an MEA approach was also adopted for the 2012 review. However, in the 2012 review, cost forecasts were first made at the level of Openreach as a whole using a "cost forecast" (CF) model and then allocated to individual services using a second "cost allocation" (CA) model. A cross-check on the outcome was then made to ensure that it was consistent with the principle of anchor pricing.

3.50 As set out in more detail in Section 6, for this review we have developed a new model, embodying the anchor pricing principle within it and avoiding the need for this to be applied by means of a separate cross-check. We do not propose for this review to use again the suite of models used to set the charge controls due to expire in March 2014.

3.51 Respondents to the 2012 FAMR CFI were generally in favour of not using an MEA approach. In its response, Sky gave two reasons for not using an MEA approach based on NGA. The first of these was consistent with what we set out in the 2012 FAMR CFI.[47] The second reason was as follows:

"BT's access infrastructure is largely non-contestable, non-replicable and involves significant sunk costs, any benefits that may accrue from modelling costs for the charge controls on those of a hypothetical new entrant in order to encourage only efficient alternative infrastructure investment are unlikely to be significant."

3.52 We agree that significant new entry is unlikely and hence even if we could identify the MEA and robustly estimate costs for current generation access services using it, this approach may not be in the interests of consumers – particularly if it resulted in regulated prices being higher than necessary to incentivise efficient ongoing operation of the copper network and efficient investment in next generation access. This reasoning is in keeping with the Commission's expressed desire to achieve stable copper prices.[48]

[47]Sky said it "agrees with Ofcom that, when setting charge controls for fixed access services (i.e. LLU and WLR), it is inappropriate to use a MEA approach based on next generation access ("NGA"). This is, in part, because it is too difficult to predict with any reasonable level of precision the abatement that would need to be made to forecast fibre access costs in order to account for the lower level of functionality offered by LLU and WLR." http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BskyB_Additional_Paper.pdf

[48]Stable copper prices is one of the three key elements set out in Neelie Kroes's speech of 12 July 2012: http://europa.eu/rapid/press-release_SPEECH-12-552_en.htm?locale=en

3.53 While considering an MEA approach to be inappropriate, Sky also argued that it was unnecessary to use an anchor pricing approach, and TalkTalk said it was unsure there was any benefit. As noted above, the supporting papers by Frontier Economics questioned whether there were any benefits to modelling a hypothetical all copper network compared to using BT's actual costs for copper with all NGA related incremental costs removed. Indeed, it said that Ofcom's proposed approach would be more likely to reduce the accuracy of any cost model because it would not be based on BT's actual costs and would therefore increase uncertainty.

3.54 We consider that a model based on BT's actual costs would not reduce complexity or provide greater certainty. Indeed, one of the benefits of the approach we propose is that it is less complex and more transparent than that used to determine charges in the 2012 review. We have also taken the appropriate steps, described in detail in Section 6, to provide the necessary assurance that the costs of the hypothetical allcopper network are not overstated by the inclusion of NGA costs. Moreover, Frontier agrees with our proposal to recover equal amounts of common costs across all lines, but this would not necessarily be a feature of a model based on actual costs and fibre deployments. By contrast, Sky and TalkTalk themselves explicitly advocate recovering a greater amount of common cost from NGA customers, a proposal we discuss further below.

3.55 We do not agree that our proposed modelling approach would be less transparent or robust than the alternative modelling approach (similar to the one "that Ofcom has used to date") put forward by Frontier Economics.

3.56 In any case, that approach has only been "used to date" to set LLU and WLR charges. Other charge controls, including those on charges for wholesale leased lines (most recently set in March 2013)[49], WBA (up to March 2014)[50] and BT's NCC (up to September 2013)[51], have been set using an approach similar to the one we propose for this review.

3.57 As explained in more detail in Section 6, whilst there are various means by which it may be possible to undertake the modelling necessary to set charge controls for the regulated services covered by this review, in our judgement the approach we are proposing is appropriate, robust and proportionate for modelling the LLU and WLR charge controls for the period from April 2014 to March 2017. As well as being consistent with other charge controls imposed on BT, it has the advantages of being based on audited and up to date information that captures recent movements in costs and efficiencies and does not require the substantial reconciliation necessary for the CF and CA models. In addition, this modelling approach enables a greater degree of information, including modelling, to be disclosed to stakeholders as part of the consultation process than was the case with the previous CF and CA models.

3.58 Because our proposal is to forecast costs as if there were no NGA, it is necessary to undertake an assessment of forecast line volumes that simulates volumes as if there were no fibre. In particular, for the purpose of our volume forecasts we propose to treat FTTP lines as if they were copper lines. For example, for FTTP lines that are not run in parallel with a copper line, our volume forecasts assume that they are a

[49]Ofcom, *Business connectivity market review,* 28 March 2013 http://stakeholders.ofcom.org.uk/binaries/consultations/business-connectivity/statement/Sections1-4.pdf

[50]Ofcom, *WBA charge control,* 20 July2011 http://stakeholders.ofcom.org.uk/binaries/consultations/823069/statement/statement.pdf

[51]Ofcom, *Review of BT's Network Charge Controls,* 15 September 2009 http://stakeholders.ofcom.org.uk/binaries/consultations/review_bt_ncc/statement/nccstatement.pdf

WLR or MPF line. For FTTC, as this is currently an overlay service like SMPF, our volume forecasts assume that FTTC volumes would otherwise be SMPF. Should FTTC be provided on a standalone basis (sometimes referred to as naked FTTC) then we would count these as MPF lines. By adopting this approach, real world migration to NGA will not be counted as a reduction in usage of the copper network, which due to economies of scale would push up unit costs and hence charges. We consider that such an effect would be at odds with our anchor pricing principles – i.e. that investment (and take-up) of new technology should not cause prices for existing regulated services to rise.

3.59 Whilst we acknowledge the alternative approaches to the technology choice issue presented by stakeholders, in our regulatory judgement, we consider the proposed anchor pricing approach, based on the costs of a hypothetical ongoing copper access network, will best protect consumers during a period of technological transition and is consistent with our statutory duties. By following the anchor pricing approach, our proposals would not allow prices to rise above the level implied by the hypothetical continuation of the existing technology, and thus seek to prevent the introduction of new technology leading to price increases for services which can be provided on the basis of the current technology.

3.60 The use of anchor pricing also permits the cost modelling to be simplified, since projecting the migration of services to a new platform poses significant challenges, as the costs and volume of that migration are uncertain, as is the full extent of the take-up of NGA.

3.61 Our proposed approach also provides efficiency benefits, for example in giving efficient investment incentives for NGA. Because the price (and quality) of existing services are 'anchored' by the legacy technology, the anchor pricing approach gives BT appropriate incentives to invest in new technology. This is because BT will then benefit from such investment only when it lowers its overall costs or the investment enables it to provide higher quality services for which consumers are willing to pay a premium.

3.62 We also note that Frontier Economics agrees with Ofcom that it is appropriate to recover common costs equally across all customers, rather than by allocating a greater share to NGA services. Frontier Economics merely notes that an implication of its preferred approach (which is similar to Ofcom's 2012 approach) is that prices should be "if anything, lower" than under Ofcom's proposed approach for this review. As noted in the March 2012 Statement, it is possible using an approach based on "actual" costs for there to be a lower allocation of costs to copper services as a result of NGA deployment. However, this is not a necessary implication of this approach to modelling – which depends on the way in which common costs are allocated in the cost model adopted. Indeed, the complex allocations in our 2012 CF and CA cost models resulted in levels of cost which were only marginally lower than the anchor product pricing cross-check undertaken for the March 2012 Statement.[52]

Question 3.5: *Do respondents agree with our proposal to apply the anchor pricing principle by means of a model of hypothetical all-copper network? Please provide reasons to support your views.*

[52]Ofcom, *Charge control review for LLU and WLR services,* 7 March 2012. Anchor pricing is discussed in paragraphs 3.22 – 3.29.

Recovery of common costs and charge differentials

Our proposals in the 2012 FAMR CFI

3.63 In paragraphs 6.23 to 6.32 of the 2012 FAMR CFI, we set out our proposed approach to the treatment of common costs in the local access network.[53]

3.64 Our view was that we should set charges to recover an equal amount of common costs from each of the access services that involve the provision of a line, that is: MPF, WLR and GEA over FTTP. We also explained that, given that SMPF and GEA over FTTC are both currently overlay services (that is, they are only provided in combination with WLR or MPF) our initial view was that the charges for these services should not recover any significant common costs.

3.65 We explained that we considered this to be appropriate because these services are substitutes which can be used to provide downstream voice and/or broadband services. We consider that where wholesale services are substitutes, price differentials should ideally be equal to incremental cost differences so that purchasers are given incentives to use the service which minimises total costs, and this means that the amount of common costs recovered per line should be the same in each case.

3.66 We applied a similar analysis to the differential in charges between MPF vs. WLR and MPF vs WLR+SMPF in the March 2012 Statement.[54] Because these services were alternative wholesale inputs for the same downstream voice and broadband services, we considered them to be close substitutes. This implied, for example, that the difference in charges between MPF and WLR+SMPF should converge to the difference in LRIC.

3.67 Although we set the charges in the March 2012 Statement on the basis of FAC, as a 'cross-check' we considered whether the resulting charge differentials were appropriate for the purposes of promoting efficiency by comparing them to an estimate of the difference in LRIC. In the March 2012 Statement, the charge differential was wider than the LRIC differential. However, we concluded that at that time there was not a strong case for a further reduction in the charge differential, which had already been falling over time.[55] This was due to the potential to undermine expectations as to the stability of the regulatory framework.

3.68 We signalled that, longer term, we expected to continue to reduce the charge differentials to the differences in LRIC.[56]

Responses to the 2012 FAMR CFI

3.69 BT said:

[53]Ofcom, *Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 – call for inputs,* 9 November 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/summary/condoc.pdf
[54]Section 7, Ofcom, *Charge control review for LLU and WLR services*, 7 March 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf
[55]For example, Figure 7.4, Ofcom, *Charge control review for LLU and WLR services*, 7 March 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf
[56]Paragraph 7.65, Ofcom, *Charge control review for LLU and WLR services*, 7 March 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf.

"BT is not aware of any change since the last review which would undermine Ofcom's rationale that the same or similar share of common costs should be recovered from an MPF line as from a WLR+SMPF line and that SMPF should be treated, for cost purposes, as an overlay service."

3.70 CWW said:

"We agree that services should contribute in a neutral way to common costs".

3.71 TalkTalk said:

"One of Ofcom's reasons for the same allocation is that, though Ramsey pricing might suggest different allocations to optimise demand (§6.27), Ofcom does not have the necessary information and anyway the products might be substitutes. We disagree:

Those customers who are likely to take FTTC or FTTP services are likely to be more willing to bear higher costs. This would suggest a higher common cost allocation to these customers is efficient and so MPF/WLR with GEA should be allocated more common duct cost than MPF/WLR without GEA

Ofcom, in its reasoning as to why it should allow BT price flexibility is so that BT can Ramsey price. Yet like Ofcom Openreach does not have the necessary retail information to be able to set Ramsey prices. It is incoherent for Ofcom on the one hand to argue that Ramsey pricing is too difficult in this case (to justify the same common cost allocation) and other the other [sic] to say that Ramsey pricing can be done (to justify wide price flexibility)

We disagree that MPF/WLR with GEA and MPF/WLR without GEA are close substitutes (at the retail level). We think it is likely that increasingly regular (current generation) broadband will become a weaker and weaker substitute for superfast broadband services."

3.72 Sky said that the appropriate costing methodology in the fixed access markets is one that "apportions common costs equally between MPF and WLR unless there is a strong case to adopt a different approach".

3.73 However, Sky also said that Ofcom should investigate "further the line length differential between MPF and WLR".

3.74 The paper submitted by Sky from Frontier Economics said that: "In the absence of firm evidence showing that a differential allocation of costs at a wholesale level would result in a more efficient outcome, an equal allocation of costs across users would appear to be a reasonably neutral approach."

3.75 Virgin Media said it "would be concerned if Ofcom chose an approach that had the effect of creating any sort of cross-subsidy for BT's NGA services, which could lead to charges being set in a manner that would discourage otherwise efficient infrastructure based investment".

3.76 Verizon said Ofcom's proposed approach of using the same common cost allocation per line across all lines seemed reasonable.

Proposals on the recovery of common costs

3.77 Having carefully considered all responses to the 2012 FAMR CFI, we propose to set charges so that services that include the provision of a fixed line make an equal per line contribution to the recovery of common costs. This is consistent with MPF and WLR charges being set to reflect the difference in their respective LRICs. Note that, because we wish the differential between charges for MPF and WLR, and also the differential between charges for MPF and WLR+SMPF, both to be equal to the difference in their respective LRICs, an implication of this approach is that SMPF rentals should be set at LRIC.

3.78 Most of the responses to the 2012 FAMR CFI on this topic supported this approach.

3.79 We do not agree with TalkTalk's reasoning that: "customers who are likely to take FTTC or FTTP services are likely to be more willing to bear higher costs. This would suggest a higher common cost allocation to these customers is efficient". While it is possible that consumers of services over FTTC and FTTP may have a higher willingness to pay for fixed line services than consumers of current generation services, we do not consider that it necessarily follows from this (assuming it is correct) that the elasticity of demand for next generation access is lower. For example, despite the price being higher, the demand for FTTC or FTTP might still be very elastic, as prices may be higher to reflect the higher incremental costs of provision compared to current generation access (CGA). In such a case it would not be efficient to allocate a greater proportion of common costs to FTTC and FTTP services.[57]

3.80 We do not have robust information on elasticities, which are essential for Ramsey pricing, and when the demand for services is linked (as for current and next generation access which are substitutes) the information requirements of Ramsey pricing are multiplied. There would be a risk if we tried to set Ramsey prices of setting them incorrectly in a way that discouraged efficient investment and take up of NGA.

3.81 TalkTalk added that the reason we have given BT flexibility in relation to pricing for VULA was "so that BT can Ramsey price". In fact, our decision in the 2010 WLA Statement not to specify a price for VULA was for a number of reasons. First, NGA services were at an early stage of development so there was significant uncertainty over both costs and revenues and thus determining a cost orientated charge would have been very difficult. Second, the flexibility to set VULA prices could promote investment by enabling BT to trial different pricing arrangements. Third, the price of VULA was likely to be constrained by (regulated) CGA services and services offered over Virgin's cable network.[58] In our FAMR Consultation, we have set out why we propose to continue not to apply a price control for VULA.[59]

Question 3.6: *Do respondents agree with our proposal that the contribution to common costs should be the same for each wholesale access line service by the end of this control period? Please provide reasons to support your views.*

[57] Under Ramsey pricing, common costs are allocated based on the inverse elasticity of demand, so the more inelastic a service, the greater the mark-up over marginal (or incremental) costs.
[58] Ofcom, *Review of the wholesale local access market – Statement*, 7 October 2010, http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf, paragraph 8.127. We are proposing to continue to allow BT flexibility on VULA pricing and terms for the reasons set out in the FAMR Consultation. In reaching this provisional decision we weighed up a number of factors and identified the impact of regulating VULA prices on investment as a particular risk.
[59] See from paragraph 11.131 in the FAMR Consultation.

Other pricing adjustments

3.82 Under this heading we set out our proposals in respect of previous pricing decisions which affect the difference in charges between MPF and WLR/WLR+SMPF. These are:

- **TAMs:** the contribution to MPF specific broadband equipment in SMPF rentals;
- **line length adjustment:** the copper line length adjustment between WLR and MPF rentals; and
- **Directories:** the contribution to directories by WLR and not MPF rentals.

Removing the current price adjustment for Test Access Matrices

3.83 In the March 2012 Statement we applied an adjustment so that the costs of TAMs were recovered from both MPF and SMPF services, even though TAMs are only used by MPF lines – i.e. are not a common cost across MPF and SMPF.

3.84 The decision to apply this adjustment was originally made in 2004, when competition was at a much earlier stage of development and reflected our view that TAMs costs were part of system set up costs, that is, the costs of enabling competition based on LLU to take place. In 2004 we determined the best way to recover these costs by applying Ofcom's six principles of pricing and cost recovery.[60] We concluded that, where possible, system set up costs should be recovered across all local loops used to provide DSL services. In particular, we concluded that spreading the costs in this way would help to establish effective competition.[61]

3.85 The effect of the price adjustment for TAMs was to increase the differential between MPF and WLR/WLR+SMPF charges. In the March 2012 Statement, we found that the resulting difference between MPF and WLR/WLR+SMPF charges was smaller

[60]The six principles are:· cost causation – costs should be recovered from those whose actions cause the costs to be incurred at the margin;
· distribution of benefits – costs should be recovered from the beneficiaries, especially where there are externalities;
· effective competition – the mechanism for cost recovery should not undermine or weaken the pressures for effective competition;
· cost minimisation – the mechanism for cost recovery should ensure that there are strong incentives to minimise costs;
· reciprocity – where services are provided reciprocally, charges should also be reciprocal; and
· practicability – the mechanism for cost recovery needs to be practicable and relatively easy to implement.
See paragraphs 8.2 – 8.4 of Ofcom, *Review of the wholesale local access market*, 16 December 2004, http://stakeholders.ofcom.org.uk/binaries/consultations/rwlam/statement/rwlam161204.pdf.
[61]Paragraph 6.135 to 6.143, Ofcom, *Charge control review for LLU and WLR services*, 7 March 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf
See also paragraphs 3.5 and 4.62, Ofcom, *Local loop unbundling: setting the fully unbundled rental charge ceiling,* 30 November 2005, http://stakeholders.ofcom.org.uk/binaries/consultations/llu/statement/llu_statement.pdf
See also paragraphs 9.82 to 9.88, Ofcom, *Review of the wholesale local access market*, 16 December 2004, http://stakeholders.ofcom.org.uk/binaries/consultations/rwlam/statement/rwlam161204.pdf

than had been the case in previous charge controls and that a gradual approach to the reduction in the differential was appropriate. We considered that removing the price adjustment for TAMs at that time would result in too rapid a reduction in the differential between MPF and WLR/WLR+SMPF, which could undermine reasonable expectations and threaten the provision of a stable regulatory framework, with consequences for investment incentives in general.[62]

3.86 Ofcom's decision to make a price adjustment for TAMs in the 2012 Statement was appealed by BT. The CC considered Ofcom's assessment, in light of its statutory duties, of the balance between getting to the long-term efficient level of price adjustment (i.e. zero) and the costs (in terms of dynamic efficiency) of moving too quickly. The CC found that Ofcom had not erred in applying a price adjustment to the cost of TAMs. [63] In our evidence to the CC, we explained that our approach to the TAMs price adjustment in the March 2012 Statement struck a balance between static and dynamic efficiency. The CC concluded that the balance between static and dynamic efficiency was a matter for Ofcom's judgement/discretion, and that Ofcom had not erred in the exercise of its discretion.

3.87 As LLU competition has matured, the case for the adjustment to promote competition (one aspect of dynamic efficiency) has become less strong and hence we have placed more weight on setting charges which give incentives to minimise costs (productive efficiency). As noted above, this requires the difference between the prices of MPF and WLR/WLR+SMPF services to be brought into line with the differences between their incremental costs, so that CPs are induced to choose the service which minimises total costs. As, in the 2012 charge control, the TAMs price adjustment was the main reason why the price differential was greater than the difference in incremental costs, our objective has been, in time, to remove the adjustment in order to align price differentials with differences in incremental costs.

3.88 However, we did not propose to complete this process in the 2012 charge control because this would have meant too rapid a reduction in the differential. This could have undermined expectations of a stable and predictable regulatory framework, with an undesirable impact on dynamic efficiency since regulatory stability is particularly important to give CPs the confidence to make the large investments needed to create competing infrastructure.

3.89 The CC agreed that incentives to minimise costs could be improved by removing the price adjustment. However, it thought the risk of a distortion to investment occurring as a result of not doing so now was small because Ofcom had said that the price adjustment would be removed over time, and CPs would not base investment decisions only on short term price differentials.

3.90 The CC also recognised that removing the adjustment too quickly could have implications for future investment in the sector as a whole, not just in LLU, if it signalled that regulation might not be stable. The CC said "this seems to us an important point".

[62]Section 7, Ofcom, *Charge control review for LLU and WLR services*, 7 March 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf
[63]See section 7 of the Competition Commission's determinations of appeals 1192/3/3/12 and 1193/3/3/12 at http://www.competition-commission.org.uk/assets/competitioncommission/docs/2012/llu-wlr/determination_excised.pdf, in particular paragraphs 7.120 - 7.121 and 7.141 and Footnote 98.

3.91 The CC concluded that none of the arguments for removing the adjustment immediately outweighed the dynamic efficiency benefits of maintaining regulatory stability.

3.92 We consider that for the purposes of this review the appropriate question therefore is not whether to remove the adjustment but when and, in particular, whether removal in this charge control period is consistent with maintaining stable regulation and promoting sustainable competition. We consider this to be consistent with the CC's Determination of the Appeals.

3.93 In the March 2012 Statement, the TAMs adjustment contributed £2.27 of the MPF vs. WLR forecast difference in 2013/14 charges (based on FAC). The adjustment accounted for £3.92 of the difference between MPF and WLR+SMPF charges in 2013/14.[64] This compared to an overall charge differential of around £20 for MPF vs. WLR+SMPF in 2013/14, which itself exceeded the estimated LRIC differential of £10 to £14.

3.94 In the March 2012 Statement, we noted that the MPF/WLR+SMPF price differential had fallen from around £36 in 2006 to around £27 in January 2012 and as noted above was then projected to fall to around £20 in 2013/14. We considered that we should be cautious of adopting a more rapid reduction in the price differential as this "could undermine reasonable expectations and threaten the provision of a stable regulatory framework". We also said that "In future price controls, we expect to continue reducing the MPF vs. WLR/WLR+SMPF price differential and [to] consider whether a more explicit link between the price differential and LRIC differentials is required."[65]

3.95 We consider that it is consistent with regulatory stability and the promotion of sustainable competition to close the price differential as was the trajectory set out in previous charge controls. As part of this we are therefore proposing to remove the contribution to TAMs costs made by SMPF charges. This would allow the difference in charges for MPF vs WLR+SMPF rentals to converge further towards the estimated LRIC difference – consistent with the broader policy on price differences set out under the previous heading.

Question 3.7: *Do respondents agree that we should remove the TAMs price adjustment by the end of the charge control period? Please provide reasons to support your views.*

Removing the line length adjustment

3.96 In 2005 a 'line length adjustment' was introduced to the charge control modelling to reflect the fact that MPF lines were expected to be shorter on average than WLR lines. This difference was attributed to the geographic areas that LLU was expected to be used and the technical limits on the length of a line which could be used to provide broadband services using MPF, whilst WLR was available in all geographic areas and is used for voice (only) services which all BT lines are able to support. The effect of the line length adjustment was to reduce the costs allocated to MPF and consequently increase the cost allocated to WLR. We noted at the time that the line length difference was expected to become smaller over time as technology

[64]Figure 7.2, Ofcom, *Charge control review for LLU and WLR services*, 7 March 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf
[65]Paragraphs 7.57 – 7.58, Ofcom, *Charge control review for LLU and WLR services*, 7 March 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf

improved.[66] A line length adjustment was also applied in the 2009 and 2012 charge controls to reduce the costs allocated to MPF, but it has become smaller with each review.

3.97 Although the difference has become smaller over time as LLU roll out has increased and technology has improved, some CPs still argue that MPF lines are likely to remain shorter on average than WLR lines. One reason given is that CPs which use LLU-MPF have more customers in urban areas where lines are typically shorter. LLU may not be commercially viable in some small exchanges and there is likely to be a correlation between small exchanges and exchanges with long lines, as both tend to be concentrated in less densely populated areas. CPs have also argued that customers may be less likely to take broadband on longer lines where speeds may be inferior.[67]

3.98 In the March 2012 Statement, we applied a line length adjustment of 1.6% to D-Side and E-Side copper costs to reflect the difference between the average lengths of MPF and WLR lines. In the March 2012 Statement we also said that we would reconsider our approach to the line length adjustment in a future review.

3.99 Ofcom's decision to apply the line length adjustment in the March 2012 Statement was initially one of the grounds of appeal brought by Sky and TalkTalk. Sky and TalkTalk contended that the appropriate line length adjustment should be significantly in excess of that applied by Ofcom. Sky and TalkTalk argued that a line length adjustment should be made for consistency with "the principle of causality, ie that…the price of a service should reflect the cost of the resources needed to provide the service". Following a process of disclosure by BT in the appeal, which included the disclosure of information on line length to a confidentiality ring, Sky and TalkTalk withdrew this ground of appeal. Sky and TalkTalk nevertheless requested that Ofcom reconsider its approach in further charge controls based on the arguments raised in their appeal.

3.100 In its response to the 2012 FAMR CFI Sky argued that: "...the BT evidence to support the differential appears to be contradicted by other information, such as broadband speeds data. Therefore it is appropriate for Ofcom to consider further the appropriateness of the adjustment and, should it continue to be justified, then it should conduct a thorough review of the available evidence in order to arrive at a more reliable estimate of the differential..."

3.101 TalkTalk, in its 2012 FAMR CFI response, also said that "the assumptions used to make the adjustment need to be reviewed."

3.102 BT did not comment on the line length adjustment in its response to the 2012 FAMR CFI. However, BT has since explained to us that it believes there is likely to be no material difference in line lengths and that the adjustment is no longer appropriate. This is consistent with the evidence disclosed by BT in the Appeals, which suggests that a detailed exercise investigating line length differences would be unlikely to show material differences such as to merit consideration of a special adjustment.

[66]Paragraph 4.23 – 4.31, Ofcom, *Local loop unbundling: setting the fully unbundled rental charge ceiling and minor amendment to SMP conditionsFA6 and FB6*, http://stakeholders.ofcom.org.uk/binaries/consultations/llu/statement/llu_statement.pdf

[67] This point was made by Sky and TalkTalk in their Notice of Appeal in their appeal of the 2012 charge control (before this ground of appeal was subsequently withdrawn).

3.103 In the light of the above, we have considered whether a line length adjustment could be justified by the "principle of cost causality" as Sky and TalkTalk suggested in their appeal of the March 2012 Statement. We do not consider that this is the case for two reasons:

First, even if there were a material difference in average line lengths, our view is that making an adjustment to MPF charges based on the average length of MPF lines would be a poor way of signalling cost causation. The length of a customer line is caused by the customer's distance from the exchange and/or cabinet, not whether the customer is served by WLR or MPF. To put this point another way, switching a customer's line from WLR/WLR+SMPF to MPF does not cause the line to become shorter.

Second, we would also note that, if there is no material difference between the lengths of MPF and WLR lines, as the BT data disclosed in the appeals suggests, then a line length adjustment would not be justified on cost causation grounds.

3.104 We are therefore of the view that making an adjustment to average MPF charges to reflect differences in the average line length would not promote efficiency and would risk distorting choices between MPF and WLR/WLR+SMPF at the margin, giving too strong an incentive to use MPF. This could mean that it might sometimes be cheaper for a CP to use MPF even though it would be more efficient to use WLR/WLR+SMPF.

Question 3.8: *Do respondents agree that we should not make an adjustment to MPF charges to allow for shorter than average line length? Please provide reasons to support your views.*

Directories

Regulatory background

3.105 All CPs have an obligation under General Condition 8 ("GC8") to ensure their subscribers are, on request, supplied with a printed directory containing telephone numbers for their local area.[68] GC8 allows CPs to charge a reasonable fee for doing this. GC8 fulfils, in part, the duty imposed on Ofcom pursuant to the first Community requirement under section 4 of the Act which requires Ofcom to promote competition, among others, in relation to the supply of directories. The relevant part of GC8 states:[69]

- "8.2 Where the Communications Provider assigns Telephone Numbers to Subscribers, it shall ensure that each of those Subscribers is, on request, supplied with a Directory containing Directory Information on all Subscribers who have been assigned Telephone Numbers in the Subscriber's local area. Directories containing Directory Information for all other Subscribers outside the local area who have been assigned Telephone Numbers by any Communications Provider must be supplied to the Subscriber on request. Any Directories supplied shall not contain Directory Information for those Subscribers who have exercised their right to have their Directory Information removed.

[68] See paragraph 2.21 above.
[69] The general conditions can be found here: http://stakeholders.ofcom.org.uk/telecoms/ga-scheme/general-conditions/

- 8.3 A Directory may be produced by the Communications Provider, or by another person. Where a Directory is produced by the Communications Provider, the Communications Provider shall ensure that it is updated on a regular basis (at least once a year). Ofcom may from time to time direct that a Directory is available in a particular form.

- 8.4 The Communications Provider may charge End-Users a reasonable fee for making available a Directory Enquiry Facility, local Directory and any additional Directories, and may charge its Subscribers a reasonable fee for inclusion of Directory Information in a Directory or as part of a Directory Enquiry Facility."

3.106 The contract for WLR includes an obligation on BT to distribute a telephone directory to the end user on behalf of CPs purchasing that service.[70] In contrast, the MPF rental contract does not include such an obligation. Because of the obligation in the WLR contract, we included a cost for printed directories in the WLR charge when it was first regulated and in subsequent charge controls.

3.107 Because of the revenue it generates from classified advertisements, BT currently chooses to go beyond its own GC8 obligation and indeed its WLR contractual obligation in that it delivers a printed directory (i.e. the BT Phone Book) to virtually all premises, and does so free at the point of delivery.

3.108 In the last review of charges, EE argued that the cost of printed directories should be excluded from the WLR cost base. Because the WLR contract included the provision of a printed directory, we decided not to remove the cost from the WLR charge. Instead, we invited BT, EE and other WLR users to consider whether this remained an appropriate mechanism for meeting their GC8 obligation which may be undertaken through a request for a modified WLR service which excludes directory costs.[71]

Responses to the 2012 FAMR CFI

3.109 While it recognises that it must meet its GC8 obligations, in its response to the 2012 FAMR CFI, [✂] submitted that:

- the current arrangements are not transparent and result in the WLR charge not being subject to adequate scrutiny by Ofcom and stakeholders;

- fewer and fewer retail customers of WLR services actually use or desire access to a printed directory; and

- it is manifestly unfair and inappropriate that BT distributed printed directories to all premises in the UK (whether or not WLR is used to supply those premises), but the costs of this service were borne solely by WLR based competitors.

3.110 [✂] also had concerns with how BT's current Statement of Requirements ("SoR") process works. These concerns included the length of time taken to obtain changes to services.

[70]The WLR3 contract says: "BT will provide one Phone Book to the Communications Provider's End Users for each End User Site. BT will provide an updated Phone Book each time a new one is issued" http://www.openreach.co.uk/orpg/home/products/wlr3/downloads/BT3040b_WLR3Schedule2ServiceSchedule_%20Issue_12.pdf
[71]Paragraphs 6.113 to 6.114 and 6.121 to 6.128, March 2012 Statement.

Ofcom's analysis and assessment of responses

Proposals on whether regulated charges should include a contribution to printed directory costs

3.111 We have considered different options for the treatment of directory costs, including:

- retaining a contribution to printed directory costs in the WLR charge, as was our position in the March 2012 Statement and previous reviews of the WLR charge;
- removing the printed directory cost from the WLR charge; and
- recovering a contribution to printed directory costs from both WLR and MPF charges.

3.112 Of these options we prefer the second, i.e. removing a contribution to printed directories costs from WLR. We favour this approach because there appears to be demand for a WLR service that excludes printed directories and because the bundling of directory delivery activities with WLR is not part of the remedies we have imposed in the wholesale fixed analogue exchange line market.

3.113 Our favoured approach would avoid CPs dependent on WLR from BT needing to go through the SoR process in order to obtain a WLR service that excludes the charge for (and implicitly provision of) printed directories.

3.114 The second option also avoids the situation inherent in the status quo (i.e. the first option) in which charges for one regulated service (i.e. WLR) contribute to the costs of an unregulated service (i.e. provision of printed directories), when charges for a competing regulated service (MPF) do not.

3.115 While the third option – which involves extending the recovery of printed directory costs to MPF charges – would remove a potential distortion between MPF and WLR, this option would have the disadvantage that there is no regulatory requirement for directory delivery to be included in the MPF service. We also note that this option would not remove a potential distortion in the recovery of printed directory costs between (i) services delivered using MPF and WLR and (ii) services delivered by cable.

3.116 Because our preliminary conclusion is that these costs should not form part of the WLR cost stack, we propose to remove them immediately. We therefore do not propose to remove them through a glide path. A glide path approach would mean that directory costs were implicitly included in the WLR charges during the first two years of the next charge control period (i.e. 2014/15 and 2015/16). In contrast, we propose to set the WLR rental charge such that it reduces immediately (at the beginning of 2014/15) to a level that excludes directory costs.[72]

[72]More specifically, we propose to set the WLR rental charge such that it reduces immediately (in 2014/15) to the level it would have been had a glide path approach been adopted from an existing charge (in 2013/14) that excluded directory costs. We assume that without directory costs, the WLR rental charge in 2013/14 would have been £91.04. This is the current charge of £93.27 minus £2.23, which is the amount included for directories in 2013/14 at the last review. This can be seen in the table after paragraph A5.5 in the March 2012 Statement.

Time period for phasing out the contribution to printed directory costs from WLR

3.117 As we set out in more detail from paragraph 3.141 below, we normally prefer to use a glide path approach when setting charge controls. This is partly because it provides a better balance between static and dynamic efficiency (in particular, it provides greater incentives for efficiency improvement as it allows the firm to retain the benefits of cost reductions made under a previous charge control for longer, albeit at the expense of prices being more closely aligned with actual costs at any given point in time). A glide path is also beneficial in that it involves making changes gradually, helping to ensure a stable and predictable regulatory framework.

3.118 However, for the directory costs in the WLR charge, we do not consider that the dynamic efficiency consideration is as important as it might usually be because the decision at hand is concerned with where printed directory costs are recovered (in particular whether this should be from regulated charges), not how quickly cost reducing efficiencies feed through to regulated prices for Openreach customers. We recognise that removing the costs immediately leads to a more sudden change, but given that we now consider that these costs should not be in the regulated WLR charge, we consider that an immediate reduction in the WLR charge would be more appropriate.

Protecting consumers and citizens

3.119 Because of the revenue it generates from classified advertisements, BT may choose to continue to deliver the BT Phone Book universally. However, we recognise that, if the revenues from sources other than regulated WLR charges were to prove insufficient, there is a possibility that BT may not continue to deliver printed copies of the BT Phone Book everywhere in the UK, free of charge.

3.120 If it stopped delivering the BT Phone Book free of charge, everywhere in the UK, BT (and indeed other CPs) would still need to comply with its GC8 obligation to ensure its subscribers are, on request and for a reasonable fee, supplied with a printed directory containing telephone numbers for their local area. We note that BT remains the largest CP providing retail exchange line services in the UK[73] and, is likely to be the main provider to vulnerable consumers wishing to take a fixed line given its requirement to provide a social tariff.[74]

3.121 All other CPs would also have to meet their GC8 obligations in respect of their own subscribers.

3.122 GC8 is designed to ensure that consumers who value having a printed directory are able to obtain one on request, albeit they may have to pay a reasonable fee.[75] In the

[73]At the retail level BT currently supplies over 43% of UK exchange lines, see Table 2 of Ofcom *Telecommunications market data tables,* http://stakeholders.ofcom.org.uk/binaries/research/cmr/telecoms/Q42012.pdf

[74]The BT social tariff is known as BT Basic. For details, including eligibility, see http://www.bt.com/includingyou/other-products-services-bt-basic.html. BT is required to provide a social tariff under the terms of Universal Service Condition 2, see Schedule to Annex A of Ofcom, July 2003, *Designation of BT and Kingston as universal service providers, and the specific universal service conditions,* http://www.ofcom.org.uk/static/archive/oftel/publications/eu_directives/2003/uso0703.pdf

[75]We recently commissioned a short piece of face-to-face quantitative omnibus research into use of the BT Phone Book amongst consumers. This found that a sizeable minority make occasional use of it, though the proportion of consumers for whom it was indispensible is small. 30% of those surveyed had used it in the last 12 months, although usage was infrequent (only 31% of these used the BT

event that BT ceased providing copies of printed directories universally, free of charge, Ofcom would monitor BT's and other CPs' compliance with GC8 to consider if GC8 was working as intended and was adequately protecting consumers and citizens. In particular, we would want to ensure that those consumers who wanted to have a printed directory were able to obtain one easily at a reasonable price.

3.123 We also recognise that it may take other CPs time to put in place arrangements to ensure they are able to comply with GC8. As far as we are aware, other CPs do not currently make arrangements themselves for distributing directories and rely on the availability of the BT Phone Book. Any new arrangements may therefore take time to put in place (both from the perspective of other CPs as well as BT). In the event that CPs struggled to meet their GC8 obligations, Ofcom may need to review the supply of directory information to ensure that CPs could obtain the necessary information to produce directories (or purchase them from third parties), so that consumers continued to be able to access printed directories at a reasonable price.

Possible transitional arrangements

3.124 Given the changes proposed above, if BT wished to change its business model for printed directories, we recognise that there is a risk of disruption to industry and that this could potentially have consequences for certain consumers (as described above).

3.125 If CPs consider that it would be helpful to have transitional arrangements, so as to allow them to be sure that they are able to meet their GC8 obligations, we would welcome views on what arrangements would be appropriate. CPs need to continue to meet their GC8 obligations. If, during the period of transition, a phased removal of the contribution to printed directories from WLR charges facilitated the negotiation of alternative arrangements, this is something we are prepared to consider.

Proposals

3.126 We propose to remove printed directory costs from the regulated WLR charge immediately. If stakeholders consider that transitional arrangements are necessary, we invite views on that.

Question 3.9: *Do you agree with our proposal to remove printed directory costs from WLR rental, and to do so immediately? Please provide reasons to support your views.*

Duration of the LLU and WLR charge controls

3.127 The previous charge control was set with a three year duration, and we propose to maintain this approach for the next charge control.

3.128 We have considered the following factors when determining the duration of the charge control:

Phone Book at least monthly). If the BT Phone Book was only available online, three-quarters of consumers said this would have little or no impact on them. A small minority (2%) said 'it would have a serious impact on my life and would mean I was cut off from people or businesses that I need to contact'. This rose to 8% of those consumers without internet access and to 9% of those aged 75+ (7% of those aged 65+). The omnibus data tables can be found on our web site: http://stakeholders.ofcom.org.uk/market-data-research/market-research/

- the new market review cycle specified in the Framework Directive as amended in 2009 (effective from May 2011); and

- the balance between dynamic and allocative efficiency.

Framework Directive as amended in 2009

3.129 In 2009 the Framework Directive was amended to require NRAs to carry out market reviews of markets previously notified to the Commission every three years unless exceptional circumstances apply. Therefore, our proposal to set a control with a duration of three years is aligned with the new market review cycle specified in the Framework Directive as amended in 2009 (effective from May 2011).[76] We propose to set SMP conditions based on our analysis of potential market developments over this three year period and believe that it is appropriate to align the proposed charge control over the same period. Therefore, the LLU and WLR CC would run from 1 April 2014 until 31 March 2017.

3.130 In making our proposal for a three year control, we have also taken account of the Draft EC Recommendation.[77] We discuss the implications of the Draft EC Recommendation in detail at the end of this section.

Balance between dynamic and allocative efficiency

3.131 As noted above, we must, under section 88 of the Act, take a view on what appears to Ofcom to be appropriate for the purpose of (among other things) promoting efficiency. We have therefore considered what duration of control will best promote efficiency and, in particular, will strike the appropriate balance between dynamic and allocative efficiency.

3.132 The periodic re-setting of new controls allows the regulator to ensure that allocative efficiency objectives are met by setting the new control to bring charges into line with costs. Dynamic efficiency is enhanced by not doing so immediately. All other things being equal, a longer charge control period creates stronger incentives for dynamic efficiency compared to a shorter period because a longer period gives the firm more opportunity to enhance its profitability through innovation and cost reduction.

3.133 Price cap regulation trades-off some allocative efficiency in return for greater dynamic efficiency. The longer the duration of the cap, the greater is the incentive to reduce costs, but the higher is the potential cost in lost allocative efficiency because prices can be out of line with costs for longer and perhaps by a greater amount. Shorter charge controls thus tend to give more weight to allocative efficiency, since prices have less scope to diverge from costs.

3.134 We consider that a shorter time period than the period covered by the market review (i.e. three years) would not be appropriate. A shorter period would reduce the incentive on Openreach to innovate and make efficient investments and this could mean that dynamic efficiency was harmed. A longer control period also allows those using the BT WLR and LLU infrastructure to better plan their own investments in capital and business processes/systems.

[76] Art 16 of the Framework Directive 2002/21/EC, as amended by Directive 2009/140/EC.
[77] Draft Commission Recommendation on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment, http://ec.europa.eu/digital-agenda/en/news/draft-commission-recommendation-consistent-non-discrimination-obligations-and-costing

3.135 Conversely, given the extent of supply-side changes anticipated over this market review period (e.g. NGA investment, investment in systems and processes such as qualtiy of service) as well as potential demand-side changes (e.g. demand for different voice and broadband forms of access) there is a risk of our forecast of efficient costs become outdated.

3.136 With some services having a degree of fixed costs, this means that, with all other things being equal, increased (decreased) volumes will decrease (increase) BT's average, or unit, cost of providing these services. This relationship between movements in costs resulting from volume changes is an important issue and forecast uncertainty would be exacerbated over time, potentially leading to over- or under-recovery of costs.

3.137 This forecast uncertainty would be mitigated by adopting a shorter charge control period. However, a shorter control would give less price certainty into the medium term and would be likely to reduce the strength of investment and efficiency incentives.

3.138 Therefore, we think that a charge control period of three years strikes an appropriate balance between forecast uncertainty and providing regulatory stability for stakeholders.

Question 3.10: *Do you agree with Ofcom's proposal to set charge controls for LLU and WLR to expire on 31 March 2017? Please explain your answer and propose an alternative approach with supporting information if applicable.*

Use of glide paths to align charges with costs

3.139 Having considered the appropriate duration for the charge controls, we now consider how regulated charges should evolve from current levels to the forecast efficient level.

Responses to the 2012 FAMR CFI

3.140 [✂] argued that there should be a one-off adjustment (or 'P0 adjustment') to align the difference in prices between MPF rentals and WLR+SMPF rentals with the difference in LRICs. It argued that such a one-off adjustment would create significant competition and allocative efficiency benefits, and would be in line with regulatory expectations.

General policy on glide-paths

3.141 In setting charge controls, particularly where the controls replace similar existing controls (as is the case for the LLU and WLR charge controls), we have a strong preference for "glide paths", rather than one-off adjustments, for the reasons set out below.[78] Glide paths involve setting the control so that there is a gradual convergence of prices from the current level to the target level (usually based on a projection of the efficient level of costs) by the end of the charge control period.

[78]This is the same position we took when considering the previous charge control for LLU and WLR. See paragraphs 3.90 to 3.95 of the 2011 LLU Charge Control Consultation, Ofcom, *Charge control review for LLU and WLR services – consultation*, 31 March 2011, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/summary/wlr-cc-2011.pdf

3.142 One of the features of price cap regulation is that profits may diverge from the level expected at the time when the control was set. Any such divergence may be taken into account when the price cap (i.e. the level of X) is reset in the next price control review. In principle, one way in which this could be done is by a one-off adjustment to prices, which would bring the firm's expected rate of return to a reasonable level (typically measured by the cost of capital) in the first year of the new control period. In contrast, with the glide path approach, the expected rate of return may only reach this level by the end of the price control period.

3.143 The glide path approach approximates more closely than one-off adjustments the workings of a competitive market in which excess profits tend to be gradually eroded as rivals improve their own efficiency. It 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.

3.144 The main benefit of this approach is that it has greater incentives for efficiency improvement as it allows the firm to retain the benefits of cost reductions made under a previous charge control for longer. One-off adjustments to prices would reduce the effective regulatory lag, and hence the incentives to reduce costs.

3.145 Whilst the above discussions relate to one-off cuts to prices, one-off increases would similarly raise concerns about incentives for efficiency. Allowing a rapid rise in charges (i.e. via one-off price adjustments) would signal to Openreach that cost increases would quickly be followed by price rises. Therefore, if cost increases resulted in swift price increases this could reduce the incentive to control costs.

3.146 While the above suggests a general preference for the glide path approach in the context of price cap regulation, this does not mean we should rule out one-off adjustments in prices where there are good reasons to introduce them. We might make one-off changes if there are strong allocative efficiency or competition arguments for bringing prices into line with cost before the end of the control period. However, in assessing possible one-off adjustments, we would need to balance this against alternative (and potentially more proportionate) regulatory approaches.

Ofcom proposes to use glide paths for the MPF, WLR and SMPF rentals

3.147 We have considered [✂]'s arguments that it would be more efficient to have a oneoff adjustment to the MPF, WLR and SMPF rental services so that the differences between charges align with LRIC difference in 2014/15.

3.148 We consider that different efficiency considerations point in different directions. As set out earlier in this section, we consider that there are efficiency advantages in the differences in charges between MPF and WLR/WLR+SMPF being set equal to LRIC. Specifically, because these services are alternative wholesale inputs for the same voice and broadband services, we consider them to be close substitutes. For allocative and productive efficiency, this implies that the difference in charges should be equal to the difference in long run incremental cost (LRIC). These efficiency considerations may point to a one-off adjustment to charges rather than a glide path.

3.149 However, dynamic efficiency considerations point to providing investors with a stable regulatory framework. We consider a stable and predictable regulatory framework will benefit consumers by providing CPs with good investment incentives. In general, we consider that glide paths, involving gradual adjustment of prices, are more consistent with a stable and predictable regulatory regime.

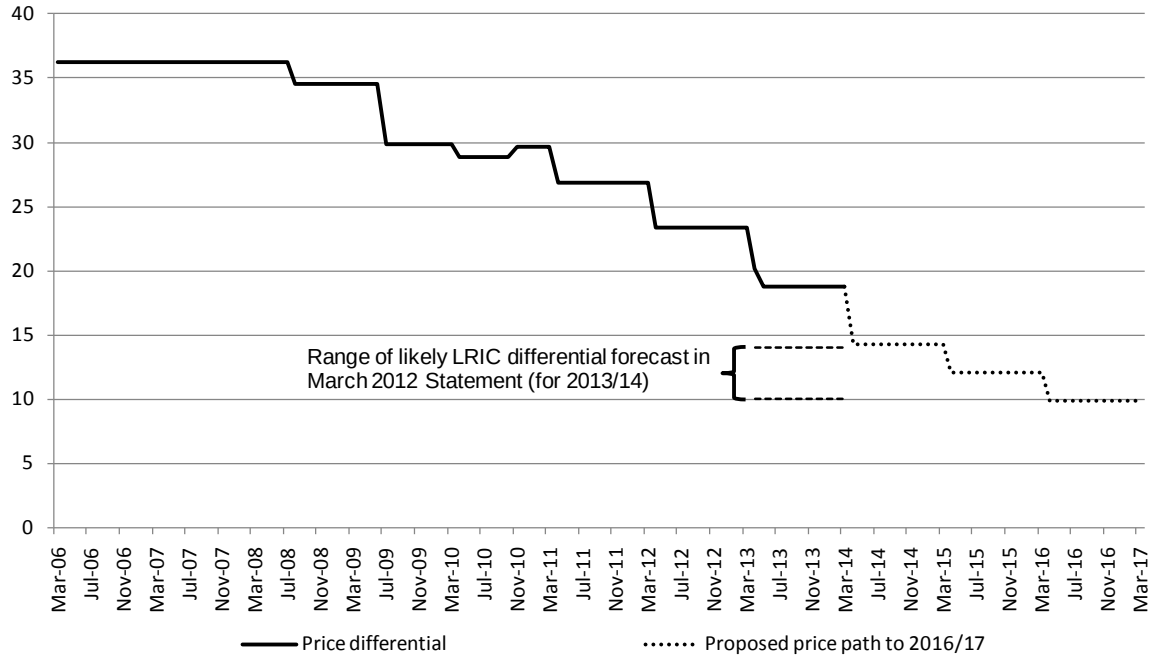
3.150 In the specific case of the MPF, WLR and SMPF charges, we also consider that gradual movements are more consistent with what might be expected from a stable and predictable regulatory regime. In the 2012 WLR/LLU Statement, we signalled that we expected to continue to reduce the charge differentials to the differences in LRIC.[79] However, we did not signal that we would do this by means of a one-off adjustment. Our past policy has been to gradually phase in this adjustment.[80] We note that CP investment decisions are long-term decisions and will take account of signals about future charges, not just charges at a point in time. So there are unlikely to be significant losses of static efficiency from following a glide path.

3.151 Another relevant consideration is the change in charges required – in this case in order to bring charges into line with the difference in LRIC consistent with the approach we have explained at paragraph 3.77. In the March 2012 statement we included a chart showing how the charge differential between MPF and WLR+SMPF had fallen over time and how it compared to the estimated LRIC differential at that time. We have extended that chart for the forecast period covered by this review, along with our revised estimated LRIC difference for 2016/17.

3.152 As can be seen in Figure 3.1 below, the charge differential has fallen significantly since 2006, although in 2013/14 it remains some way above the then forecast LRIC differential. Figure 3.1 also shows that our current estimate of the LRIC difference in 2016/17 is below the bottom end of the range we estimated in the March 2012 Statement. (Note also that our estimate may change, for example, in relation to broadband testing equipment, as we obtain more information and receive stakeholders' views.) Given this, we consider that it would be inappropriate to move rapidly to reflect our revised LRIC estimate through a one-off adjustment and that there would be greater stability and predictability to phase in the adjustment to the new estimate over the course of the next review period. We compare our current estimates of the differentials between MPF and WLR/WLR+SMPF with that in the March 2012 Statement in Annex 6.

[79]Paragraph 7.65, *Charge control review for LLU and WLR services*, 7 March 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf.
[80]This gradual reduction in the past in the difference between MPF and WLR/WLR+SMPF charges can be seen in Figure 7.4, *Charge control review for LLU and WLR services*, 7 March 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf.

Figure 3.1: MPF vs. WLR+SMPF price differential over time[81]



3.153 We therefore consider that different efficiency considerations point in different directions, but we have attached particular weight to the promotion of a stable and predictable regulatory framework and consider that using glide paths best promotes this.[82] [83]

Proposals

3.154 We propose to set glide paths for the MPF, WLR and SMPF rentals to align them with forecast costs, as adjusted to reflect incremental cost differences, by control year 2016/17.

Question 3.11: *Do respondents agree with our proposal to use glide paths to align charges with costs for these charge controls? Please provide reasons to support your views.*

Choice of inflation for index for the charge controls

3.155 Inflation features in the setting of charge controls in two ways:

- First, to determine how the limit on prices is updated each year (e.g. in the form of RPI-X or CPI-X);

[81]The price differential in this figure is in nominal (or outturn) prices.
[82]This is consistent with the CC determination of the appeal of the 2012 LLU and WLR charge controls: see for example paragraphs 7.128 – 7.131 at http://www.competition-commission.org.uk/assets/competitioncommission/docs/2012/llu-wlr/determination_excised.pdf
[83]For the reasons set out in paragraphs 3.116 and 3.118, we do not consider that a glide path is appropriate for the removal of the printed directory costs in the WLR charge, and propose that these are removed immediately. It is for this reason that the reduction of the differential in 2014/15 in Figure 3.1 above is greater than in 2015/16 and 2016/17.

- Second, when setting a charge control based on forecast costs, the cost of inputs will typically be forecast to vary over time (and the cost of different inputs will vary in different ways – e.g. pay related costs may vary differently from asset replacement costs)

3.156 In this section we are concerned with the former, i.e.how we should index the price caps for regulated services in question. The question of how the price of different inputs should be forecast to vary over time is addressed in Section 6 of this document.

3.157 The reason for using an inflation index in the charge control formula is to protect the regulated firm and customers from forecast error. If inflation rises by more than forecast the RPI-X or CPI-X formula protects the firm from the cap becoming tighter than intended. Similarly, if inflation rises by less than forecast, the annual updating of the cap for inflation ensures that customers do not pay more than necessary to compensate the firm for general inflationary pressures.

Regulatory background

3.158 In our March 2012 statement we decided that RPI was the appropriate index to use as the measure of inflation for indexing the LLU and WLR charge controls.[84]

3.159 In January 2013 the Office of National Statistics (ONS) announced the outcome of its October 2012 consultation on RPI. The ONS concluded that the RPI "does not meet international standards and recommended that a new index be published". The ONS has established a new index, which is the RPIJ (as explained below this acronym stands for the Retail Prices Index Jevons after the methodological change incoporated within it), which is designed to address the flaw identified in the methodology underpinning the RPI. [85]

3.160 In March 2013, the UK Statistics Authority (UKSA, for which the ONS is an executive office) cancelled the designation of the RPI, including sub-indices, as National Statistics. However, the RPI will continue to be published, not least since it is important for index-linked government bonds (all of which are currently indexed to RPI).

3.161 RPIJ has since been introduced as an "experimental statistic" and is being assessed for "National Statistics" status. This exercise is expected to be completed by summer 2013.

Ofcom's analysis and proposals

3.162 The recent findings and announcements by the ONS has prompted us to consider afresh the use of RPI in these charge controls.

3.163 There are various differences between RPI and CPI, including: the formula used to average relative prices; the population base; the commodity coverage; geographical coverage; and rounding conventions.[86] The focus of the October 2012 ONS

[84]Paragraphs 3.144-3.157 of *Charge control review for LLU and WLR services*, 7 March 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf.
[85]*National Statistician announces outcome of consultation on RPI*, http://www.ons.gov.uk/ons/rel/mro/news-release/rpirecommendations/rpinewsrelease.html
[86]For a summary of the non-formula differences between RPI and CPI see Annex B of *National Statistician's consultation on options for improving the Retail PricesIndex*, http://www.ons.gov.uk/ons/about-ons/user-engagement/consultations-and-surveys/archived-

consultation was on the formula used to average relative prices. This formula effect contributes around 0.5% to 1% p.a. (more recently nearer 1% p.a.) of the difference between RPI and CPI. The other differences in the indices (noted above) mean that the difference between RPI and CPI will not be fully explained by the formula effect.

3.164 The ONS found that the use of an arithmetic mean (the so-called "Carli formula") to average relative price changes at the first stage of index construction was inferior to the use of a geometric average (the "Jevons formula") as used in the CPI. The main concern identified relates to the "upward bias" in the Carli formula which is related to the failure of the index to meet the time reversal test.[87] [88] Of the statistical institutes reviewed by the ONS, the UK was alone in using the Carli formula to construct national measures of consumer price inflation.[89]

3.165 To date, RPI has typically been the default inflation index for Ofcom, and indeed Oftel before that, with departures from this made by exception, for example, the use of CPI for second class stamps and large letters.[90] We used CPI in the case of postal services because of the importance of safeguarding vulnerable consumers for that charge control, many of whom's income is derived (at least in part) from Government pensions or benefits, which are indexed to CPI.[91]

3.166 In addition to RPI and CPI, we see the main possible alternative as RPIJ. RPIJ was introduced by the ONS in March 2013, but it remains an experimental statistic (at the time of writing).[92] While a historic time series for RPIJ has been produced by the ONS (with annual changes calculated back to February 1998[93]), as far as we know, independent forecasts over a sufficiently long horizon are not yet available.

3.167 Therefore, for the purposes of this consultation we propose to focus on whether RPI or CPI should be the appropriate measure of inflation for indexing the price cap, rather than RPIJ.

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consultations/2012/national-statistician-s-consultation-on-options-for-improving-the-retail-prices-index/index.html

[87] i.e. a Carli index calculated forwards between periods 0 and t, exceeds one calculated backwards from period t to period 0.

[88] See pages 13-14 of *National Statistician's consultation on options for improving the Retail PricesIndex*, http://www.ons.gov.uk/ons/about-ons/user-engagement/consultations-and-surveys/archived-consultations/2012/national-statistician-s-consultation-on-options-for-improving-the-retail-prices-index/index.html

[89] See page 4 and Annex A, Table 2, of *International Comparison of the Formula Effect between the CPI and RPI,* http://www.ons.gov.uk/ons/guide-method/user-guidance/prices/cpi-and-rpi/index.html

[90] For the cap on second class stamps see Ofcom, *Securing the Universal Postal Service Decision on the new regulatory framework,* 27 March 2012, *http://stakeholders.ofcom.org.uk/binaries/consultations/review-of-regulatory-conditions/statement/statement.pdf* and for the cap on large letters see *Securing the Universal Postal Service: Safeguard cap for Large Letters and packets* http://stakeholders.ofcom.org.uk/binaries/consultations/postal-service-letters-packets/statement/statement.pdf

[91] Paragraphs 8.111 to 8.114, Ofcom, *Securing the Universal Postal Service Decision on the new regulatory framework,* 27 March 2012, *http://stakeholders.ofcom.org.uk/binaries/consultations/review-of-regulatory-conditions/statement/statement.pdf*

[92] *ONS, Introducing the new RPIJ measure of Consumer Price Inflation, 1997 to 2012,* http://www.ons.gov.uk/ons/rel/cpi/introducing-the-new-rpij-measure-of-consumer-price-inflation/1997-to-2012/index.html

[93] See ONS *Reference tables,* http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-300552

3.168 Before considering the choice between RPI and CPI, we note that in principle the choice of an RPI-X or a CPI-X glide path should not matter in terms of the end point for nominal charges. In expected terms either an RPI-X or a CPI-X cap should move charges from the starting level (in this case prices in 2013/14) to the final year level (in this case prices in 2016/17), where the latter are based on forecast costs. The end charges would be the same in both cases, but the X would vary depending on the measure of inflation.[94] We illustrate this point for the WLR and MPF rental charge controls in Section 7.

3.169 We recognise that there is a risk that reality will not turn out as forecast, but provided we use unbiased forecasts of RPI or CPI, we should on average, achieve the forecast cost level.

3.170 In considering whether we should propose RPI or CPI for the purposes of this control we have found it useful to consider each under the following factors. We also consider that these factors are likely to represent a useful framework for identifying whether, in particular circumstances, a departure from the default inflation index might be appropriate:

- **Official status of the index:** is the index compiled by a recognised independent body?
- **Cost causality:** to what extent do the costs of the regualted firm move with the index in question?
- **Exogoneity:** is the index outside the control of the regulated firm?
- **Availability of independent forecasts:** since charge controls are set over a period of a few years, typically three, are independent forecasts available for that period?
- **Regulatory predictability:** is the choice of index clearly reasoned?

Official status

3.171 As noted above, the ONS has found that the “the formula used to produce the RPI does not meet international standards”, and the formula has a “propensity to have an upward bias”. The RPI has since been de-designated as a National Statistic.

3.172 CPI does is not calculated using the same formula that the ONS identified as problematic in the case of RPI. CPI also remains a National Statistic.

Cost causality

3.173 An important part of the rationale behind indexing price caps or charge controls is to compensate for forecast error in how costs might evolve over time. To this end, the

[94]To illustrate this point further, suppose that today’s prices are £100 and we forecast costs to be £90 in nominal terms. If RPI is forecast to be 3%, the RPI-X cap needs an X of 13%. If CPI is forecast to be 2%, the CPI-X cap needs an X of 12%. By adjusting the value of X, as between RPI and CPI indexation, we should end up at the same nominal cost (in forecast terms). For simplicity this example ignores, without loss of generality, the geometric conversion factor. (The geometric conversion factor converts the value of X to reflect the fact that inflation works multiplicatively, but RPI-X or CPI-X is an additive formula.)

choice of index should be reasonably reflective of the input prices affecting the regulated service.

3.174 The relationship with underlying costs is likely to be particularly important when setting cost-based price caps – i.e. where charges are controlled to align with end of period costs. In the case of safeguard caps, when costs are not explicitly forecast, then another important consideration may be the affordability of the service(s) in question. In that case, consideration of how the income of certain customers varies with different measure of inflation may be relevant.95 For LLU and WLR charge controls we are proposing cost-based charge controls, so the relationship with underlying costs is of particular interest.

3.175 The major cost items in the LLU and WLR charge controls are as follows:

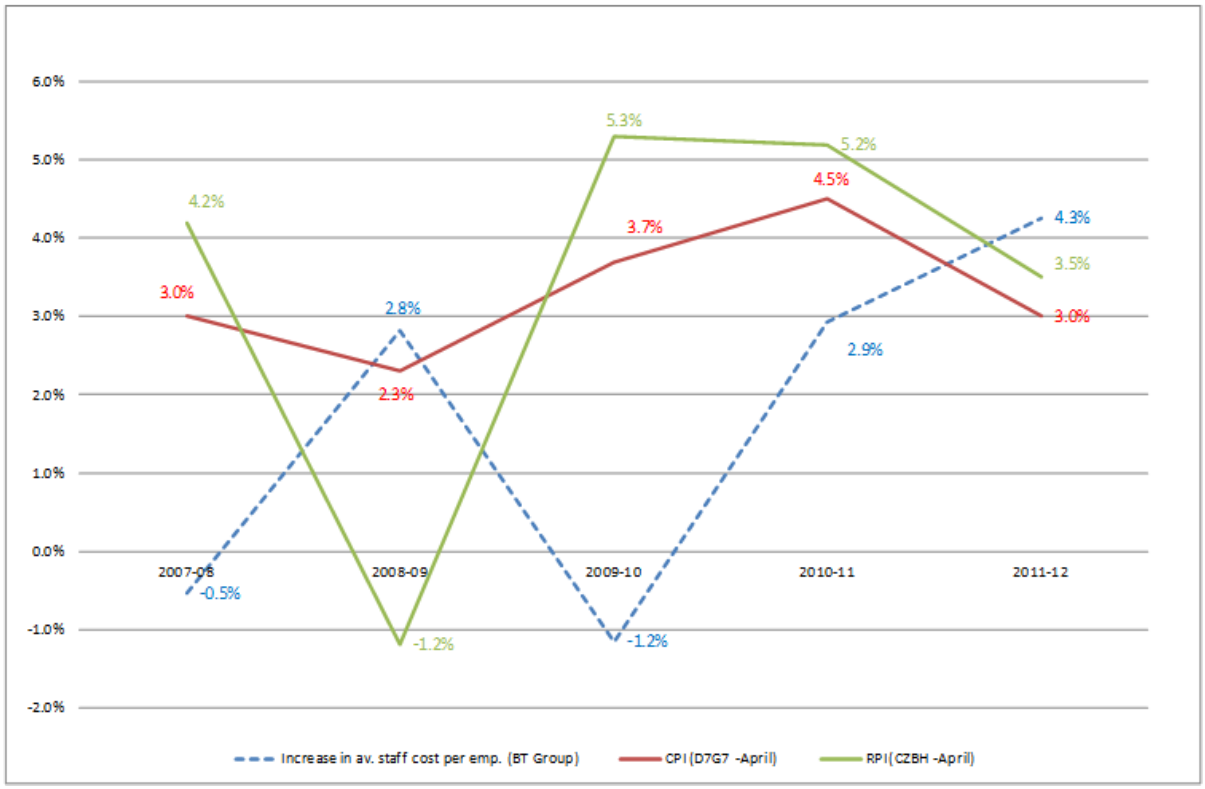
- Operating costs, excluding depreciation, approximately 40% of costs;
- Depreciation and holding gains, approximately 35% of costs; and
- Cost of capital employed, approximately 25% of costs[96].

3.176 In terms of operating costs, we have identified only one item as explicitly linked to RPI, namely BT's Cumulo payments.[97] For other operating costs, we have looked at how some of these costs have trended over the recent past relative to RPI and CPI. This can only form a high-level view of these costs98, but the analysis shows it is not clear whether RPI or CPI is the better predictor of the level or movement in costs.

3.177 Pay costs, for example, are c.50%99 of LLU/WLR services' operating costs excluding depreciation. The chart below shows changes in BT Group pay costs per employee compared to both the CPI and RPI (using the April figure[100]). This suggests historic pay settlements have been running at roughly 1.6-1.7% per annum on average. This is below CPI (3.3%) and RPI (3.4%).

[95]This was the case for the recent caps imposed on Second Class stamps.
[96]This is based on BT's 2011/12 RFS, for the WLA and WFAEL markets, combined.
[97]While these are updated annual for RPI, they are also subject to rebates if BT is able to successfully appeal the basis of calculation. Therefore, while the actual liability will reflect an uplift for RPI, the total liability in a given year may be affected by significantly more than this.
[98]For example, volume changes, efficiencies achieved, and changes in cost allocation would all have an impact on a complete analysis but such analysis would require strong assumptions to be made that may not be robust and could present a spurious level of accuracy. Our analysis has therefore excluded these factors.
[99]Derived from 2011-12 BT Additional Financial Information Regulatory Statements
[100]For example the April 2012 RPI and CPI figures is used as a comparison to the costs of financial year 2011-12

Figure 3.2: BT Group average cost per employee v CPI & RPI[101]



Source: BT Group Statutory Accounts staff costs and average employees, ONS website http://www.ons.gov.uk for inflation indices

3.178 Accommodation costs account for around 16% of operating costs in the WFAEL and WLA markets.[102] A large element of accommodation costs relates to rents on properties, a non-pay cost. Under the long term sale and purchase deal that BT agreed with what is now Telereal Trillium in December 2001 these increase at 3% per annum. [103] This is between the forecasts of RPI and CPI currently projected by independent forecasters for this control period.[104]

3.179 Nevertheless, other important parts of the cost base have linkages to RPI as a result of current and past regulatory practice. These are (i) the valuation of copper and duct assets and (ii) the cost of capital.

3.180 To date we have valued the copper and duct assets which makes up approximately 87% of the 2011/12 mean capital employed for WLR and LLU[105] using a Regulatory

[101]The price differential in this figure is in nominal (or outturn) prices.
[102]See Section 6.2 of BT's 2011/12 RFS, p.24
[103]See, for example, http://www.btplc.com/report/financial_fixedassets.shtml
[104]The annual average of independent forecasts for RPI goes from 3.3% in 2013 to 3.6% in 2017, an average of 3.3% over the 5 years reported (arithmetic or geometric mean rounded to 1 decimal place) The annual average of independent forecasts for CPI goes from 2.8% in 2013 to 2.2% in 2017, an average of 2.3% (arithmetic or geometric mean, rounded to 1 d.p.)Source: HM Treasury *Forecasts for the UK economy:a comparison of independent forecasts* p.18 of https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/199018/201305_-_Forecasts_for_the_UK_economy.pdf. This is the May 2013 edition of the report, the June 2013 edition does not contain forecasts out to 2017.
[105]Estimated on a CCA basis, based on BT's 2011/12 RFS (excluding any RAV adjustment) for the WFAEL and WLA markets combined.

Asset Value approach for pre-1997 assets. As noted above, this has involved valuing copper and duct assets on the basis of their historic cost (with effect from financial year 2004/05), but applying RPI from this date forward. For post-1997 copper and duct assets we have typically forecast their replacement cost and used RPI as a means to proxy the uncertain replacement costs (given the complications of estimating how much it might cost to rebuild the duct network and given the volatility and uncertainty in copper prices). Annex 5 explains our approach to setting the value of copper and duct assets.

3.181 For the cost of capital, an important component is the risk-free rate from which we apply premia for the cost of debt and the cost of equity to build up a weighted average cost of capital. Since we set a forward looking cost of capital, we start by estimating a real risk-free rate and then applying a forecast for inflation to that real risk-free rate.

3.182 The way we proxy the real risk-free rate is to use the yield on indexed linked gilts (i.e. government debt). This debt is currently indexed to RPI and is likely to be so for the short to medium term.[106] Therefore, the way we forecast the nominal cost of capital for the current charge controls will involve calculating the risk-free rate derived from information on RPI indexed linked gilts and adding an independent forecast for RPI. While this matters for nominal cost modelling, for real cost modelling – when a real cost of capital is required – the real cost of capital can be obtained from this nominal cost of capital by either deflating the nominal WACC by RPI (for an RPI real terms model) or by CPI (for a CPI real terms model).

3.183 Having considered the costs affecting the charge controlled services, it seems that in respect of capital costs RPI is more consistent with how we have typically forecast nominal costs. However our decision to use RPI for copper and duct assets going forward (i.e. post-1997 assets) has been driven by RPI being a suitable proxy for the forward looking replacement cost. In so far as it is a proxy, it does not follow that BT's cost of copper and duct will actually be driven by RPI (indeed the cost of copper is driven global demand and supply, not just domestic inflationary pressures). For opearting costs the evidence on whether RPI or CPI might better track costs is indeterminate.

Exogeneity

3.184 An important consideration in setting a charge control is that the index cannot be influenced by the regulated firm (or individual customers of that firm). Since RPI and CPI are both macroeconomic variables and the data on these is gathered by the ONS, each is exogenous to the actions of either BT or its individual customers.

Availability of independent forecasts

3.185 We typically use an independent forecast for inflation. Since RPI and CPI are widely used in the UK economy they are regularly forecast by analysts.

3.186 A useful compilation of such forecasts is that produced by HM Treasury in its publication: *Forecasts for the UK Economy: a comparison of independent forecasts*.

[106]The UK Debt Management Office consulted in 2011 on the scope for issuing CPI indexed debt, but concluded in November 2011 not to do so for 2012/13, although it kept the situation under review. See *United Kingdom Debt Management Office CPI-linked Gilts: Response to Consultation:* http://www.dmo.gov.uk/documentview.aspx?docname=publications/giltsmarket/consultationpapers/cons20111129.pdf&page=Gilts/Consultation

From this publication, the average of medium term forecasts for 2017 CPI is 2.2% and RPI 3.6%.[107]

3.187 Another useful feature of CPI is that it forms the basis of the Bank of England's official inflation target. While actual CPI will inevitably vary from the official target, the Bank of England seeks to set monetary policy to achieve 2% p.a., so in the medium to longer term, we might expect to see CPI at or around 2% p.a. [108]

Regulatory predictability

3.188 As noted previously in this section, regulatory predictability is important for dynamic efficiency. However, regulatory predictability does not mean doing the same thing at every market review. Instead, regulatory predictability requires that regulatory decisions are clearly reasoned, consulted on, and that stakeholders are given sufficient notice of regulatory changes.

3.189 While RPI has been the mainstay for indexing telecoms price caps to date, given the concerns with the RPI formula identified by the ONS and the UK Statistics Authority's decision to no longer designate RPI as a National Statistic, we do not think that past regulatory practice should mean that RPI is presumed to stay for as long as the index is still published. CPI has not been used in the regulation of BT's services but, as noted above, it has been used by Ofcom in setting charge controls in the postal sector.

Proposed index

3.190 In light of the above, we propose to make CPI the default inflation index for these and future charge controls.

3.191 In considering whether RPI, or indeed some other index, was appropriate we would propose doing so by reference to the factors set out above, i.e.: official status of the index; cost causality; exogeneity; availability of independent forecasts; regualtory predictability.

Question 3.12: *Do you agree that CPI and RPI are the main indices to consider for the LLU and WLR charge controls proposed in this consultation? Please provide reasons to support your views*

Question 3.13: *Do you consider that we should use CPI to index the LLU and WLR charge controls proposed in this consultation? If not please explain why using the factors identified above, or any others you consider important.*

Implications of the Draft EC Recommendation

3.192 In December 2012, the European Commission sought BEREC's opinion on the Draft EC Recommendation under Article 19(1) of the Framework Directive. Recommendations issued under Article 19(1) of the Framework Directive aim to achieve the harmonised application of the provisions of the EU regulatory framework

[107] See "Medium-term forecasts", May 2013, p.18 of *Forecasts for the UK economy:a comparison of independent forecasts* https://www.gov.uk/government/organisations/hm-treasury/series/data-forecasts

[108] The transmission mechanism between monetary policy action and inflation is thought to have a lag of around 2 years, see http://www.bankofengland.co.uk/monetarypolicy/Pages/how.aspx

in order to further the achievement of the objectives set out in Article 8 of the Framework Directive. Article 8 contains the communications policy and regulatory principles that underpin the EU regulatory framework.

3.193 BEREC responded in March 2013.109 The final Recommendation is expected to be adopted shortly. Article 19(1) requires EU Member States to ensure that national regulatory authorities (such as Ofcom) take utmost account of such Recommendations. If a national regulatory authority chooses not to follow a Recommendation it must inform the European Commission, giving the reasons for its position. Consistent with this, under section 4A of the Communications Act 2003 Ofcom is required to take due account of all such Recommendations of the European Commission when carrying out its functions. Where Ofcom decides not to follow such a Recommendation it is required to notify the European Commission of its reasons.

3.194 Whilst the Draft EC Recommendation is not yet in force, and it is not therefore clear what its final content will be, we have considered the potential implications of the Draft EC Recommendation on our consultation proposals and where our proposals depart from the approach presently set out in the Draft EC Recommendation we have explained our reasons.

3.195 The Draft EC Recommendation describes the European Commission's recommended methodology for how copper prices should be set. This involves building a bottom up LRIC+ (i.e. LRIC plus a mark-up for common costs) model of a fibre to the cabinet (FTTC) network and then replacing the optical elements with efficiently priced copper elements. [110]

3.196 While the cost model underpinning our proposed charge controls is not bottom-up, nor based on FTTC, it should be noted that FTTC is an overlay to the existing nodes (exchanges and street cabinets) of the copper network. Moreover, the costs of copper (capital and current) between the exchange and the cabinet (E-side copper) are around 9-10% of the FAC of WLR and MPF. Therefore, a bottom-up scorched node model (i.e. using the actual exchange and cabinet configuration) but replacing E-side copper with fibre, would involve adjusting no more than 10% of the cost stack for WLR or MPF. Provided that copper was efficiently priced – as required by Recommend 42 of the Draft EC Recommendation – we consider that our approach, while not the same as that envisaged by the Draft EC Recommendation, should yield an outcome consistent with that envisaged by the Draft EC Recommendation.

3.197 Moreover, while the Draft EC Recommendation focuses on the use of LRIC+, it is not specific on the method of calculating the "+". CCA FAC is a particular form of LRIC+ (since in the presence of common costs CCA FAC is greater than LRIC). Therefore, we do not see our proposal to use CCA FAC (see earlier in this section) as a substantive difference from the recommendation to use LRIC+. In so far as the recommendation to use a LRIC based model is to get a better understanding of the cost-drivers in the access network, it should be noted that the CVEs and AVEs used in the cost model are derived from LRIC to FAC ratios, Moreover, we have set the charge controls for WLR and LLU with close regard to the LRICs of the relevant services (e.g. in respect of the LRIC differential for main rentals – see earlier in this

[109]On 26 March 2013, BEREC adopted its Opinion on the Commission's draft Recommendation on non-discrimination and costing methodologies. The Opinion is published on BEREC's web-site at:http://berec.europa.eu/eng/news_consultations/whats_new/1443-berec-adopted-an-opinion-on-the-commission-draft-recommendation-on-non-discrimination-and-costing-methodologies.

[110]See Recommendations 34 to 48 of the Draft Recommendation for the proposed costing methodology https://ec.europa.eu/digital-agenda/en/news/commission-seeks-berec-opinion-draft-recommendation-consistent-non-discrimination-obligations

section – and in proposing that migration charges are reflective of LRIC rather than FAC – see section 3).

3.198 The Draft EC Recommendation identifies that costs in the model are to be on the basis of full replacement costs, except for reusable legacy civil engineering assets, which are subject to a different treatment based on indexed depreciated accounting values. We consider that this approach is consistent with that underlying our RAV adjustment for copper and duct assets.

3.199 The Draft EC Recommendation also specifies that National Regulatory Authorities (such as Ofcom) should ensure that the recommended methodology is implemented by no later than 31 December 2016. The methodology to be used by NRAs until that time depends on the level of the MPF rental price. The current Draft EC Recommendation provides that in Member States where the monthly rental price for MPF is within the band of €8 to €10 per month (expressed in real terms in 2012 prices), the NRA should continue to apply its existing costing methodology if it results in stable prices in real terms within this band.

3.200 The Draft EC Recommendation does not provide guidance on how the price band should apply in those Member States, such as the UK, which are not part of the single currency. To do so, it would be necessary to convert the band to its Sterling equivalent. However, there is no unique way to do this, because the Sterling equivalent depends on the Sterling/Euro exchange rate used to make the conversion, for which various data are available, e.g. whether to use spot or forward rates, whether to take exchanges rates from a particular point in time or an average rate over a period of time and so on. Because exchange rates fluctuate over time and large unforeseen changes can occasionally occur, exchange rates in December 2016 or at the end of the charge control period cannot be predicted with confidence.[111] In the light of this, we consider that, provided the current MPF rental is within the range, and provided the rental is not projected to vary very markedly in real terms, it will be consistent with the aims of the Draft EC Recommendation.

3.201 The current charge ceiling for MPF set under the current charge controls (and following amendment to implement the CC's determination following the Appeals) is £84.26 or £7.02 per month. The charge ceiling for the MPF rental price is therefore currently comfortably within the price band.[112] In this consultation we have set out a range of options for the charge control to apply to MPF rentals up to 2016/17 and have asked for views. Some of the options, including our base case option, would mean that the MPF rental in 2016/17 is lower in real terms than today's charges. We will take account of responses to this consultation before reaching a final view on the appropriate value of the control. However, we consider that it is consistent with the kind of efficiency gains still possible for an ongoing efficient copper network as well as the small increase in lines projected over this period (both implying falling unit costs) for there to be some further reductions in the MPF rental in real terms. We therefore consider that it would be consistent with the Draft Recommendation to set

[111]As an example of exchange rate volatility, Sterling fell to near parity against the Euro in 2008, reaching a low of €1.0200 = £1 on 30 December, having started the year at €1.3441. Source: Bank of England, Spot exchange rate, Euro into Sterling, series XUDLERS at http://www.bankofengland.co.uk/statistics/Pages/default.aspx

[112]For example, conversion of the €8 - €10 range using the 2012 annual average Spot exchange rate, Euro into Sterling, source Bank of England series XUAAERS at http://www.bankofengland.co.uk/statistics/Pages/default.aspx suggests a range of £6.48 - £8.11. On the basis of this exchange rate conversion, current MPF charges appear to be in the lower half of the range.

the charge control to apply from 1 April 2014 to March 2017 using the approach proposed in this consultation.[113]

3.202 We also recognise that the proposed control will apply for a period of 3 months (from 1 January 2017 to 31 March 2017) after 31 December 2016. However, we propose at this point not to truncate the final year of the charge control so that it ends on 31 December 2016. This is because:

- much of our modelling approach overlaps with that which would follow from the Recommendation (i.e. RAV approach, allowance for common costs, albeit based on the mark-ups implicit in FAC, rather than an alternative form of LRIC+, and pricing of copper inputs "efficiently");
- the outcome of our modelling approach achieves the aims of the EC Recommendation – i.e. broad stability in copper access prices subject to adjustment for price developments; and
- we believe the appropriate duration of the control to be three years and that a shorter duration in the context of the WLA market the UK excluding the Hull Area would compromise cost reduction incentives unnecessarily.

[113]For example, Recommend 45 of the Draft Recommendation states that: "[…] where monthly rental prices for the full unbundled copper local loop currently fall within such band, as adjusted for subsequent price developments, the NRA should continue applying the costing methodology that it currently uses if it results in stable access prices in real terms within such band, as adjusted, during the period between the entry into force of this Recommendation and the finalisation of the development of the recommended methodology."

Section 4

Charge control design

4.1 In this Section we set out our proposals for the structure of the LLU and WLR charge controls and related controls for ancillary services. In particular, we set out our proposals with respect to:

- the form of the charge controls on LLU and WLR rentals;
- the treatment of connections, cease charges, migration charges, ancillary and Co-Mingling services; and
- the measures to prevent gaming of prices within ancillary services baskets.

4.2 For each of the above we set out below:

- a summary of previous relevant decisions (e.g. March 2012 Statement, 2013 Business Connectivity Market Review Statement);
- a summary of the comments and responses to the 2012 FAMR CFI; and
- our response to those comments and our proposals, in light of stakeholder comments, together with arguments in support of our proposals.

Summary of proposals

4.3 We propose, in summary, to:

LLU and WLR rentals

- set separate charge controls for MPF rental, SMPF rental and WLR rental services, so that the difference between MPF and WLR/WLR+SMPF rental charges is equal to the difference in LRIC in the last year of the new charge control (i.e. 2016/17). This ensures that the cost-minimising choice between these alternative wholesale inputs is made. Also, this implies that the charge ceiling for the SMPF rental price should be set at LRIC. We propose to recover the FAC-LRIC difference for SMPF rentals from MPF and WLR rentals on an equivalent per line basis;

LLU and WLR New Connections

- not treat SMPF New Provide as a migration service (and hence not capped at the same level as the SMPF and MPF Single Migration). This is because currently an SMPF New Provide reflects either a new broadband connection or a migration from one CP to another. However, we are now proposing that Openreach should be required to provide a price discount on the charges for WLR Conversion when CPs request this service alongside SMPF New Provide to be provided simultaneously (the "WLR+SMPF Simultaneous Provide"[114]);

[114]WLR+SMPF Simultaneous Provide is the term we use in this document to refer to the discounted price applied to WLR Conversion when it is provided simultaneously alongside SMPF New Provide. For the avoidance of doubt, we use this term for convenience and are not referring to a new product.

- set the MPF New Provide, WLR New Connection and SMPF New Provide charge controls such that the difference between MPF and WLR/WLR+SMPF new connections charges is brought into line with the difference in LRICs in 2016/17. As a result, SMPF New Provide should be charged at LRIC;

- recover the FAC-LRIC difference of SMPF New Provide from MPF and WLR rentals on an equivalent per line basis.

LLU and WLR Migrations

- set a charge control on WLR Conversion and require Openreach to provide a price discount on the charges for WLR Conversion and SMPF New Provide when CPs request these services to be provided simultaneously. This is to promote cost efficiency and ensure that charges for migration services reflect incremental cost differences more closely;

- align the charges of WLR Conversion and WLR+SMPF Simultaneous Provide with that of other migration charges involving jumpering at the start of the charge control period;

- set the charge controls for all migration services with reference to their incremental costs (rather than CCA FAC) to ensure consistency across these services and to promote competition and static efficiency;

- align the charge controls of all migration services involving jumpering (i.e. MPF/SMPF Single Migrations, WLR+SMPF Simultaneous Provide and WLR Conversion) to their volume weighted average LRIC by 2016/17;

- set the charge control ceiling for WLR Transfer equal to its LRIC by 2016/17;

- remove MPF and SMPF Bulk Migrations from the ancillary services basket and align their charge controls to the volume weighted average LRIC by 2016/17;

- recover the FAC-LRIC difference of all migration services from the WLR and MPF rentals on an equal per line basis;

LLU and WLR Cease Charges

- set MPF Cease and SMPF Cease charge controls at zero (as under the current charge controls) and recover the LRICs from the respective line rental charge controls and their common costs from MPF and WLR line rental charge controls on an equivalent per line basis;

LLU ancillary baskets design and structure

- set a three basket structure for LLU ancillary services (i.e. MPF, SMPF and Co-Mingling) as under the current controls;

- set basket specific controls (i.e., separate charge controls for each basket);

- set the same value of X for the MPF and SMPF ancillary baskets as a number of ancillary services in the MPF and SMPF baskets present a high level of similarity in terms of engineering activity and, likely, in terms of cost (see, for example, Table 4.26 for further details);

- set sub-caps (rather than inertia clauses as in the March 2012 Statement) in the interval 5% to 7.5% (i.e., CPI-X+Y, where we are consulting on Y in the range 5% to 7.5%) on each of the three ancillary services baskets (i.e. MPF, SMPF and Co-Mingling) and use prior year weights as a basis for measuring compliance; and

- set the sub-cap on MPF Stopped Line Provide consistent with the other sub-caps in the MPF ancillary basket (as opposed to at the level of the overall MPF basket control as currently);

Other issues

- remove the MPF and SMPF Expedite connection services from the MPF ancillary services basket in the SMPF ancillary services baskets, respectively, given that MPF and SMPF New Provide services are likely to be an effective constraint on the prices of the Expedite variants. Instead, we propose a safeguard cap on MPF and SMPF Expedite connection services at constant real prices (i.e., CPI-0%);

- maintain the current alignment of MPF and SMPF Special Fault Investigations (SFI2) service charge controls (i.e., to keep service charge controls equal) over the duration of the charge control period; and

- maintain the current alignment of LLU Enhanced Care services charges with WLR Enhanced Care services charges over the duration of the charge control.

4.4 Based on the policy proposals and financial modelling explained in this Consultation, the proposed LLU charge controls are set out in Table 4.1 (compared to the LLU prices in 2013/14) while the proposed WLR charge controls are set out in Table 4.2 (compared to the WLR prices in 2013/14). The proposed charge alignments are set out in Table 4.3.

Table 4.1: LLU charge controls

Basket/ Service	2013/14 price (£)	Range for 2014/15, nominal, £	Charge controls (base case, nominal[115], £)			Proposed X base case and [range] for 2015/16 and 2016/17
			2014/15	2015/16	2016/17	
MPF Rental	84.26	89.55 to 82.81	85.61	86.92	88.25	CPI-0.75% [+4% to -4%]
SMPF Rental	9.75	9.39 to 7.92	9.23	8.73	8.25	CPI-7.75% [-6% to -21%]
MPF Single Migration	30.65	31.04 to 28.90	29.91	29.16	28.43	CPI-4.75% [-1% to -8%]
MPF Bulk Migration	28.42	25.94 to 23.95	24.92	21.83	19.12	CPI-14.5% [-11% to -18%]
MPF New Provide	45.53	43.38 to 40.19	41.88	38.50	35.38	CPI-10.25% [-7% to -14%]
SMPF Single Migration	30.65	31.04 to 28.90	29.91	29.16	28.43	CPI-4.75% [-1% to -8%]
SMPF Bulk Migration	28.42	25.94 to 23.95	24.92	21.83	19.12	CPI-14.50% [-11% to -18%]
SMPF New Provide	30.65	29.20 to 27.06	28.13	25.80	23.67	CPI-10.50% [-7% to -14%]
Ancillary services (MPF basket)	RPI-9%	N/a	N/a	N/a	N/a	CPI-8.5% [-5% to -12%]
Ancillary services (SMPF basket)	RPI-13%	N/a	N/a	N/a	N/a	CPI-8.5% [-5% to -12%]
Ancillary services (Co-mingling basket)	RPI-3.6%	N/a	N/a	N/a	N/a	CPI-10.75% [-8% to -14%]
MPF Expedite	Charge controlled in MPF basket	N/a	To be announced by BT	CPI-0% [0% to CPI-0%]	CPI-0% [0% to CPI-0%]	CPI-0% [0% to CPI-0%]
SMPF Expedite	Charge controlled in SMPF basket	N/a	To be announced by BT	CPI-0% [0% to CPI-0%]	CPI-0% [0% to CPI-0%]	CPI-0% [0% to CPI-0%]

Source: Ofcom

[115]We discuss the inflation assumptions used in Section 5, however to summarise we have assumed pay inflation of 2.8%, non-pay inflation of 3% and asset inflation of RPI for cable and duct assets. (We have assumed 0% asset inflation for the remainder of the asset base.)

Table 4.2: WLR charge controls

Basket/Service	2013/14 price (£)	Range for 2014/15, nominal, £	Charge controls (base case, nominal, £)			Proposed X base case and [range] for 2015/16 and 2016/17
			2014/15	2014/15	2016/17	
WLR Rental	93.27	93.55 to 88.14	90.66[116]	90.28	89.90	CPI-2.5% [-0% to -6%)
WLR Transfer	3.39	4.99 to 4.69	4.83	6.88	9.79	CPI+40.25% [+36% to +45%]
WLR New Connection	47.11	44.41 to 41.12	42.59	38.48	34.76	CPI-11.75% [-8% to -15%]
WLR+SMPF Simultaneous Provide	65.51	31.04 to 28.90	29.91	29.16	28.43	CPI-4.75% [-1% to -8%][117]
WLR Conversion	34.86	31.04 to 28.90	29.91	29.16	28.43	CPI-4.75% [-1% to -8%][118]

Source: Ofcom

Table 4.3: Aligned controls

Basket/Service	2013/14 price (£)	Range for 2014/15, nominal, £	Charge controls (base case, nominal, £)			Proposed X base case and [range] for 2015/16 and 2016/17
			2014/15	2014/15	2016/17	
MPF Single Migration	30.65	31.04 to 28.90	29.91	29.16	28.43	CPI-4.75% [-1% to -8%]
SMPF Single Migration	30.65	31.04 to 28.90	29.91	29.16	28.43	CPI-4.75% [-1% to -8%]
WLR+SMPF Simultaneous Provide	65.51	31.04 to 28.90	29.91	29.16	28.43	CPI-4.75% [-1% to -8%][119]
WLR Conversion	34.86	31.04 to 28.90	29.91	29.16	28.43	CPI-4.75% [-1% to -8%][120]
MPF Bulk Migration	28.42	25.94 to 23.95	24.92	21.83	19.12	CPI-14.5% [-11% to -18%]
SMPF Bulk Migration	28.42	25.94 to 23.95	24.92	21.83	19.12	CPI-14.5% [-11% to -18%]
WLR Service Maintenance Level 3	37.20	N/a	Z1	Z2	Z3	N/a

[116]We propose to remove the allowance for printed directories in the WLR charge at the start of the charge control rather than through a glide path approach. This means that the percentage reduction is larger for the WLR rental in the first year.
[117]We propose to align the charge of the WLR Conversion when it is provided simultaneously alongside SMPF New Provide with the charges of MPF/SMPF Single Migration in the first year of the charge control. The values of the Xs reflect the annual reductions in the remaining years of the charge control.
[118]We propose to align the charge of the WLR Conversion with the charges of MPF/SMPF Single Migration in the first year of the charge control. The values of the Xs reflect the annual reductions in the remaining years of the charge control.
[119]See footnote 117.
[120]See footnote 118.

Basket/Service	2013/14 price (£)	Range for 2014/15,	Charge controls (base case, nominal, £)			Proposed X base case and
MPF Service Maintenance Level 3	37.20	N/a	Z1	Z2	Z3	N/a
SMPF Service Maintenance Level 3	37.20	N/a	Z1	Z2	Z3	N/a
WLR Service Maintenance Level 4	48.00	N/a	Z4	Z5	Z6	N/a
MPF Service Maintenance Level 4	48.00	N/a	Z4	Z5	Z6	N/a
SMPF Service Maintenance Level 4	48.00	N/a	Z4	Z5	Z6	N/a
MPF SFI2	Various charges[121]	N/a	Z7	Z8	Z9	N/a
SMPF SFI2	Various charges[122]	N/a	Z7	Z8	Z9	N/a

Source: Ofcom. Note: prices Z1-Z9 to be defined by BT

Background for this Consultation

2012 FAMR CFI

4.5 In the 2012 FAMR CFI we consulted on our approach for the next LLU and WLR charge controls, raising specific questions about ancillary services baskets.[123] We did not ask specific questions on the main rentals, connections or migration services.

4.6 In respect of the ancillary service baskets, we asked stakeholders whether there was any reason to change the overall structure and design of the current baskets.

4.7 We noted that the difficulties with modelling the costs of ancillary services are even greater than for the main connection and rental services. Due to the large number of products and services within the ancillary baskets and the relatively low volumes, BT does not separately account for each and every product or service. The result is that the cost information available to Ofcom is highly aggregated. For example, in the March 2012 Statement there were four "products" in our CF and CA models for the Co-Mingling basket which were an amalgam of 92 separate items.

4.8 In the 2012 FAMR CFI we identified two main options for setting controls on the ancillary services:

[121]MPF SFI2 refers to the following individual products: MPF SFI2 – Base module, MPF SFI2 – Network module, MPF SFI2 – Frame module, MPF SFI2 – Internal Wiring module, MPF SFI2 – Coop module, MPF SFI2 – Frame direct module. The proposed charge alignment applies between these MPF SFI2 products and the respective SMPF SFI2 comparable service. For example, the proposed charge alignment applies between MPF SFI2 – Base module and SMPF SFI2 – Base module.
[122]SMPF SFI2 refers to the following individual products: SMPF SFI2 – Base module, SMPF SFI2 – Network module, SMPF SFI2 – Frame module, SMPF SFI2 – Internal Wiring module, SMPF SFI2 – Coop module, SMPF SFI2 – Frame direct module.
[123]See 2012 FAMR CFI, questions 6.1 to 6.7 (pages 37 and 39), available at http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/summary/condoc.pdf.

- firstly, to use an AVE/CVE cost model to build our basket costs.[124] However, we said that it may be difficult to obtain sufficiently robust data at the necessary level of disaggregation; and

- secondly, to apply an indexation approach with a general efficiency adjustment. Given that even the largest ancillary services basket constitutes around 12% of MPF and SMPF revenues125, and the practical difficulties associated with obtaining sufficiently granular cost information, we indicated that indexation with a general efficiency target could be a proportionate approach.

Responses to the 2012 FAMR CFI

4.9 We have received a number of stakeholder responses and comments on rentals, cease charges, migrations, ancillary services and Co-Mingling baskets. We address each one of these responses and comments in the respective section below.

Principles for setting charge controls

4.10 We set out below the principles that we have used to guide our approach to imposing charge controls on LLU and WLR services.[126] We consider that these principles are consistent with our statutory duties set out in the Act, in particular that Ofcom must have regard to the principles under which regulatory activities should be transparent; the desirability of promoting competition in relevant markets; and the desirability of encouraging investment and innovation in relevant markets. These principles are that charge controls should:

- encourage efficiency in service provision and enable Openreach to recover efficiently incurred costs;

- not give the regulated firm the incentive or opportunity to manipulate prices to favour its own downstream operations (BT's downstream operations, by which we mean BT Wholesale, BT Retail or any other downstream operation owned or operated by BT) or unfairly enhance profitability by raising the charges for services with growing volumes ("gaming"); and

- be easy to understand and straightforward to implement.

Principles for setting charges between substitutable inputs

4.11 A CP's choice between MPF and WLR/WLR+SMPF will be based on both the respective connection and the rental charges. A CP may be prepared to trade-off a high connection charge for a low rental charge (or vice versa) to some extent, but this does not mean that it will be indifferent to the balance between connection and rental charges – i.e. the charge structure. Both the level of charges and their structure can be important for the efficient choice between services and for competition.

[124]For further details on the modelling consult *Documentation of fully allocated cost model for LLU and WLR Charge Control*, Analysis Mason, June 2013.
[125]Information from "Product_Assumptions" and "Product_Metrics" tab of CA Final Frozen model, made available at the time of the March 2011 consultation: *Charge Control for LLU and WLR Services, Consultation*, Ofcom, 31 March 2011. Includes Internal and External revenues.
[126]These principles are consistent with what we said when setting the current LLU charge control. See Statement on Openreach Financial Framework, paragraph 6.10, http://stakeholders.ofcom.org.uk/consultations/openreachframework/statement.

4.12 We propose to set the new charge controls so that the rental charge for MPF, relative to the rental charges for WLR/WLR+SMPF, gives CPs an incentive to use whichever service minimises overall costs. We consider that it is important to do the same for connection charges. This will give the appropriate signals for efficient choices between inputs irrespective of the relative weights given to connection and rental charges.

4.13 As explained in Section 3, we consider that the MPF and WLR/WLR+SMPF services are alternative wholesale inputs for the same broadband and voice retail markets. Therefore, it is important to induce an efficient choice of wholesale inputs, so as to minimise overall costs which is best achieved by setting the differential in charges between products to reflect the absolute differences in LRIC.

4.14 We consider that allocative efficiency considerations at the retail level are less important because MPF and WLR/WLR+SMPF are used to supply the same downstream retail markets. Attempting to recover more common costs from one set of wholesale inputs over the other would be at considerable risk of being undermined by arbitrage, especially in the longer term.

4.15 Dynamic efficiency can be enhanced by increased competition. However, we do not consider that there is now a case for intentionally favouring competition based on MPF over that based on WLR/WLR+SMPF, or vice versa. Economic efficiency therefore points to price differentials being set to reflect LRIC differentials.

4.16 Dynamic efficiency is also promoted by providing a stable regulatory framework, including by giving weight to how we have set charges in the past and to indications we have given of how we expect to set charges in the future. Our view is that a stable regulatory framework will create a favourable climate for efficient investment.

Principles for basket design

4.17 A charge control basket is defined as the group of products or services that are subject to the same charge control restrictions. Combining services in a single basket means that the price cap (e.g. CPI-X) would apply to a weighted average of the changes in the prices of the services in the basket.

4.18 In designing the charge control baskets we have been guided by the following principles:

- where the services being considered share substantial common costs, a single basket is more conducive to efficient pricing and cost recovery;

- where the services being considered face different competitive conditions or where BT does not use the same wholesale inputs as its rivals, placing them in the same charge control basket may give BT an incentive to set prices in a way that adversely affects competition. In this case, we might consider introducing sub-caps or placing the services in separate baskets; and

- differences in charges for substitutable inputs should reflect the incremental cost difference. This means that the usual argument for a broad basket, that there are benefits from being able to vary relative prices within the basket to reflect differences in demand elasticities, does not apply to substitutable inputs. Moreover, if we wish the difference between charges for two services to align to the differential in incremental costs, putting the services in the same basket is

unlikely to achieve this without an additional control to maintain the differential at the incremental cost level.

Advantages of broad baskets

4.19 A broad basket would give BT the most pricing freedom to determine the structure of prices to meet the charge control. Where relative prices can be set to reflect the way demand responds to price changes, this pricing freedom may be more likely to result in charges that recover costs, particularly fixed and common costs, in an efficient way.[127]

4.20 A broad basket also allows BT to respond to changes in demand and costs by changing relative prices and re-optimising charges for new patterns of demand. Subject to sufficient constraint on its pricing at the basket level, BT is better placed to assess demand and set the prices for services at a more granular level.

4.21 We consider, however, that such considerations are less directly applicable to migration type services. This is because retail demand for migration services may not be closely linked to the upstream migration charge; and because migration charges increase switching costs faced by BT's rivals.

Disadvantages of broad baskets

4.22 The main disadvantage of broad baskets is that, in some circumstances, the flexibility to set relative charges can be exploited to harm competition. Two sets of circumstances are particularly relevant.

4.23 First, BT may have an incentive to price in a manner that favours its downstream operations. Where BT and competing operators use different wholesale services to provide the same downstream service, BT may have an incentive to reduce the price of the wholesale service it uses most and increase the price of the wholesale service used by its rivals. Placing both wholesale services in a single charge control basket without further restrictions could give BT the ability to behave in this way, which could harm competition.

4.24 Second, there may be differences in the intensity of competition that BT faces in the provision of different services. If competitive conditions differ between services within a single basket, BT may have an incentive to concentrate price cuts on the most competitive services and offset these with increases where competition is weaker.

Addressing the disadvantages

4.25 It is possible for the two competition concerns identified above to be addressed by using more narrowly defined baskets. Each basket could be defined to include only services where there is broadly the same degree of competition, and there could be separate baskets for services that are used predominantly by BT on the one hand, and for services which are mainly used by its competitors, on the other.

4.26 Alternatively, or in addition, sub-caps or inertia clauses within a basket can also be used to address the competition concerns identified above. In this way, the potential harm to competition can be minimised whilst, at the same time, retaining the benefits of pricing flexibility.

[127] In this case, efficient means a set a prices with mark-ups over marginal (or incremental) costs which least distort consumption relative to the consumption which would prevail with prices at marginal (or incremental) cost. This is known as Ramsey pricing as explained in Section 3.

4.27 Whether a broad basket with sub-caps is preferable to a larger number of smaller baskets will depend on the circumstances of the case. In principle, the benefits of broad baskets are likely to be greater, the greater the extent of common costs and the greater the similarity of conditions of competition between services in the basket. Broader baskets also reduce the risk of regulatory failure such as the regulator becoming ever more involved in micro-managing detailed pricing decisions when the information available to the regulator may not be reliable or may be particularly susceptible to change over time.

LLU and WLR rentals

4.28 Rental charges are the largest contributors to LLU and WLR revenues for BT (and hence expenditure for access seekers). In the 2012 RFS[128], BT reported revenues of £451m for external MPF rentals, £43m for external SMPF rentals and over £2 billion for WLR rentals (including internal, external, basic and premium services).

4.29 In the March 2012 Statement we set separate controls for MPF rental, SMPF rental and WLR rental. We set out our policy that the differences in charges between MPF and WLR/WLR+SMPF should reflect the absolute differences in LRIC, but that too rapid a transition would not be appropriate. We also clearly signalled our intention to go on reducing the difference in charges towards the difference in LRICs.[129] We decided that each rental charge will equal the forecast CCA FAC by the end of the charge control period, i.e. 2013/14.[130]

Responses to the 2012 FAMR CFI

4.30 One CP argued for a one-off (P0) cut to the cost based rates such that "the difference between MPF line rentals and WLR+SMPF line rentals reflect only the actual estimated cost difference between these two services (LRIC differential)".[131]

Our proposal and response on LLU and WLR rentals

4.31 We are proposing to set charge controls on each of the MPF rental, SMPF rental and WLR rental services. We now propose to set prices so that the difference between MPF and WLR/WLR+SMPF is equal to the difference in LRIC in the last year of the new charge control (i.e. 2016/17).[132] This is consistent with the approach taken in the previous controls.

4.32 Keeping separate controls for key rental charges protects downstream markets and consumers from pricing distortions. This is necessary as WLR/WLR+SMPF and MPF are alternative inputs which can be used to provide the same downstream services. BT uses WLR/WLR+SMPF, whereas its main competitors now use MPF.

4.33 In 2011/12, 78% of the revenue from Wholesale basic analogue service rentals and 73% of the revenue from SMPF rentals was internal to BT group (rather than internal to Openreach) which suggests that BT's downstream operation (by which we mean BT Wholesale, BT Retail or any other downstream operation owned or operated by

[128] See RFS 2012 available at http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2012/index.htm.
[129] See paragraph 7.65, March 2012 Statement.
[130] See paragraph 4.14, March 2012 Statement.
[131] [✂]
[132] See Section 3 for our full reasoning.

BT group) was an intensive user of WLR and SMPF rentals. Less than 1% of revenue from MPF rentals was internal to BT group.[133]

4.34 Given that BT at the downstream level uses relatively more WLR and SMPF than MPF products, we think that if the rentals for the three products were in the same basket, Openreach could have an incentive to skew charges in favour of WLR and SMPF to the detriment of MPF. Moreover, since we propose to set the charge control for SMPF rental at LRIC, consistent with the LRIC differential set of constraints proposed above this can only be achieved if SMPF rental is subject a separate charge control.

4.35 As explained in the remainder of this section, we propose that the difference between the incremental cost and the FAC for SMPF rental, SMPF Provide and migration charges are recovered from MPF and WLR rental charges on an equivalent per line basis.[134] We also note that we propose to set the charges for MPF and SMPF cease services to zero[135] and recover the CCA FAC that are allocated to these services from MPF and WLR line rentals. Therefore, in setting the charge controls for rental services, we will include the costs of the soft cease activities and the difference between the incremental cost and the CCA FAC for SMPF rental, SMPF Provide and migration charges in the rental charges.

Question 4.1: *Do you agree that we should set separate line rental charge controls for (i) MPF rental, (ii) SMPF rental and (iii) WLR rental? Please provide reasons to support your views.*

One-off adjustments

4.36 As explained in Section 3 of this consultation, we do not propose that the charges for MPF, WLR and SMPF rentals should be adjusted by means of a one-off change to align them to the forecast LRIC differential. Instead we propose that they do so by means of a glide path to 2016/17.

New connections

4.37 We are proposing to treat WLR and LLU connection services consistently with our treatment of WLR and LLU rentals. Within our consideration of connection services we are proposing to impose charge controls on the following three services: MPF New Provide, SMPF New Provide and WLR New Connection.

4.38 MPF New Provide is requested by a CP from Openreach when a CP's customer requires a new copper line to be installed into their home. In 2011/12, CPs spent approximately [✂] [£30-70m] on this service.[136]

[133] See BT's RFS 2012, page 36. For the year ended 31 March 2012, the revenue for Wholesale basic analogue internal service rentals was £1,184m, while the revenue for Wholesale basic analogue external service rentals was £331m. See Template 3, First s.135 to BT for the internal revenues to BT group for MPF and SMPF rentals in 2011/12.

[134] See below the heading "Choice of cost standard for migration charges", in particular, our preferred approach on the choice between setting migration charges at CCA FAC versus incremental cost. See also below our proposals on "New Connections".

[135] See below the heading on cease charges with further details and the rationale for setting cease charges at zero.

[136] The amount refers to the sum of internal and external revenues. Source: First s.135 to BT, Template 3.

4.39 WLR New Connection is a service provided to customers switching to a WLR service who do not have an existing BT copper line. In 2011/12, CPs spent approximately [✂] [£40-80m] on this service.[137]

4.40 SMPF New Provide is requested by a CP from Openreach when a CP's customer requires a new broadband connection (using SMPF) over an existing WLR line. In 2011/12, CPs spent approximately [✂] [£90-120m] on this service.[138]

4.41 In the March 2012 Statement we decided to align the charge of SMPF New Provide with other migration services. This was because a CP wishing to migrate a customer from MPF to WLR+SMPF would have to purchase both WLR Conversion and a SMPF New Provide. However, as further discussed below, we are now proposing that Openreach should be required to provide a price discount on the charges for WLR Conversion when CPs request this service alongside SMPF New Provide to be provided simultaneously. This implies that in future the price of the SMPF New Provide will only relate to the provision of new broadband connections (rather than either a new broadband connection or a migration from one CP to another). For this reason we are proposing that the SMPF New Provide charge should no longer be aligned with that of other migration services.

4.42 As noted above and in Section 3, MPF and WLR/WLR+SMPF are closely substitutable inputs. Therefore, our policy of aligning charges to reflect the differences in LRIC extends from the rental services to other charges for these services, including for new connections/provides. This is because in choosing between substitutable inputs, the decision to go with one type of input means that it will attract the suite of charges consistent with that input (including connections, rentals, migrations and cease charges).

4.43 Consistent with our proposals as regards setting the charge controls in line with the LRIC differentials, in order to meet the constraint of cost recovery as well as the two constraints from the LRIC differentials comparison (MPF vs WLR and MPF vs WLR+SMPF), SMPF needs to be priced at LRIC. We are proposing to recover the FAC-LRIC difference of SMPF New Provide from the WLR and LLU rental charges on an equivalent per line basis. We believe this is more appropriate than the alternative of recovering this difference from WLR New Connections and MPF New Provides. This is due to the lower volumes of New Connections/Provides (relative to rentals) which would imply that this adjustment would have a larger impact on the price of New Provides than for rentals.

Question 4.2: *Do you agree that the price differences between MPF and WLR/WLR+SMPF new connections should be equal to the difference in LRIC in the last year of the new charge control (i.e., 2016/17)? Please provide reasons to support your views.*

Migration services

4.44 This sub-section is structured as follows:

- first, we describe our approach to regulating the simultaneous provision of SMPF New Provide and WLR Conversion;

[137] The amount refers to the sum of internal and external revenues both from basic and premium wholesale service connections. Source: First s.135 to BT, Template 3.
[138] The amount refers to the sum of internal and external revenues. Source: First s.135 to BT, Template 3.

- second, we discuss the choice of cost standard and the options for aligning migration charges; and

- third, we set out our approach to regulating MPF and SMPF Bulk Migrations.

WLR+SMPF Simultaneous Provide and WLR Conversion

4.45 In this sub-section we review the regulatory treatment of two sets of migration services, namely:

- simultaneous migration from MPF to WLR+SMPF. This involves the provision by Openreach of two separate services i.e. WLR Conversion and SMPF New Provide; and

- WLR Conversion (required to migrate a line from MPF to WLR).

WLR+SMPF Simultaneous Provide

Our approach to the MPF to WLR+SMPF simultaneous migration in the March 2012 Statement

4.46 As noted in the March 2012 Statement, when a communications provider wants to migrate a customer from MPF to WLR+SMPF it is necessary to purchase two separate migration services. First, it had to purchase a migration from MPF to WLR (i.e. a WLR Conversion) and, second, a migration from WLR to WLR+SMPF (i.e. an SMPF New Provide). The total price for this type of migration was the sum of the charges for the individual services.

4.47 In the March 2012 Statement we noted that there was scope to simplify the processes for the MPF to WLR+SMPF migration service, as the existing arrangements required CPs to pay the price for two separate processes (even when these were purchased simultaneously).[139] We indicated that there was scope to create a new service allowing CPs to migrate customers to WLR+SMPF from MPF in a single migration process. This was likely to reduce the overall cost of migration from MPF to WLR services and to provide a more seamless consumer experience – as there would be no gap between the re-establishment of WLR and the connection of SMPF.

4.48 We noted however that in October 2011 BT Retail had submitted a Statement of Requirements (SoR)[140] for a simultaneous transfer product[141] (a submission that was later supported by Everything Everywhere (EE) and BT Wholesale[142]). In the SoR, BT Retail requested that Openreach either (i) amended the price to take account of potential savings (as only one engineer visit was required to connect both the SMPF and WLR services) or (ii) provide a new product to take account of the savings. We concluded that it was preferable to wait until the SoR was assessed by Openreach before we made a decision on the appropriate charge for this service. We anticipated

[139]For the discussion of the simultaneous purchase of WLR Conversion and SMPF New Provide, see March 2012 Statement, paragraphs 5.76-87, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf.
[140]A SoR is a formal request sent by a CP to Openreach for the purposes of assessing the viability of introducing a new service or process.
[141]SoR 8267 – review of the price for simultaneous transfers from MPF to WLR + SMPF.
[142]2013 WLR+SMPF Dispute Determination, paragraph 2.26, http://stakeholders.ofcom.org.uk/binaries/enforcement/competition-bulletins/closed-cases/all-closed-cases/cw_01097/Final_Determination_Non_Con1.pdf.

that the new service would be considered in the next WFAEL and WLA market reviews.

Cost savings associated with the simultaneous provision of WLR Conversion and SMPF New Provide

4.49 The main benefit of a simultaneous migration service, when compared to the purchase of an individual WLR Conversion plus SMPF New Provide, is the cost saving associated with the simultaneous provision. In the March 2012 Statement we indicated that we expected that there would be significant benefits associated with a combined provision of the migration from MPF to WLR+SMPF. In particular, a combined service:

- had genuine cost savings in terms of the engineering activity required at the exchange compared to a two-step process; and
- reduced CPs' waiting time until the line is fully migrated to WLR+SMPF.[143]

4.50 In terms of the cost savings, these result mainly from the reduced engineering activity required when the migration is done simultaneously compared to using a two-step process. First, a simultaneous migration only requires one visit from the engineer to the exchange (rather than two visits when the products are provided separately). This also results in savings in the number of tasks that need to be allocated, picked up and downloaded (i.e. once the task is allocated to an engineer, that engineer needs to take ownership of the task and download the job details), and uploaded (on completion) by the engineer.[144] Second, the number of jumper movements required at the exchange is also reduced.[145] This is shown in Table 4.4 below where we provide a description of the jumpering activity required at the exchange in each case (for a more detailed description of the jumpering activity required for each type of WLR/LLU migration see Annex 10).

Table 4.4: Jumper movements required for different migration services

	To	From	Jumpers moved		
			Removed	Installed	Total
WLR Conversion	WLR	MPF	2	1	**3**
SMPF New Provide	WLR + SMPF	WLR	1	2	**3**
WLR+SMPF Simultaneous Provide	MPF	WLR + SMPF	2	2	**4**

Source: BT's response to Ofcom's Third s.135 to BT.

[143]March 2012 Statement, paragraph 5.76-5.87, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf.
[144]For a more detailed description of these processes, see 2013 WLR+SMPF Dispute Determination, paragraph 3.44, http://stakeholders.ofcom.org.uk/binaries/enforcement/competition-bulletins/closed-cases/all-closed-cases/cw_01097/Final_Determination_Non_Con1.pdf.
[145]An MDF jumper is a copper connection that provides a flexible connection between two terminal ends, commonly used to connect the Line-Side to the Exchange-Side of the MDF.

4.51 As shown in the table, the migration from MPF to WLR+SMPF using a two-step process would require a total of 6 jumpers to be moved (three jumpers to be removed and three to be installed). Conversely, when the migration is done simultaneously it only requires four jumper movements (two jumpers to be removed and two to be installed). In addition to these cost savings, a simultaneous provide is also likely to result in time savings for customers, as there would be no gap between the provision of the WLR Conversion and the SMPF New Provide. Currently, the lead time for an SMPF provide with an existing narrowband voice service is 4 working days.[146] The lead time for a WLR Conversion from MPF to WLR3 is 10 working days[147], thus, a customer purchasing the simultaneous migration may be able to save up to 10 working days.

4.52 Openreach has informed us that it is already processing MPF to WLR+SMPF migrations simultaneously (as described above) and, therefore, benefits from the cost savings associated with the simultaneous provision. We consider that this shows that the provision of a permanent WLR+SMPF Simultaneous Provide offer is technically viable.

4.53 In October 2012 Openreach introduced a special offer discount on the combined prices of WLR Conversion and SMPF New Provide when purchased simultaneously (the "Special Offer") as a response to the SoR discussed above.[148] Under the Special Offer, when a transfer of MPF to WLR is ordered with simultaneous provision of SMPF, the price for both orders is £50.90 (compared to £68.40 before the introduction of the discount). As shown in Table 4.5 below, this implies a reduction of £17.50 over the standalone prices for WLR Conversion and SMPF New Provide at the time.

Table 4.5: Prevailing and Special Offer price for a simultaneous migration from MPF to WLR+SMPF

	WLR Conversion	SMPF New Provide	Combined price
Price prior to Special Offer	£34.86	£33.54	£68.40
Special Offer price	£17.36	£33.54	£50.90
Current price	£34.86	£30.65	£65.51

Source: Openreach price list, for WLR Conversion: see http://www.openreach.co.uk/orpg/home/products/pricing/loadProductPriceDetails.do?data=PgMT6eI2nnlo4hhO70Yda27EtHRtVUAuOBA%2F5MusDN1UNeIS4WkJBRh6z%2FRUAIt8maxtgrEro1A7%0Aw5V8nzAZpQ%3D%3D; for SMPF New Provide: see http://www.openreach.co.uk/orpg/home/products/pricing/loadProductPriceDetails.do?data=LI%2BLzfp8sh2Y2DndjiRMoqOJDXc5GerAOSBb9tNt8RglMnGHsqdC0vzO163bJmh34D91D7M0q8u%2F%0AIlSgtIFAKw%3D%3D.

[146] http://www.openreach.co.uk/orpg/customerzone/products/llu/mpf/description/leadtimes/leadtimes.do.

[147] According to the lead times for WLR Conversion (noted as: "CNV (from MPF to WLR3)") in the "WLR3 PSTN orchestration matrix" (sheet "Minimum Lead Time"), available at http://www.openreach.co.uk/orpg/customerzone/products/wlr3/pstn/releasedocumentation/pstnreleasedocumentation.do#Orchestration matrix including lead times.

[148] Openreach notified the Special Offer on 12 September 2012 in Access Charge Change Notice ("ACCN"): OR301. The Special Offer would apply to orders provisioned and completed during a 6 month period (between 11 October 2012 and 30 April 2013).

4.54 The table above implies that, at least until the introduction of the Special Offer, Openreach kept the benefits arising from the cost savings of a simultaneous provide service, given that the price for this service was the sum of the charges for WLR Conversion and SMPF New Provide (with no price reduction to reflect the savings associated with the simultaneous provide). In order to determine whether the current price reflects the underlying costs of the simultaneous provision of an WLR Conversion and SMPF New Provide, we need to assess the costs associated with WLR+SMPF Simultaneous Provide.

Our assessment of the costs of WLR+SMPF Simultaneous Provide

4.55 BT have provided information on the costs underlying the simultaneous provision of WLR Conversion and SMPF New Provide services in the context of the 2013 WLR+SMPF Dispute Determination referred to us by TalkTalk on 3 December 2012. In this dispute, TalkTalk contended that Openreach's failure to provide an equivalent reduction to the price of MPF Single Migration discriminated against CPs using MPF. On 23 April 2013 we determined that the Special Offer charge was not discriminatory against MPF providers. This was because the difference between the special offer price for simultaneous conversion from MPF to WLR+SMPF New Provide, and the price for migration from WLR+SMPF to MPF, (a difference of £17.36) exceeded the incremental cost difference between them (reported as [✂] [£0-£2.56]).[149]

4.56 In the dispute we assessed the activities that are different between MPF Single Migration (on which we have financial data that can be used as a benchmark)[150] as compared to the WLR+SMPF Simultaneous Provide to derive the total cost difference between the two services on a LRIC basis (we called this the "Simultaneous Migration Cost Premium" in the dispute) in 2012/13 prices.[151]

4.57 We noted that there were four cost components in the cost stack of MPF Single Migration and SMPF New Provide (two cost components – MDF Hardware Jumpering and Service Centres – Provision costs - accounting for over 98% of the costs of both). We assessed the differences in costs in each of the components in turn, namely[152]:

- **MDF Hardware Jumpering costs**: capturing the pay, stores and other non pay, depreciation and capital costs associated with jumpering activities on the MDF. We estimated that the cost of the WLR+SMPF Simultaneous Provide was likely to be [✂] [£0 - £1.86] higher than that of the MPF Single Migration for this concept[153];

- **Service Centres – Provision costs**: covering activities within the service division of Openreach. The teams that incur these costs are primarily call centre staff supporting the provisioning and repair of Openreach services. We estimated

[149]2013 WLR+SMPF Dispute Determination, paragraph 3.62, http://stakeholders.ofcom.org.uk/binaries/enforcement/competition-bulletins/closed-cases/all-closed-cases/cw_01097/Final_Determination_Non_Con1.pdf.
[150]The MPF Single Migration is the service required to migrate a line to MPF from either of (i) WLR, (ii) WLR+SMPF or (iii) MPF.
[151]2013 WLR+SMPF Dispute Determination, paragraph 3.33.
[152]2013 WLR+SMPF Dispute Determination, paragraph 3.38.
[153]2013 WLR+SMPF Dispute Determination, paragraphs 3.41-3.51.

that the difference in costs between the two services for this concept was likely to be negligible[154];

- **Local Loop Unbundling Systems Development**: captures the cost of research and development projects, undertaken on behalf of Openreach, that are specific to products including LLU. Development projects can range from high-level strategy, down to operational and logistical development. We considered that the cost should be the same for both services[155];

- **Sales Product Management costs**: cover non engineering costs incurred within the Sales and Product Management division of Openreach. We estimated that these costs were likely to be [✂] [£0-£0.20] higher for the WLR+SMPF Simultaneous Provide than for the MPF Single Migration.[156]

4.58 Finally, we noted that during the Special Offer, rebates were being processed manually. We considered that these costs would contribute in full to the difference in incremental costs between MPF Single Migrations and the Special Offer.[157] We note, however, that in its submissions made in the dispute, Openreach indicated that if the Special Offer were made a permanent service, it would require an automated billing process. We describe our approach to estimating these costs below.

Automated billing system

4.59 In its submissions Openreach noted that an automated billing process would substitute the current manual billing rebate process and was estimated to cost [✂] [£75k-£150k].[158]

4.60 We consider that these costs should be taken into account when determining the costs of a WLR+SMPF Simultaneous Provide service. We are proposing to amortise the costs of the automated billing system using an annuity approach. This approach estimates an annual payment over the life of the asset such that the present value of annual payments is equal to the initial value of the investment – taking into account a rate of return on the investment. To translate these one-off costs into an annual unit cost we therefore need to make an assumption regarding (i) the automated billing system asset life; (ii) the required annual return on this investment; and (iii) the volume of WLR+SMPF Simultaneous Provide.

4.61 In terms of the first we assume that the billing systems would have an expected asset life of 5 years. This is consistent with our assumption in the 2013 Narrowband Market Review Consultation[159] regarding the asset life of the Business and Operations Support Systems (BSS/OSS), which includes assurance and billing processes for the retail and wholesale voice and data services.[160]

[154]2013 WLR+SMPF Dispute Determination, paragraphs 3.52-3.55, http://stakeholders.ofcom.org.uk/binaries/enforcement/competition-bulletins/closed-cases/all-closed-cases/cw_01097/Final_Determination_Non_Con1.pdf.
[155]2013 WLR+SMPF Dispute Determination, paragraphs 3.56-3.58.
[156]2013 WLR+SMPF Dispute Determination, paragraph 3.59.
[157]2013 WLR+SMPF Dispute Determination, paragraph 3.60.
[158]Openreach response to S191 information request of 8 February 2013.
[159]2013 Narrowband Market Review Consultation, http://stakeholders.ofcom.org.uk/consultations/nmr-13/.
[160]These asset lives were informed by CP responses to Ofcom information requests and responses to Ofcom's consultation, see the asset life of the OSS/BSS system included within the "Servers & Software" classification shown in Figure 15, Annex 13, available at

4.62 In addition, we consider that it is appropriate for Openreach to receive an appropriate return on its investment in the automated billing system. For this, we allow an annual rate of return on this asset that is consistent with our estimate of Openreach's cost of capital in Annex 15, that is, 8.8%.

4.63 In relation to the likely volumes, we have used our Base case volume forecast for WLR+SMPF Simultaneous Provide (described in Annex 8). Using all this information we can estimate the unit cost that should be recovered over every year of the asset's life. We show this in Table 4.6 below, which assumes that the investment is made in 2013/14 (and hence the first annuity accrues only after the first year of the asset's life in 2014/15). We note that the period relevant for this charge control is only up to 2016/17, which explains why we only have volumes forecasts up to this year. We therefore estimate the unit cost only up to this year (the two additional years included for completeness to reflect the 5 years of the asset's life).

Table 4.6: Annual unit cost from the automated billing system

	2014/15	2015/16	2016/17	2017/18	2018/19
Annuity (£K)	[✂] [£20-30K]	[✂] [£20-30K	[✂] [£20-30K]	[✂] [£20-30K]	[✂] [£20-30K]
Volumes (K)	1,057	1,167	1,273	N/A	N/A
Unit cost	[✂] [£0-0.05]	[✂] [£0-0.05]	[✂] [£0-0.05]	N/A	N/A

4.64 We estimate that annuities of [✂] [£20-30K] will be required over a 5 year period assuming a 8.8% annual return on investment for the present value of the investment to be equal to the initial one-off cash outflow of [✂] [£75K-£150K]. Taking into account our base case volume forecast, this results in a unit cost [✂] [£0-0.05]. This is below the unit cost of [✂] [£0-£0.5] for the current manual billing, as estimated in the dispute determination.[161] This provides us comfort in our unit cost calculation for the automated billing system, since we would expect that the automation would only be done if the unit cost is lower than a manual billing system.

Summary of total differences in costs

4.65 In Table 4.7 we present a summary of our estimates of the cost differences between MPF Single Migration and a WLR+SMPF Simultaneous Provide in 2012/13 (excluding the automated billing system cost, calculated in the previous table).

http://stakeholders.ofcom.org.uk/binaries/consultations/nmr-2013/annexes/Annex_13_CSMG_report.pdf and paragraph 4.20.

[161]2013 WLR+SMPF Dispute Determination, paragraph 3.60, http://stakeholders.ofcom.org.uk/binaries/enforcement/competition-bulletins/closed-cases/all-closed-cases/cw_01097/Final_Determination_Non_Con1.pdf.

Table 4.7: LRIC differences between MPF Single migration and WLR+SMPF Simultaneous Provide (excluding automated billing system) (2012/13)

Cost component	Contribution
MDF Hardware Jumpering	[✂] [£0 - £1.86]
Service Centres - Provision	Negligible
LLU Systems Development	-
Sales Product Management	[✂] [£0-£0.20]
Total	[✂] [£0-£2.0]

4.66 We are proposing to obtain the incremental cost of the simultaneous provision of WLR Conversion and SMPF New Provide by adding the incremental cost difference calculated above to the incremental cost of MPF Single Migration. To estimate the incremental cost difference in each year of the charge control, we need to adjust our estimate above (which relates to the year 2012/13) to reflect our assumptions regarding (i) efficiency, (ii) inflation and (iii) changes in real unit costs due to volume changes. For this we propose to (i) use the annual LRIC cost for MPF Single Migrations, (ii) estimate the difference in every year and (iii) apply this change to the incremental cost differential estimated in Table 4.7 above. This approach ensures that we use the assumptions that we have applied to the costs of the MPF Single Migration consistently to the simultaneous WLR Conversion and SMPF New Provide services. In addition to this, we then add to this the annual unit cost relating to the automated billing system calculated above.

4.67 In addition, our assessment above estimates cost differences on an incremental cost basis. In order to derive the CCA FAC equivalent we propose to use the same approach described in Section 6, namely, use the LRIC:FAC ratio at the service level from BT's LRIC model. In the case of migration services this is 0.93 (as explained below), implying that to derive the CCA FAC figure for WLR+SMPF Simultaneous Provide we need to multiply our incremental cost estimate by 1.07 (i.e. 1/0.93).

4.68 In Table 4.8 we present the incremental cost difference between MPF Single migration and WLR+SMPF Simultaneous Provide, as well as the final cost assumed for WLR+SMPF Simultaneous Provide over the forecast period of this control.

Table 4.8: Assumed cost for WLR+SMPF Simultaneous Provide (nominal prices) (2012/13-2016/17)

	2012/13	2013/14	2014/15	2015/16	2016/17
MPF Single Migration (LRIC)	£31.02	£30.29	£29.55	£28.82	£28.10
% change		-2.4%	-2.4%	-2.5%	-2.5%
LRIC difference	£0.90	£0.86	£0.86	£0.82	£0.79
Automated billing system			£0.03	£0.02	£0.02
WLR+SMPF Simultaneous Provide (LRIC basis)	£31.92	£31.15	£30.41	£29.64	£28.88
WLR+SMPF Simultaneous Provide (FAC basis)	£34.33	£33.50	£32.70	£31.88	£31.06

4.69 We propose to use the above estimates of the WLR+SMPF Simultaneous Provide LRIC and FAC forecasts in our charge control modelling (as further explained in this section).

Question 4.3: *Do you agree with our proposed approach to estimating the costs of the simultaneous provision of WLR Conversion and SMPF New Provide? Please provide reasons to support your views.*

WLR Conversion

4.70 A WLR Conversion is a migration from MPF to WLR. In the March 2012 Statement we discussed our approach to regulating this migration service. We recognised that the price of MPF to WLR (voice only) Conversion was lower than the charge for (voice only) migration to MPF. However, we explained that the charges did not necessarily have to be the same given that the processes involved were slightly different.[162] We also noted that our main concern would be if the current differential between the charges for migrations from MPF to WLR and WLR to MPF led to competitive distortions.[163]

4.71 We explained that BT (which uses WLR) faced lower switching costs when gaining a voice only subscriber from a MPF competitor (the price for this migration service was £34.86 in 2011) than MPF operators faced when gaining a WLR (e.g. BT) customer (£39.79 in 2011). However, BT (which uses WLR+SMPF) faced higher migration costs when gaining a broadband customer from an MPF competitor (£74.86 in 2011) than MPF operators faced attracting a WLR+SMPF (e.g. BT) broadband customer

[162]As discussed above, there are three services that fall within the MPF Single Migration (depending whether the line is migrated from WLR, WLR+SMPF or MPF) and each involves a different number of jumper movements (3, 4, 1, respectively). This compares to WLR Conversion which always involves 3 jumper movements.

[163]March 2012 Statement, paragraph 5.57,http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf and March 2011 Consultation, paragraph 5.33-5.34, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/summary/wlr-cc-2011.pdf.

(£39.79 in 2011). We concluded on this basis that the differential was unlikely to cause significant competitive distortions in favour of BT's downstream operations.[164]

4.72 In addition, we argued that the low volume of MPF to WLR Conversion also meant that it was appropriate and proportionate to continue to rely on existing general remedies applied in the wholesale narrowband market review rather than applying a new charge control.[165] These remedies included a requirement on BT and KCOM to comply with a basis of charges (cost orientation) obligation in the markets for wholesale fixed analogue exchange line services in which they held SMP (including WLR).[166]

Our assessment of the costs of WLR Conversion

4.73 We do not have LRIC or FAC information for WLR Conversion, so propose to estimate the costs using a suitable proxy. Specifically we propose to use the costs of SMPF New Provide as a proxy for the costs of WLR Conversion (since these involve the same number of jumper movements) and assess whether there should be any differences in the costs between the two.

4.74 We expect that the main driver of costs for both services would be the MDF Hardware Jumpering component. In both cases the number of jumper movements is three and we would expect that the remaining engineering tasks (described in paragraph 4.50 above) would also be very similar. Thus, we are proposing to assume that the costs for this component would be the same for both migration services.

4.75 In the case of systems development costs, SMPF will attract LLU systems development costs whereas WLR Conversion, which is not an LLU service, would be expected to attract different systems development costs. We do not have information on the two types of system development costs, but in the absence of more specific information we would not expect the differences between the two to be very significant.

4.76 In respect of Service Centre costs, we would also not expect there to be any significant differences for WLR Conversion or SMPF New Provide. This is because Service Centre costs are mainly driven by the engineering activity at the exchange and both services require the same work at the exchange (and the two services would be sharing the same underlying copper line, as SMPF is an overlay service). Therefore, the underlying activities are likely to be similar for both services. Thus, we are proposing to assume that both services would have the same level of Service Centre costs.

4.77 In terms of Sales Product Management costs, in the 2013 WLR+SMPF Dispute Determination we indicated that Openreach did not have any cost information on these. We noted however that the costs of WLR Connection services, which were likely to be similar, involved a unit cost of 10p for Sales Product Mangement. We have therefore assumed that the costs of WLR Conversion for this element are also £0.10. This compares to the SMPF New Provide costs for this element [✂] [£0-£0.2]) on a LRIC basis (as described above). In light of the small difference between the

[164]March 2012 Statement, paragraph 5.58, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf and March 2011 Consultation, paragraph 5.35-5.36, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/summary/wlr-cc-2011.pdf.
[165]March 2012 Statement, paragraph 5.58 and March 2011 Consultation, paragraph 5.37.
[166]2010 WFAEL Statement, paragraph 5.61-5.62, http://stakeholders.ofcom.org.uk/binaries/consultations/review-wholesale-fixed-exchange/statement/statement.pdf.

costs of the two services ([✂] [£0-£0.1]) we are proposing to use the costs of the SMPF New Provide in full as a proxy for the costs of the WLR Conversion service.

4.78 We therefore propose that we should assume that the SMPF New Provide and WLR Conversion services have both the same costs, as shown in Table 4.9 below.

Table 4.9: Assumed cost for WLR Conversion (2011/12-2016/17) (nominal prices, £)

	2012/13	2013/14	2014/15	2015/16	2016/17
SMPF New Provide (LRIC)	£26.14	£25.52	£24.90	£24.28	£23.67
WLR Conversion (LRIC basis)	£26.14	£25.52	£24.90	£24.28	£23.67
WLR Conversion (FAC basis)	£28.11	£27.44	£26.77	£26.11	£25.45

4.79 We propose to use the above estimates for the LRIC and FAC of WLR Conversion in our charge control modelling (as further explained in this section).

Question 4.4: *Do you agree with our proposed approach to estimating the costs of provision of a WLR Conversion? Please provide reasons to support your views and if applicable please explain your preferred approach.*

Our proposals in respect of charge controls for WLR Conversion and its simultaneous provision with the SMPF New Provide service

4.80 Currently, the services under consideration are subject to some form of price regulation. As described above, WLR Conversion is subject to the general remedies imposed in the last wholesale narrowband market review (including a cost orientation obligation). In the case of SMPF New Provide (the other service underlying the WLR+SMPF Simultaneous Provide), it is already subject to a charge control (as discussed in more detail below).[167]

4.81 In light of the existing regulation of these services, and the powers conferred to us by the Act, we have considered three alternative regulatory options, namely:

- **Option 1:** maintain the status quo;
- **Option 2**: rely on a cost orientation obligation; and
- **Option 3**: set a charge control for these services.

[167] In the March 2012 Statement we set separate controls on each of MPF Single migration and SMPF Single migration/New provide with a glide path to the same target charge calculated as a volume-weighted average of the 2013/14 Current Cost Accounting (CCA) Fully Allocated Cost (FAC) of all services.

Option 1: status quo

4.82 In the case of WLR Conversion, this option would imply relying on the existing general remedies imposed in the March 2012 Statement, which include, amongst others, the obligation to set cost oriented charges, but not a charge control.[168]

4.83 Similarly, this option would imply relying on the existing regulatory obligations applying to each of the services underlying the WLR+SMPF Simultaneous Provide service (with no separate control on the price of migration from MPF to WLR+SMPF when purchased simultaneously).

4.84 In short, this option would rely on a charge control on SMPF New Provide coupled with cost orientation on WLR Conversion.

4.85 As the price of the simultaneous provision of WLR Conversion and SMPF New Provide would not be subject to a charge control, this option would rely on any commercial incentive Openreach had to set prices that reflect the underlying costs of provision. For example, the demands from BT's own retail division (as well as demands from third party CPs) might incentivise Openreach to continue with (and perhaps even increase) the discount for WLR+SMPF Simultaneous Provide.

4.86 However, Openreach's incentive to maintain an WLR+SMPF Simultaneous Provide service may not necessarily be enduring given its SMP in these markets. In fact, on 3 June 2013 it indicated to us that it had decided to discontinue the Special Offer price discount.[169] In any case, it may not be expected to price at the competitive level, given its enduring SMP (as shown by the fact that even the price of the Special Offer was above the cost of the WLR+SMPF Simultaneous Provide service, as discussed above).

Option 2: cost orientation

4.87 Under Option 2, in the case of WLR Conversion we would maintain the existing general obligations described under Option 1 – which includes a cost orientation obligation for WLR Conversion.[170]

4.88 For WLR+SMPF Simultaneous Provide this would involve the introduction of an obligation to provide the combination of SMPF New Provide and WLR Conversion at cost oriented prices when the services are requested simultaneously. Importantly, the costs of provision would be those incurred when the service is provided simultaneously (rather than individually using a two-step migration process).

Option 3: charge control

4.89 This option would involve setting a charge control on the price of WLR Conversion when provided on its own and also imposing a specific pricing obligation on

[168]We are aware that the 2013 FAMR Consultation is proposing to remove the basis of charges obligation. The option described here is only relevant in the case we decided to retain the current basis of charges obligation. A description of all the general remedies applying in the wholesale fixed analogue exchange line market is provided in Section 5 of the 2010 WFAEL Statement, for a summary see Table 5.1, http://stakeholders.ofcom.org.uk/binaries/consultations/review-wholesale-fixed-exchange/statement/statement.pdf.
[169]Email from BT to Ofcom, 3 June 2013, 16:56.
[170]As discussed above, the 2013 FAMR Consultation is proposing to remove the basis of charges obligation. The option described here is only relevant in the case we decided to retain the current basis of charges obligation.

Openreach in the form of a discount to be applied to WLR Conversion when it simultaneously provides WLR Conversion and SMPF New Provide. A charge control sets an ex-ante charge ceiling on the price for the services concerned, with that ceiling typically calculated by reference to a forecast of future costs. This is consistent with our assessment in Section 3 where we have explained in more detail our preference for applying an indexed charge control.

We propose to set a charge control on WLR Conversion and provide for that price to be lower when it is provided simultaneously with SMPF New Provide

4.90 We believe that a charge control is the most appropriate way to regulate WLR Conversion and its simultaneous provision with SMPF New Provide for several reasons:

- first, a charge control provides stronger incentives to cost efficiency than a cost orientation obligation – given that it involves capping prices by reference to forecast efficient costs, not historically incurred costs. As discussed above, when the service offers a greater scope for cost minimisation (as compared to, for example, pass-through charges), an indexed charge control may be preferable to a cost orientation obligation (by itself); and

- second, in recognition of, in particular, the substitutability between MPF and WLR+SMPF as inputs to provide voice and broadband as discussed in Section 3, we have an established policy of MPF and WLR rental charges to more closely reflect differences in incremental costs. We consider it appropriate to apply the same approach to migration services in this review. We consider that a cost orientation obligation, which provides Openreach with additional pricing flexibility, is unlikely to be sufficient to ensure that price differentials reflect incremental cost differences, particularly in light of the lack of cost information for some of the migration services.

4.91 The simultaneous provision of a WLR Conversion and SMPF New Provide comprises the provision of network access by BT in the WFAEL and WLA markets, respectively. Openreach does not provide a WLR+SMPF Simultaneous Provide as a stand-alone service but rather it comprises the combined provision of these two migration services. We are therefore proposing that we should not require Openreach to supply a WLR+SMPF Simultaneous Provide across these two markets. In addition, in the context of the 2013 WLR+SMPF Dispute Determination, Openreach indicated to us that it was applying the rebate of the Special Offer to the price it charged CPs for the WLR Conversion service. For these reasons, we consider it appropriate to implement our proposals on WLR+SMPF Simultaneous Provide by imposing a requirement on BT to charge a discounted price for WLR Conversion when it is provided simultaneously with SMPF New Provide. We explain in more detail the proposed target price for WLR+SMPF Simultaneous Provide (and other migration services) later in this section.

Question 4.5: *Do you agree that we should control WLR Conversion and its simultaneous provision with SMPF New Provide using an indexed type of control? Please provide reasons to support your views.*

Charge controls for Single Migration services

4.92 In this sub-section we discuss our approach to setting the charges for all WLR and LLU single migration services. For the reasons set out earlier in this section, we no

longer consider that SMPF New Provide should be treated as a migration service and therefore we have excluded this service from our discussions in this section.

Description of WLR and LLU single migration services

4.93 The main difference between the migration services offered by Openreach lies in the technology used by the gaining and losing CPs, as shown in Table 4.10 below.

Table 4.10: Types of migration services by gaining and losing provider

	Product Name	To	From
1	MPF Single Migration	MPF	WLR
2	MPF Single Migration	MPF	WLR+SMPF
3	MPF Single Migration	MPF	MPF
4	SMPF Single Migration	WLR+SMPF	WLR+SMPF
5	WLR+SMPF Simultaneous Provide	WLR+SMPF	MPF
6	WLR Conversion	WLR	MPF
7	WLR Transfer	WLR	WLR

4.94 In Table 4.11 we present the revenues and volumes for the different migration services in the year 2011/12. As shown, the total volume and revenues vary widely between the various migration services.

Table 4.11: Volumes and revenues of migration services (2011/12)

		Revenues		Volumes	
		Internal	External	Internal	External
1	MPF Single Migration[171]	None	£30.6m	None	768,307
2					
3					
4	SMPF Single Migration	[✂] [£3-6m]	£7.8m	[✂] [50k-150k]	195,157
5	WLR+SMPF Simultaneous Provide[172]	[✂] [£2-5m]	[✂]	[✂] [0-100k]	[✂]
6	WLR Conversion[173]	[✂] [£0-3m]	[✂]	[✂] [0-70k]	[✂]
7	WLR Transfer	£9.0m	£4.4m	[✂] [800k-1.5m]	[✂]

Source: BT's response to First s.135 to BT and S191 of the 2013 WLR+SMPF Dispute Determination.

Approach to regulating migration services in the March 2012 Statement

4.95 Below we summarise our approach in the March 2012 Statement with the exception of WLR Conversion (and its simultaneous provision with SMPF New Provide), which have been described earlier in this section.

MPF Single migrations, SMPF Single migrations and SMPF New Provide

4.96 In the March 2012 Statement we decided to align the charges for MPF Single Migrations, SMPF Single Migration and SMPF New Provide (which was treated as a migration service at the time) to a target charge calculated as the volume-weighted average of the 2013/14 CCA FAC of these services. We noted that competition benefits were more likely to be realised when differentials in service charges reflected the underlying LRIC differentials of the services. However, we noted that the available cost information (CCA FAC) indicated that the differential in incremental costs between MPF Single migration and SMPF Single Migration/New Provide was likely to be small.[174]

[171]Openreach reports aggregated volumes and revenues for the three MPF Single Migration services described above, not as split between the three separate MPF Single Migration services.
[172]The revenue figures for the WLR+SMPF Simultaneous Provide are estimated multiplying the volumes from the S191 of the 2013 WLR+SMPF Dispute Determination by the Special Offer price (i.e. £50.90).
[173]The revenue figures for the WLR Conversion have been estimated multiplying the volumes from the S191 of the 2013 WLR+SMPF Dispute Determination by the price of WLR Conversion (i.e. £34.86).
[174]March 2012 Statement, paragraphs 4.44 to 4.49 and 4.75 to 4.76, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc/statement/LLU_WLR_CC_statement.pdf.

WLR Transfers

4.97 In the March 2012 Statement we decided to set a separate RPI-0% control on WLR Transfers.

4.98 We noted that the 2010/11 level of charges (£3.09) was significantly below the reported LRIC (£10.09 in 2009/10). It was similarly significantly below the forecast CCA FAC for WLR Transfers by the end of the charge control in 2013/14 (£16), implying that reconciliation of charges with this estimate of costs by the end of the control would clearly require significant increases to charges in each year of the control.

4.99 We recognised that our approach to WLR Transfers contrasted with our approach to MPF and SMPF migration services, which were charge controlled at the CCA FAC level. However, we considered that the price adjustment required for WLR Transfers to be aligned to CCA FAC by 2013/14 was far greater than that required for the LLU migration services. We argued that a more gradual adjustment could be appropriate, for example, an alignment of the WLR Transfer charge to an estimate of LRIC over the life of the next controls (i.e. to the end of 2016/17), which would result in a shallower glide path.[175]

4.100 Nevertheless, we considered that we should maintain the existing approach of a low (below reported LRIC) WLR Transfer charge by means of an RPI-0% cap, thereby only allowing charges to rise in line with inflation over the period of the charge control.

Economic principles for setting migration charges

4.101 In Section 3 we explained that in setting charge controls we aim to set prices that incentivise efficient behaviour. We noted that there were three types of efficiency: allocative efficiency, productive efficiency (which are together known as “static efficiency”), and dynamic efficiency; and defined each of these in paragraphs 3.13 to 3.18. We consider that the promotion of efficiency should also inform our approach to setting migration charges and we have set out in the following paragraphs how each of these elements of economic efficiency relates to migration charges.

- **Allocative efficiency**: we explained in Section 3 that, for allocative efficiency, charges should reflect the additional resources used to provide a service, that is, its incremental costs. Setting migration charges at incremental cost may then be consistent with achieving allocative efficiency. In Section 3, we also noted that common costs need to be recovered through charges as well, which means that at least some (though not necessarily all) service prices need to be marked up above incremental cost. In the case of migration services, it is concern for productive and dynamic, rather than allocative, efficiency which determines what contribution to common cost recovery should be made by migration charges, as we explain below.

- **Productive efficiency:** When wholesale inputs are substitutes in the provision of a given downstream service (as, for example, in the case of WLR, WLR+SMPF and MPF), the main function of relative prices is to signal to users which wholesale service they should use in order to minimise costs (for productive efficiency). Productive efficiency then points towards setting the price differential between MPF and WLR/WLR+SMPF migration services equal to the absolute

[175]March 2012 Statement, paragraphs 5.24-5.28.

difference in incremental costs to ensure that CPs have an incentive to choose the wholesale service that minimises the total costs of providing downstream voice and broadband services.

- **Dynamic efficiency:** points to low migration charges to promote competition by reducing the costs to CPs (and ultimately consumers) from switching providers. High migration charges may result in, for example, CPs introducing early termination charges and/or minimum contract periods that ensure they will be able to recover any one-off costs associated with the acquisition of customers. Thus, high migration charges may increase customers' switching costs and stifle competition between CPs. We have highlighted the importance of switching costs on competition in previous consultations on consumer switching.[176]

4.102 We have regard to these economic principles when assessing our choice of cost standard and the alignment of migration charges in the next sections.

Choice of cost standard for migration charges

4.103 In this section we discuss the cost standard to use as the basis for regulating the prices of migrations. We consider three options, namely:

- **Option 1**: maintaining the status quo;
- **Option 2**: setting all migration charges to CCA FAC; and
- **Option 3**: setting all migration charges at incremental cost.

4.104 We discuss each of these options in more detail below.

Option 1: maintaining the status quo

4.105 This option would involve setting charges using the same approach we used in the March 2012 Statement. This would involve setting MPF/SMPF migration charges at a volume weighted average of their FACs; a cost orientation obligation on WLR Conversion and WLR Transfers below incremental cost. Some stakeholders indicated their preference for more alignment and consistency between migration charges in their response to the 2012 FAMR CFI. TalkTalk argued that if some migration charges are set below FAC to promote competition (e.g. WLR Transfer) then a similar approach should be adopted for other migration charges. It also considered that SMPF, MPF and WLR migration charges should be aligned where they involve similar activity.[177]

4.106 We consider that the current differences in the treatment of migration charges would be inconsistent with our approach, in this review, of aligning differences between charges for substitute services with incremental cost differentials. For these reasons we do not consider that the status quo would be appropriate.

Option 2: setting all migration charges at CCA FAC

[176]2010 Consumer Switching Review, http://stakeholders.ofcom.org.uk/binaries/consultations/consumer-switching/summary/switching.pdf and 2012 Consumer Switching Review, http://stakeholders.ofcom.org.uk/binaries/consultations/switching-fixed-voice-broadband/summary/condoc.pdf.

[177]TalkTalk response to the CFI paragraph 3.40 available at http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.

4.107 We noted above that common costs, as well as incremental costs, need to be recovered through charges. However, not all charges need to include a mark-up for common cost recovery, and there may be competition benefits from keeping some types of charges at incremental costs. In particular, high switching costs can harm competition, and this means that competition may be enhanced if migration charges are set at incremental cost. Conversely, the recovery of common costs from wholesale migration charges would increase the switching costs faced by CPs and thus could discourage competition.

4.108 In Section 6 we have explained that we are proposing to use the LRIC:FAC ratios reported by BT in its RFS and accompanying documentation to derive the incremental costs of WLR/LLU rental services. We are proposing to use the volume weighted average LRIC:FAC of 0.93 for all migration charges. This implies that a reduction from CCA FAC to this LRIC might be expected to have a modest impact on the way CPs set charges or design tariffs at the retail level.

4.109 However, as noted above, our policy of aligning charges (e.g. WLR vs MPF) to reflect incremental cost differences implies that, even if we set migration charges at CCA FAC, we would prefer to adjust any charge differences to reflect incremental cost differences. Therefore, setting migration charges at FAC would not avoid the need to re-allocate common costs across migration charges.

Option 3: setting all migration charges at incremental cost

4.110 The main argument in favour of setting migration charges at incremental cost is that this reduces switching costs and promotes competition. In Table 4.12 below we compare the LRIC and FAC of all migration services at the end of the charge control period (2016/17). We have obtained the LRICs multiplying our forecast FAC by the LRIC:FAC ratio for the migration services 0.93.

Table 4.12: Comparison of FAC and LRIC of single migrations in 2016/17 (nominal prices)

	Product Name	FAC	LRIC
1	MPF Single Migration	£30.21	£28.10
2	MPF Single Migration		
3	MPF Single Migration		
4	SMPF Single Migration	£29.58	£27.51
5	WLR+SMPF Simultaneous Provide	£31.06	£28.88
6	WLR Conversion	£25.45	£23.67
7	WLR Transfer	£10.53	£9.79

4.111 BT's LRIC data has formed the basis of much ex-ante regulation in previous market reviews (e.g. the use of DLRIC and DSAC as the starting point for assessing cost orientation in previous market reviews), so stakeholders are familiar with the service level LRIC data for the key services covered by this charge control. Moreover, we consider it is appropriate and proportionate to use readily available information on

incremental costs (subject to suitable verification), rather than to create incremental cost estimates from scratch.

Our proposed approach

4.112 We consider that the choice between setting charges at CCA FAC versus incremental cost is finely balanced in the case of migration services. The small difference between the CCA FAC and the incremental cost derived from our approach above implies that the main benefits of setting migration charges at incremental cost (i.e. the promotion of competition and static efficiency) may be modest.

4.113 However, we consider that setting these charges at CCA FAC without at least some adjustment would be inconsistent with our broader policy of setting charges that reflect incremental cost differences – since simultaneously meeting the constraints of cost recovery and charges for MPF vs WLR and MPF vs WLR+SMPF reflecting LRIC differences implies that SMPF services must be priced at LRIC. Moreover, we wish to address the current disparity in our treatment of migration charges: that is, some migration charges are subject to charge controls set at CCA FAC (i.e. MPF Single Migrations and SMPF Single Migration/New Provide); others are subject to controls with charges below LRIC (i.e. WLR Transfers); and others are not subject to a charge control (i.e. WLR Conversion and WLR+SMPF Simultaneous Provide).

4.114 We therefore propose to regulate all migration charges on a consistent basis and, on balance, prefer to align migration charges to incremental costs rather than to CCA FAC. We propose that the difference between the incremental cost and the FAC of migration charges is recovered from MPF and WLR rental charges on an equivalent per line basis.

Question 4.6: *Do you agree that we should charge control migration services at incremental cost? Please provide reasons to support your views.*

<u>Options for aligning migration charges</u>

4.115 In this section we assess whether the charge controls should be set to reflect the underlying costs of each migration service or, instead, whether some form of alignment of charges across migration services would be more appropriate. We have considered two options for the alignment of migration charges, namely:

- Option 1: set individual charge controls for each migration service reflecting the underlying (incremental) cost of that service; and
- Optio**n 2**: align the charge control for all migration charges that involve jumpering.

4.116 In terms of the appropriate glide path for these migration charges, for the reasons set out in Section 3 in the case of rentals, we propose that these should align to the target level over the same period as the main rental charges – i.e. over a three year glide path. Therefore, migration charges would glide from the pre-existing charge to the target charge(s) in 2016/17 determined under each of the two options described below.

Option 1: set an individual charge control on each migration service reflecting its underlying cost

4.117 The objective of this option would be to set migration charges reflecting the underlying costs more closely. Having earlier proposed LRIC as the appropriate cost standard this would mean alignment of each charge to its respective forecast LRIC.

4.118 Under this option we would set separate controls on each of the migration charges (with the exception of the three MPF Single Migration services, which would continue to be grouped together) with an individual target charge in 2016/17 at their respective incremental cost.

4.119 We have considered whether we should further disaggregate the three services underlying the MPF Single Migrations, however, we do not consider this would be appropriate for the following reasons:

- firstly, Openreach does not report disaggregated cost data for each of the MPF Single Migrations and, given the relatively low volumes, there is a question over how reliable such cost information might be; and

- secondly, MPF Single Migrations involve a similar number of jumper movements (as further discussed in Annex 10) and therefore we would expect that differences in their incremental costs should be relatively low. Furthermore, charges for MPF Single Migrations have been aligned ever since we set charge controls for migration services for the first time in 2009 and, unless differences in costs clearly justified it, we believe there is a benefit in terms of regulatory stability (and simplicity) of maintaining this approach.

4.120 We present our estimates of the prices for each of the migration services under this option in 2013/14 and 2016/17 in Table 4.13.

Table 4.13: Prices of migration services under Option 1 (nominal prices)

	Product Name	Jumpers moved	Price		FAC	LRIC	LRIC:FAC ratio assumed
			(13/14)	(16/17)	(16/17)	(16/17)	
1	MPF Single Migration	3[178]	£30.65	£28.10	£30.21	£28.10	0.93
2	MPF Single Migration	4[179]					
3	MPF Single Migration	2[180]					
4	SMPF Single Migration	4		£27.51	£29.58	£27.51	0.93
5	WLR+SMPF Simultaneous Provide	4	£65.51	£28.88	£31.06	£28.88	0.93
6	WLR Conversion	3	£34.86[181]	£23.67	£25.45	£23.67	0.93
7	WLR Transfer	None	£3.39	£9.79	£10.53	£9.79	0.93

Option 2: align the charge control for all migration charges that involving jumpering

[178] Migration from WLR to MPF.
[179] Migration from WLR+SMPF to MPF.
[180] Migration from MPF to MPF.
[181] This is BT's current price for WLR Conversion (which is only subject to a cost orientation obligation).

4.121 Under this option we would set separate controls for each of the migration charges for services involving jumpering (i.e. MPF and SMPF Single Migrations; WLR+SMPF Simultaneous Provide and WLR Conversion). The charges of MPF and SMPF Single Migration will be aligned at the beginning of the current charge control period to £30.65 as a result of our decision in the March 2012 Statement. There is therefore a question whether we should apply a one-off adjustment to the prices of WLR Conversion and WLR+SMPF Simultaneous Provide to align their prices with the other migration services at the beginning of the charge control period or, instead, align them by the end of the charge control period using a glide-path.

4.122 We consider that we should align the prices of all migration services at the beginning of the charge control period. This would imply a one-off adjustment on the price of the WLR Conversion (from £34.86 to £29.91) and the simultaneous provision of WLR Conversion and SMPF New Provide (from £65.51 to £29.91) during the first year of the charge control to bring the charges of these services into line with the other migration services involving jumpering. We believe that a one-off adjustment (rather than a glide path) is preferable in the case of these migration services to avoid having multiple migration charges throughout the charge control period and reinforce our objective of simplifying the prices paid by CPs. Our approach will also ensure that the charges of WLR Conversion and, particularly, WLR+SMPF Simultaneous Provide reflect the underlying costs of provision more closely from the start of the control. In the case of the latter, it will also avoid having a large X (and large price reductions on every year of the control) for this service.[182]

4.123 Under Option 2 the target price for all migration services would be based on the volume weighted average of the LRIC of the services involving jumpering – the reasons for which are explained below.

4.124 Unlike the other migration services, WLR Transfer does not involve any jumpering activity – it only requires a systems update. As such, we do not propose to align the charge control for WLR Transfers with those for LLU migrations and WLR Conversion. The underlying costs of this service are very different to those of the other migration services as shown in Table 4.14 below, implying that alignment of charges with the other migration services would result in the price of WLR Transfers becoming significantly above its underlying cost. Nevertheless, we propose a consistent regulatory treatment for all types of migration services, namely, setting charge controls at their incremental cost, for the reasons discussed above.

4.125 We present the prices of migration services under this option in Table 4.14 below.

[182] We estimated that gliding the current price of the WLR+SMPF Simultaneous Provide to its target price in 2016/17 would require annual price reductions of more than 20%.

Table 4.14: Prices of migration services under Option 2 (nominal prices)

	PRODUCT NAME	Jumpers moved	Price		FAC	LRIC	LRIC:FAC ratio assumed
			(14/15) [183]	(16/17)	(16/17)	(16/17)	
1	MPF Single Migration	3[184]	£29.91	£28.43	£30.21	£28.10	0.93
2	MPF Single Migration	4[185]					
3	MPF Single Migration	2[186]					
4	SMPF Single Migration	4			£29.58	£27.51	0.93
5	WLR+SMPF Simultaneous Provide	4			£31.06	£28.88	0.93
6	WLR Conversion	3			£25.45	£23.67	0.93
7	WLR Transfer	None	£4.83	£9.79	£10.53	£9.79	0.93

4.126 Openreach has expressed its preference for disaggregating the price for SMPF and MPF migrations "so that single migrations recover their costs".[187] We note however that under our proposal in Option 2 above there are some migration services for which the price is below their LRIC (e.g. WLR+SMPF Simultaneous Provide) whereas for others the price is above this level (e.g. MPF Single Migration, SMPF Single Migration and WLR Conversion). This is a result of the fact that under Option 2 we would be aligning charges to a volume weighted average of the underlying costs. However, the prices we would propose under Option 2 would be calculated so that charges would recover the aggregate LRICs across all migration services. In respect of common costs that would otherwise be recovered from charges at FAC, it should be noted that these would be re-allocated to MPF and WLR rentals on an equivalent per line basis. In other words, our approach would be calculated to allow Openreach to recover all forecast efficient costs across the regulated services.

4.127 In addition, Openreach expressed concerns that MPF/SMPF Single Migrations are below FAC due to the alignment of prices to a target charge based on the volume-weighted average cost across these products and SMPF New Provide. [188] We consider that our decision to exclude SMPF New Provide from the control of migration charges above addresses, at least to some extent, Openreach's concerns. This is because under both Options 1 and 2 above the exclusion of SMPF New Provide costs and volumes from the single target (incremental) cost results in the target cost being more closely aligned with the costs of MPF and SMPF Single Migration services.

Our proposed approach

[183] In the case of Option 2 we show the charge control in 14/15 to reflect that all charges of migration services involving jumpering would be aligned under this option from that year.
[184] Migration from WLR to MPF.
[185] Migration from WLR+SMPF to MPF.
[186] Migration from MPF to MPF.
[187] BT, *WLR LLU CC Basket Design,* 16 April 2013.
[188] BT, *WLR LLU CC Basket Design*, 16 April 2013.

4.128 We favour Option 2; namely aligning all migration services involving jumpering to a single target charge based on the volume weighted average of their incremental costs and setting the WLR Transfer charge control to its individual incremental cost. This is because:

- first, it would result in a simplified set of prices paid by CPs (i.e. two charges) compared to Option 1 (i.e. five charges); and

- second, it would avoid the risk of spurious accuracy that could arise if we set a target charge for each migration service based on its own individual incremental cost.[189] This is particularly the case because we consider that the main driver of the differences between the incremental costs of migration services is likely to be the number of jumper movements, whereas the differences in costs shown in Openreach's figures are partially driven by other factors.[190]

4.129 The main disadvantage of Option 2 is that individual migration charges would not precisely reflect incremental costs. However, we do not consider that this is likely to materially distort efficient purchasing behaviour or competition. This is because the incremental costs of services involving jumpering activity appear to be similar (and significantly higher than for transfer/migration services which do not involve jumpering – e.g. WLR Transfer).

4.130 Our proposals for WLR+SMPF Simultaneous Provide imply that the provision of WLR Conversion simultaneously with SMPF New Provide should be charged at the same level as the WLR Conversion (and all other migration services involving jumpering). However, we noted earlier in this section that we want to maintain Openreach's practice during the Special Offer of applying the price discount on WLR Conversion (rather than SMPF New Provide) when supplying WLR Conversion and SMPF New Provide simultaneously. In order to achieve both (i) alignment of the charge of WLR+SMPF Simultaneous Provide and (ii) the application of the price discount to WLR Conversion we propose to require Openreach to discount the price of the WLR Conversion by the price of the SMPF New Provide on every year of the control. This will ensure that the price of the WLR+SMPF Simultaneous Provide is aligned with that of other migration services as shown in Table 4.15 below.

[189]For example, we lack detailed cost information on some of the migration services (namely, WLR Conversion and WLR+SMPF Simultaneous Provide) and have had to use proxies (as described earlier in this section).

[190]The variations in the outturn costs for migration services do not appear to systematically reflect the differences in the number of jumper moves, as might be expected. Instead, the cost of moving an additional jumper is small and seems to be dominated by other cost drivers such as the engineer cost associated with the travel time to the exchange. In addition, the costs allocated to a migration service may be different depending on whether the exchange is or is not unmanned. Similarly, costs may be affected by the number of other tasks (unrelated to a migration service) that the engineer may do at the exchange (in which case the fixed cost of travelling to the exchange would be spread across these services as well). The tasks required in a migration service, particularly, in the case of MPF Single Migration and SMPF New Provide are described in more detail in 2013 WLR+SMPF Dispute Determination, paragraph 3.44, http://stakeholders.ofcom.org.uk/enforcement/competition-bulletins/closed-cases/all-closed-cases/cw_01097/.

Table 4.15 Implementation of the charge control on WLR Conversion when provided simultaneously with SMPF New Provide

	Product Name	Charge controls (£, nominal prices)		
		2014/15	2015/16	2016/17
	Aligned price of migration services	29.91	29.16	28.43
a	WLR Conversion	29.91	29.16	28.43
b	SMPF New Provide	28.13	25.80	23.67
c	Discounted price of WLR Conversion (a-b)	1.78	3.36	4.76
d	SMPF New Provide	28.13	25.80	23.67
e	WLR+SMPF Simultaneous Provide (c+d)	29.91	29.16	28.43

4.131 As shown in Table 4.15 above, discounting the price of WLR Conversion by the price of the SMPF New Provide on every year of the control when both services are provided simultaneously ensures that the charge of WLR+SMPF Simultaneous Provide (the sum of the discounted WLR Conversion and the SMPF New Provide) is aligned with that of the WLR Conversion and all other migration services.

Question 4.7: *Do you agree that we should align all migration charges involving jumpering to a single target price ceiling from the beginning of the charge control period in 2014 and throughout the charge control period and set a separate target price ceiling for WLR Transfers to its incremental cost using glide paths? Please provide reasons to support your views.*

Bulk Migration charges

4.132 In the previous section we have set out our proposed approach to regulating the charges for Single Migrations. In this section we describe our proposals regarding LLU Bulk Migration charges.

Our approach to Bulk Migrations in the March 2012 Statement

4.133 Bulk Migrations are the bulk variant of MPF and SMPF Single Migration services, allowing a CP to migrate multiple customers at a time to an LLU service. The main purchasers of Bulk Migrations are CPs who are migrating their customer base to a new set of access products, either due to change in the product used (e.g. from SMPF to MPF or from WBA products to LLU) or rationalisation of provision to use a common set of equipment (for example, due to acquisition of another CP). Bulk Migrations are intended to reflect the economies of scale achieved when the engineering changes required in a migration process are done simultaneously.

4.134 In the March 2012 Statement we decided to control each of MPF and SMPF Bulk Migrations as part of their respective MPF and SMPF baskets. However, we indicated that our initial proposal to adjust the starting charges of MPF and SMPF Bulk Migrations such that differences between the price of Bulk and Single Migrations

reflected incremental cost differences at the start of the control period could have unintended consequences. In fact, under this approach Openreach would be able to significantly increase other charges in their respective MPF and SMPF ancillary baskets and still adhere to the overall basket control. This was particularly true in the case of MPF Bulk Migrations, given that it represented a large proportion of the overall revenues of the MPF ancillary basket, and due to the degree to which MPF Bulk Migrations would have to fall from their current prices to starting charges under our initial proposals (i.e. from £35.83 to £25.70 under our preferred proposal).

4.135 In light of the potential for such unintended consequences, and given that we considered that Openreach had a commercial incentive to maintain a charge differential between LLU Single and Bulk Migration services, we decided to give BT flexibility to structure an appropriate set of basket charges (rather than separately controlling MPF and SMPF Bulk Migrations). We decided to retain LLU Bulk Migrations in their respective MPF and SMPF baskets, rather than setting separate charge controls, to allow Openreach more flexibility to restructure LLU Bulk Migration prices by reference to the LLU Single Migration services.[191]

Stakeholder responses to the 2012 FAMR CFI

4.136 Openreach argued that a weakness in the design of the ancillary service baskets was that it effectively resulted in an inconsistent treatment of similar products (e.g. Bulk Migrations were in the basket whereas Single Migrations were not). In its view, this raised questions about the correct price differentials, for example, whether they should remain constant or whether the difference in prices should reflect differences in costs. Similarly, Openreach argued that the SMPF and MPF ancillary baskets contained services sharing the same type of costs (e.g. MPF and SMPF Bulk Migrations). Openreach stated that the application of different Xs to the MPF and SMPF baskets meant that the prices were likely to diverge from costs and give rise to competitive distortions. Openreach argued that to maintain the price differential meant that it did not have flexibility to reduce prices other than the Bulk Migrations charge. In light of the above, Openreach urged us to combine products where there is a very substantial overlap of costs such that these services would be controlled in the same basket.[192]

4.137 In addition to its response to the CFI, Openreach explained its preferred approach regarding the basket design of MPF and SMPF New Provision, Migration and Ancillary services in a meeting with us on 16 April 2013. Openreach proposed to include all these MPF and SMPF services in a single basket. We discuss Openreach's proposal in more detail below when assessing our preferred approach to regulating LLU Bulk Migrations for the period 2014/15 to 2016/17.[193]

4.138 TTG made several comments on our approach to ancillary services, it argued that we should apply a consistent treatment across all migration charges in terms of the choice of cost standard and that SMPF, MPF and WLR charges should be aligned where they involved similar activity.[194]

[191]March 2012 Statement, paragraphs 4.222-4.229, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc/statement/LLU_WLR_CC_statement.pdf.
[192]BT response p. 50-51 http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BT.pdf.
[193]BT, *WLR LLU CC Basket Design*, 16 April 2013.
[194]TTG response para. 3.40 http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.

4.139 [✂] argued that Openreach's charges for Bulk Migrations continued to remain high and did not reflect an appropriate scale discount, as compared to single migration charges. [✂] believed that our conclusion that Openreach had a commercial incentive to maintain a differential between LLU Single and Bulk Migration services had proved wrong. It considered that Bulk Migrations should be outside of the ancillary services basket and should instead be individually charge controlled. In its view this was necessary to promote effective wholesale competition and would also eliminate the practical concerns raised by Ofcom regarding the unintended consequences for the other ancillary basket services of reducing Bulk Migration prices to an appropriate cost-based and pro-competitive level.[195]

4.140 In addition, [✂] considered that Bulk Migrations were characterised by lumpy demand and that products with these characteristics should not be regulated within baskets. This was because Openreach could use the Bulk Migrations forecasts received from CPs to manipulate the level of charges to maximize the revenues based on the difference between prior year and current year weightings. [✂] explained that Bulk Migrations were generally part of CPs' long term commercial planning and consequently CPs would typically provide Openreach with early sight of timing and forecast numbers when they were planning to implement a Bulk Migration. This enhanced visibility over Bulk Migrations gave Openreach ample opportunity to manipulate charges in a manner which maximised its revenues.[196]

4.141 In light of all the factors above, [✂] believed strongly that Bulk Migrations should sit outside the ancillary service basket and should be individually charge controlled, in order to ensure an appropriate discount from the single migration charges.[197]

<u>The current charges for LLU Bulk Migrations may result in detriments to consumers and competition</u>

4.142 As discussed above, the expectation that prices of Single Migrations would constrain the prices of Bulk Migrations was the main reason why we decided in the March 2012 Statement to maintain LLU Bulk Migrations within their respective ancillary services basket. In Table 4.16 and Table 4.17 below we compare the prices and costs of SMPF and MPF Single Migrations against those for Bulk Migrations in the years 2010/11 and 2011/12 (the most recent years for which data is available).

Table 4.16: Comparison of costs and prices of SMPF Bulk vs Single Migrations

	2010/11				2011/12			
	Price	FAC	LRIC	Price: LRIC	Price	FAC	LRIC	Price: LRIC
Single Migration	£38.64	£37.00	£34.73	111%	£39.79	£33.60	£32.50	122%
Bulk Migration	£33.14	£25.27	£23.70	140%	£34.13	£23.30	£22.43	152%
Difference	£5.50	£11.73	£11.03	50%	£5.66	£10.30	£10.07	56%

Source: BT's RFS in 2011/12, p. 55-56.

[195] [✂]
[196] [✂]
[197] [✂]

Table 4.17: Comparison of costs and prices of MPF Bulk vs Single Migrations

	2010/11				2011/12			
	Price	FAC	LRIC	Price: LRIC	Price	FAC	LRIC	Price: LRIC
Single Migration	£38.64	£37.40	£35.14	110%	£39.79	£34.29	£33.19	120%
Bulk Migration	£34.80	£25.01	£23.49	148%	£35.84	£23.43	£22.53	159%
Difference	£3.84	£12.39	£11.65	33%	£3.95	£10.86	£10.66	37%

Source: BT's RFS in 2011/12, p. 55-56.

4.143 Table 4.16 shows that the price differences between SMPF Single and Bulk Migrations (£5.50 in 2010/11 and £5.66 in 2011/12) have been significantly below the difference in the incremental costs of these two services (£11.03 in 2010/11 and £10.07 in 2011/12). In fact, the difference only represented 50% and 56% of the incremental cost difference in the years 2010/11 and 2011/12, respectively. Table 4.17 provides a similar picture in the case of MPF. Price differences between MPF Single and Bulk Migrations were 33% and 37% of the incremental cost difference in the years 2010/11 and 2011/12.

4.144 We consider that this evidence supports the views of certain stakeholders that the controls on Single Migrations have not sufficiently constrained the prices of Bulk Migrations (for both MPF and SMPF). We believe that the inclusion of each of MPF and SMPF Bulk Migrations within a broader ancillary services basket is likely to allow Openreach to set prices for Bulk Migrations that do not reflect differences in their underlying incremental costs of provision. We consider that this would be inconsistent with our approach, in this review, of aligning differences between charges for substitute services with incremental cost differentials. For these reasons we do not consider that the status quo would be appropriate.

4.145 We consider that the current structure of prices is likely to be to the detriment of consumers and competition for the following reasons:

- first, the prices set by Openreach do not fully reflect the cost savings associated with Bulk Migrations (relative to Single Migrations). This implies that CPs purchasing Bulk Migrations (and ultimately consumers) have not benefited in full from the efficiencies resulting from Bulk Migrations; and

- second, Openreach's price list shows that it has historically set the prices for SMPF and MPF Bulk Migrations at the same level (and changed them at the same time).[198] However, the evidence in Table 4.16 and Table 4.17 above shows

[198]For SMPF Bulk Migrations, see http://www.openreach.co.uk/orpg/home/products/pricing/loadProductPriceDetails.do?data=LI%2BLzfp8sh2Y2DndjiRMoqOJDXc5GerAOSBb9tNt8RglMnGHsqdC0vzO163bJmh34D91D7M0q8u%2F%0AIISgtIFAKw%3D%3D, for MPF Bulk Migrations see "Mass Migration" charges here: http://www.openreach.co.uk/orpg/home/products/pricing/loadProductPriceDetails.do?data=totid5BwFmkf9vLcBITRyZF9loRxWIbIKK6V7YWmlYAlMnGHsqdC0vzO163bJmh34D91D7M0q8u%2F%0AIISgtIFAKw%3D%3D

that there have been differences in the average prices[199] for both services and that Openreach has tended to charge a slightly higher price-cost margin on MPF Bulk Migrations (the Price:LRIC ratio was 148% in 2010/11 and 159% in 2011/12) than on SMPF Bulk Migrations (140% and 152%, respectively). This could suggest that Openreach may be using the pricing flexibility allowed by the current charge control baskets, as well as the Bulk Migrations forecasts received from CPs, to make price changes which discriminate in favour of the wholesale inputs used by its retail arm (i.e. WLR + SMPF) although we acknowledge that there could be other explanations for this difference.

4.146 In relation to [✂] comment that Openreach is currently manipulating the prices of LLU Bulk Migrations, we recognise that gaming of charge controls is an ever present risk. When charge controls use prior year revenue weights, 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. If Openreach had reliable forecasts of CPs' demand for migration services, as suggested by [✂], then it could use this to increase its profits without necessarily making any efficiency gains.

4.147 However [✂] has not provided any evidence to support its claims and, as discussed above, Openreach has set the same prices for both MPF and SMPF Bulk Migrations (making the same changes in both prices, and at the same time). This does not seem to support [✂] claims. In any event, we would expect that our proposal to separately charge control each of MPF and SMPF Bulk Migrations (and set the same target price for each) would address [✂]'s concerns.

4.148 In light of stakeholder comments, and the evidence presented above, we have considered it appropriate to review our approach to regulating LLU Bulk Migrations.

<u>We propose to use individual controls on MPF and SMPF Bulk Migrations to align their charges</u>

4.149 In light of the responses from stakeholders, and the potential risks from our current approach to regulating Bulk Migrations described above, we are considering the following two alternative options for Bulk Migrations:

- Option 1: a single MPF and SMPF basket covering New Provides, Migrations and Ancillary services; and
- Option 2: separately control MPF and SMPF Bulk Migrations to align their charges.

4.150 Option 1 is the approach proposed by Openreach to address, amongst other things, the current misalignment between the prices of Single and Bulk Migrations. Option 2 is the equivalent of our proposed approach for Single Migrations (as discussed earlier in this section). We discuss each of these options, as well as our preferred policy option, in more detail below.

Option 1: a single MPF and SMPF basket covering New Provides, Migrations and Ancillary services

[199]The difference between the average prices and the prices in Openreach's price list is due to the timing of the purchases made by CPs. For example, even when prices for MPF and SMPF Bulk Migrations are the same throughout the year, if the volume of purchases from CPs differ throughout the year, then the average price for MPF and SMPF for the entire year will also differ.

4.151 This option was proposed by BT in a meeting with us held on 16 April 2013.[200] It consists of a broad basket encompassing the following MPF and SMPF services:

- New provides;
- Single Migrations; and
- Ancillary services (including, amongst other, Bulk Migrations).

4.152 Openreach proposes that the basket should be controlled using an inflation-X control on the revenues of all services included in the basket. It proposes that we could include additional safeguards, for example, an obligation that "similar products need to be priced the same" or inertia clauses on specific items like New Provides or Migrations to limit the flexibility of the broad basket.

4.153 In Openreach's view, the main advantage of this option is that it would allow it to correct the distortions that the current price differentials between substitutable products impose on CPs' choices.[201] In relation to Bulk Migrations, Openreach notes that MPF/SMPF Single Migrations are below FAC due to the alignment of prices to a target charge based on the volume-weighted average cost across these products and SMPF New Provide. According to Openreach, this is making it difficult to set price differentials between Single and Bulk Migrations that reflect differences in incremental costs. Openreach argues that a single basket including Single Migrations, New Provides and all ancillary services would provide sufficient flexibility to set price differentials that appropriately reflect differences in incremental costs.

Option 2: separately control MPF and SMPF Bulk Migrations to align their charges

4.154 This option would mimic our proposed approach for Single Migrations (i.e. Option 2 for Single Migrations above). We would remove MPF and SMPF Bulk Migrations from the current ancillary services basket and set a separate control on each with a glide path from the charges in the base year to a single end of period target price based on a volume weighted average of the incremental costs of MPF and SMPF Bulk Migrations. As noted above, we have expressed our preference for glide-paths in the case of core rental services in Section 3 and we consider that it would be appropriate to apply the same approach in the case of migration services (including any separate control for LLU Bulk Migrations).

4.155 Consistent with our approach for Single Migrations, this option would involve LLU Bulk Migration charges being set at incremental cost (derived using the same methodology applied in the case of Single Migrations, as described in paragraph 4.108 above). Similarly, we propose to re-allocate any unrecovered common costs from LLU Bulk Migrations to MPF and WLR rental charges on an equivalent per line basis (as further described in Section 6 below).

4.156 We present the charge ceilings of LLU Bulk Migration services under this option in Table 4.18 below.

[200] BT, *WLR LLU CC Basket Design*, 16 April 2013.
[201] We address Openreach's arguments relating to WLTO and start of stopped line later in this section when discussing ancillary services.

Table 4.18: Charge controls for LLU Bulk Migrations under Option 2 (nominal prices)

	Price		FAC	LRIC	LRIC:FAC ratio assumed
	(13/14)	(16/17)	(16/17)	(16/17)	
SMPF Bulk Migration	£28.42[202]	£19.12	£20.49	£19.06	0.93
MPF Bulk Migration	£28.42[203]		£20.56	£19.12	0.93

4.157 Table 4.18 above shows that the LRIC and FAC for both SMPF and MPF is very close. The aligned price for both services is slightly above (below) the estimated LRIC for SMPF (MPF) Bulk Migration because SMPF (MPF) has a slightly lower (higher) LRIC and the aligned price is based on the volume weighted average LRIC of the two services.

Our proposed approach

4.158 We do not consider that the option proposed by Openreach (i.e. Option 1) would be appropriate for several reasons:

- Openreach could use the flexibility provided by a single MPF and SMPF basket to discriminate in favour of its retail arm by charging higher margins on MPF (used by its competitors) than on SMPF (used by BT Retail);
- we do not consider that Option 1 (i.e. the approach proposed by Openreach) would ensure consistency with our policy preference for moving towards price differences reflecting more closely the differences in incremental costs. As discussed earlier in this section, we believe that there are significant benefits in terms of efficiency associated with charges that reflect underlying differences in incremental costs; and
- we are proposing to move the prices of migration services closer to their incremental cost of provision. To do this with a broad basket such as the one proposed by Openreach would require us to set a sub-cap or inertia clause on migration services within the basket (thus removing the main purported benefit of a broad basket – i.e. pricing flexibility).

4.159 We consider that aligning LLU Bulk Migration charges (i.e. Option 2) to a volume weighted average of their LRIC would be preferable because:

- first, it is consistent with our approach to Single Migrations;
- second, it will ensure that the price differentials between Single and Bulk Migrations move closer to the difference in their incremental costs of provision; and

[202] Price from 1 April 2013, retrieved on May 2013, http://www.openreach.co.uk/orpg/home/products/pricing/loadProductPriceDetails.do?data=LI%2BLzfp8sh2Y2DndjiRMoqOJDXc5GerAOSBb9tNt8RglMnGHsqdC0vzO163bJmh34D91D7M0q8u%2F%0AllSgtIFAKw%3D%3D

[203] Price from 1 April 2013, retrieved on May 2013, http://www.openreach.co.uk/orpg/home/products/pricing/loadProductPriceDetails.do?data=totid5BwFmkf9vLcBITRyZF9loRxWIbIKK6V7YWmlYAlMnGHsqdC0vzO163bJmh34D91D7M0q8u%2F%0AllSgtIFAKw%3D%3D

- finally, it ensures continuity with the way Openreach has priced LLU Bulk Migrations in the past (i.e. it has set the same prices for both MPF and SMPF Bulk Migrations).

4.160 Our proposed approach will also ensure a consistent treatment across all migration services, as suggested by TalkTalk in its consultation response to the 2012 FAMR CFI. Similarly, it will ensure that the relative prices of Single and Bulk Migrations will move towards their differences in underlying costs and in this regard it will address (at least to some extent) the demands from Openreach. We believe our approach is also consistent with that suggested by [✂]. It would also reduce the risk of potential manipulation of the charges of LLU Bulk Migrations (as described above) to maximize the revenues from the control, as suggested by [✂].

4.161 In principle, the main disadvantage of this option is that individual Bulk Migration charges (for MPF and SMPF) would not reflect their respective incremental costs. However, in practice the differences in incremental costs appears to be very small and therefore we do not consider that this is likely to materially distort efficient purchasing behaviour or competition.

Question 4.8: *Do you agree that we should align MPF and SMPF Bulk Migration charges to a single target price based on the volume weighted average forecast LRIC by the end of the charge control period in 2016/17 using glide paths? Please provide reasons to support your views.*

Cease charges

4.162 When a retail customer switches voice and broadband provider, there are a number of procedures which the losing provider has to follow. This can include provision of the Migration Authorisation Code (MAC)[204], porting the customer's number and changes to customer records. If the retail provider used an MPF, WLR or WLR+SMPF service from Openreach, then Openreach may also need to undertake some "cease" activities when the retail customer switches provider. This is the case whether the customer leaves Openreach entirely (for example when a customer switches to Virgin) or switches between two CPs using MPF or WLR+SMPF.

4.163 In the March 2012 Statement we decided to set MPF Cease and SMPF Cease service charges to zero and to recover the respective CCA FACs from the respective MPF rental and SMPF rental services, to allow appropriate recovery of the incurred costs.[205]

4.164 For the next charge control (from 2014/15 to 2016/17), we propose to set MPF Cease and SMPF Cease charges at zero[206] (as also under the current controls).

[204]The MAC is a unique code that a customer obtains from the losing broadband service provider and gives to the gaining provider, that allows the service to be transferred from an existing service provider seamlessly and with little or no disruption of service. See the February 2012 Consumer Switching Consultation at http://stakeholders.ofcom.org.uk/binaries/consultations/switching-fixed-voice-broadband/summary/condoc.pdf.

[205]See March 2012 Statement, paragraphs 4.113 to 4.119.

[206]Note that these services are not the "MPF Ceases" and "SMPF Ceases" aggregates as in the RFS 2012. The "MPF Ceases" as in the RFS is an aggregate of three services including: MPF Cease charge (soft cease which involves no jumpering work and we propose to set at zero), MPF MDF Remove Jumper Order Singleton charge (controlled in the MPF ancillary basket) and MPF MDF Remove Jumper Order Bulk charge (controlled in the MPF ancillary basket). The "SMPF Ceases" as in the RFS is an aggregate of four services including: SMPF Cease charge (soft cease which involves no jumpering work and we propose to set at zero), SMPF MDF Remove Jumper Order Singleton

However, we propose to recover the MPF/SMPF Cease LRICs from the respective line rental charges and their common costs from MPF and WLR line rental charges on an equivalent per line basis.[207]

LLU cease charges

4.165 MPF and SMPF ceases involve only a data change to Openreach's systems, which incurs minimal or no marginal activity for Openreach to initiate the service. If a CP requires that Openreach physically terminate the MPF or SMPF line then a jumper removal service is ordered. Around 80% of LLU singleton terminations are data only ceases with the remaining 20% jumper removals.[208] Note that for LLU ceases that involve jumper removals the cost is recovered via the MPF/SMPF ancillary baskets. In particular, via the following products: "SMPF/MPF MDF remove Jumper Order Singleton/Bulk Charge".

4.166 Cease charges can be considered a type of switching cost, but we make a distinction between cease charges and switching costs which, unlike cease costs, are generally charged to the gaining provider. This is because at the retail level, when setting prices a gaining CP has an incentive to minimise consumers' switching charges in order to attract consumers. Often when a consumer switches to a new provider, the gaining CP does not directly pass through to consumers the charge it pays to Openreach for establishing the service.[209] Instead the gaining CP chooses to recover these costs from the ongoing line rental. The losing CP cannot recover the cease charges in rentals once the line service is ceased. However, in the case of early termination charges the losing CP has an incentive to maximise the level of the charge as it may act as a barrier for consumers to switch away from the CP's service.[210]

4.167 Our reasoning for proposing to set cease charges at zero is two-fold. First, to mitigate the risk that CPs will levy them in retail markets to raise barriers to switching. The imposition of an LLU cease charge at the retail level may influence consumers to not switch providers. Commonly, retail CPs impose ETCs (Early Termination Charges) which can include any costs incurred by the CP in terminating the service (i.e. including the corresponding LLU cease charge). We are concerned that high ETCs could adversely affect competition and consumer switching. Note that we have highlighted the importance of switching costs on competition in previous consultations on consumer switching.[211] Second, the incremental costs of the cease activity are likely to be low.[212]

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charge (controlled in the SMPF ancillary basket), SMPF MDF Remove Jumper Order Bulk charge (controlled in the SMPF ancillary basket) and SMPF Flexi Cease Fault Investigation charges (controlled in the SMPF ancillary basket).

[207]See above our proposal on "LLU and WLR rentals". Our proposal on cost recovery for MPF/SMPF Cease is consistent with our proposal regarding cost recovery for rentals.

[208]This data only cease service can also be known as "flexi cease". See March 2011 Consultation, paragraph 4.108.

[209]In 2012, BT, Sky, TalkTalk and Virgin together represented approximately 90% of the residential fixed line market share. On 9 of April, 2013, connection charges on consumers were free, at least, for the following services: BT Broadband – Evening and Weekend, Sky Broadband Unlimited + Freetime, TalkTalk Essentials and Virgin Limited BB + Limited Phone. Source on connections charges: http://www.talktalk.co.uk/comparison.

[210]See March 2011 Consultation, paragraph 4.110, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/summary/wlr-cc-2011.pdf.

[211]See Strategic review of consumer switching (10 September 2010) at http://stakeholders.ofcom.org.uk/binaries/consultations/consumer-switching/summary/switching.pdf

Question 4.9: *Do you agree that the charge for MPF and SMPF cease should be zero and costs recovered from MPF and WLR rental charges on an equivalent per line basis? Please provide reasons to support your views.*

WLR cease charges

Responses to the 2012 FAMR CFI

4.168 TalkTalk commented on cease charges in response to the 2012 FAMR CFI.[213] TalkTalk said that WLR cease costs exist and have been recovered through MDF Hardware jumpering (see footnote 213 in March 2012 Statement). TalkTalk said that its "understanding is that MDF Hardware jumpering is recovered in part from MPF and SMPF [rental] charges. Thus it appeared to TalkTalk that some WLR cease costs are recovered in MPF and SMPF charges". TalkTalk said that "WLR cease costs should be fully recovered from WLR rental (or other WLR services)".

Our response

4.169 We note that there was traditionally no charge for WLR cease, as there is no required physical activity that occurs when Openreach ceases a WLR service.[214]

4.170 However, there are record activities of a similar nature as LLU soft ceases[215] with the CCA FAC cost being related to the Service Management Centre (SMC) and principally composed of fixed system costs and a low level of incremental costs (see discussion in the March 2012 Statement, Section 5, paragraphs 4.88 to 4.119 relating to MPF and SMPF cease charges).

4.171 The SMC costs for LLU services were always separately identified and recovered in the respective rental.[216]

4.172 The costs of physical activity involved in WLR ceases were included in the total costs of MDF Hardware jumpering, along with similar costs incurred as a result of MPF and SMPF ceases. The total was then allocated among the three services. According to the BT Detailed Attribution Methods (DAM) 2012[217], MDF Hardware costs, which include connections as well as ceases, are recovered on the basis of connection volumes.

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and Consumer switching: A consultation on proposals to change the processes for switching fixed voice and broadband providers on the Openreach copper network (9 February 2012) at http://stakeholders.ofcom.org.uk/binaries/consultations/switching-fixed-voice-broadband/summary/condoc.pdf.

[212]See March 2012 Statement, paragraphs 4.88 to 4.119. Figure 4.5 in the March 2012 Statement shows that CCA FAC is £4.22 and £2.28 for MPF Cease and SMPF Cease, respectively. Note that the LRIC of a service would be expected to be lower than its FAC.

[213]See 2 of April 2013 e-mail from Andrew Heaney (TalkTalk) to William Godfrey (Ofcom) on "WLR cease costs"; and paragraph 3.13 in TalkTalk, *Response to the November 2012 Call for inputs*, 21 December 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.

[214]See March 2012 Statement, paragraph 5.153.

[215]LLU soft ceases refer to MPF and SMPF data only cease service.

[216]See March 2012 Statement, paragraph 5.155.

[217]See BT Group plc Detailed Attribution Methods (DAM) 2012, page 170, available at http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2012/DAM_2012.pdf.

Table 4.19: MPF, SMPF and WLR (internal, external, basic and premium analogue) New Connections and cease volumes in 2011/2012

2011/2012	New Connections	Ceases	% New Connections	%Ceases
MPF	[✂]	[✂]	[✂]	[✂]
SMPF	[✂]	[✂]	[✂]	[✂]
WLR	1,420,815	2,713,742	[✂]	[✂]
Total	[✂]	[✂]	100%	100%

Source: Template 1, response from BT (5 April 2013) to First s.135 to BT.

4.173 From paragraph 4.88 in the March 2012 Statement, "approximately 80% of LLU termination services are MPF Cease or SMPF Cease, while the remainder are Jumper Removal which involve both a record change and engineering activity". Therefore, only 20% of LLU ceases count in terms of MDF Hardware Costs.

4.174 In order to guarantee that WLR Cease is not contributing to the MDF Hardware costs in excess, a relatively high fraction of all WLR ceases must be soft ceases.[218] As said above, the proportion of WLR ceases requiring jumpering activity is likely to be very small.[219] Hence, we consider that there is unlikely to have been a materially inappropriate allocation of costs between LLU and WLR rentals.[220]

Ancillary services baskets

Baskets of services to group under a single control

4.175 We propose to set three separate basket controls for: MPF ancillary services, SMPF ancillary services and a Co-Mingling ancillary services basket, in order to avoid the risk of Openreach favouring SMPF (used by downstream BT) at the expense of MPF and/or Co-Mingling (infrequently used by downstream BT compared to other CPs).

4.176 The proposed baskets are:

- MPF ancillary services, these are services which are used only with MPF;
- SMPF ancillary services, these are services which are used only with SMPF; and
- Co-Mingling services, these are services used by purchasers of both MPF and SMPF services, including services required to locate equipment at Openreach's local exchanges.

4.177 In the March 2012 Statement we structured the baskets in such a way as to prevent Openreach from adjusting prices to favour BT's downstream operations. We grouped the ancillary services into three baskets built around the underlying core line

[218] According to the Table 4.19 above, to guarantee that WLR does not represent more than [✂] of the MDF Hardware costs, then, at least [✂] of the WLR ceases must be soft ceases.
[219] WLR jumper removal only happens in very rare occasions. Usually, if a CP requests to cease the WLR service, the line is deactivated but the jumpers remain in place. In case of future reactivation of the WLR service this facilitates the process given that the line is already physically installed.
[220] See March 2012 Statement, paragraph 5.153.

rentals.[221] By grouping services in this way we prevented Openreach from reducing prices of products which are disproportionately used by downstream BT (such as SMPF) and increasing prices of products such as MPF used by other CPs, and thereby distorting competition in BT's favour. In this charge control we propose to maintain the three basket structure.

4.178 Our proposals mean that Openreach will have some scope to adjust the relativities of prices within the baskets, subject to meeting the overall basket control. However, Openreach will be unable to favour BT's downstream operations by trading off increases in the MPF charges against decreases in the SMPF charges as each basket will be separately controlled.

Responses to the 2012 FAMR CFI

Products in the MPF/SMPF and Co-Mingling baskets

4.179 TalkTalk proposed to split tie cables out of the Co-Mingling basket since BT uses tie cables but does not use other Co-Mingling basket products. Moreover it proposed to have enhanced care included within the relevant main ancillary basket (e.g. MPF enhanced care in MPF ancillary basket).[222]

4.180 BT proposed a single basket for all MPF and SMPF ancillary services. BT said that we should "combine products where there is a very substantial overlap of costs for the purpose of the price control(s) and control them in the same basket".[223]

4.181 BT claimed that "substitutable products are subject to different controls, which makes it hard to align prices to drive the right CP behaviour". BT provided the following examples of CPs using substitutes across different price control obligations: (i) a new provide that can be used instead of a start of stopped line; (ii) Working line takeover rather than migration, even though the customer is not a home mover; (iii) MPF to WLR+SMPF simultaneous provide (expired offer) followed by mass migration of WLR to MPF rather than MPF migration creating extra inefficient activity and cost.[224]

4.182 BT said that, while it might seem counterintuitive to use a more expensive product, CPs avoid incurring systems development costs by doing so.[225] See Table 4.20 below for prices (at 1st of April 2013) of the products mentioned.

[221]See March 2012 Statement, paragraphs 1.7 to 1.12.
[222]TalkTalk, *Response to the November 2012 Call for inputs*, December 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.
[223]BT, *Response to the November 2012 Call for inputs*, January 2013, http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BT.pdf.
[224]See Openreach's slides on "WLR LLU CC Basket design", 16th April 2013 (confidential version).
[225]See Openreach's slides on "WLR LLU CC Basket design", 16th April 2013 (confidential version).

Table 4.20: Prices for MPF products mentioned in issue 1 on BT's slide submission on 16 April 2013

Product	Price (£) 1/4/2013
MPF New Provide	45.53
MPF Connection Charge Stopped Line Provide	40.86
MPF Working Line Takeover (WLTO)	40.86
MPF Single Migration	30.82
MPF Migration to WLR+SMPF (special offer)	50.90
Mass migration (Normal Hours) of WLR to MPF	28.42

Source: Openreach pricing available at http://www.openreach.co.uk/orpg/home/products/pricing/loadPricing.do.

Setting the cap for the ancillary services

4.183 In the 2012 FAMR CFI (paragraph 6.44) we proposed two options regarding the basis for setting the charge controls for the ancillary services. Option (a) was that X in the inflation indexed cap (we referred to RPI-X in the 2012 FAMR CFI, although we are proposing a CPI indexed cap for these controls – see Section 3) for a basket of ancillary services should be based on our forecast efficiency target for the cost modelling of the main connection and rental services. Option (b) consisted in setting X in an inflation indexed cap based on an explicit model of ancillary service basket costs, if necessary at an aggregate level.

4.184 BT[226] and TalkTalk[227] argued that X should be based on an explicit model of basket costs; even if at an aggregated level [this corresponds to our option (b) in the 2012 FAMR CFI]. Bit Commons and CWW made alternative suggestions. Sky, Virgin and another CP[228] did not make specific suggestions on this matter.

4.185 BT said that option (b) would "provide the best opportunity to recover its efficiently-incurred costs", while "option (a) is not as accurate, as more complex calculations of costs will need to be performed, rebasing them to a fully allocated costs (FAC) basis and then applying the relevant glide path for efficiency". Moreover, BT said that "the SMPF and MPF baskets contain many products that to a great extent share the same types of costs". BT claimed that the application of different levels of X to the MPF and SMPF baskets would be likely to cause prices to diverge from costs and give rise to competitive distortions.

4.186 TalkTalk considered "that it is safer to forecast costs and revenues for each basket (at an aggregate level)". TalkTalk also said that the possibility of setting the Xs for the ancillary baskets based solely on the efficiency level would only be a robust approach if: (i) the base year aggregate costs equal the base year aggregate revenues, (ii) volume changes are low and/or CVEs are close to one, and (iii)

[226]BT, *Response to the November 2012 Call for inputs*, January 2013, http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BT.pdf.
[227]TalkTalk, *Response to the November 2012 Call for inputs*, December 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.
[228][✂]

nominal unit price inflation is close to zero. TalkTalk said that it was unlikely that these three conditions would be true and concluded that it was safer to forecast costs and revenues for each basket at an aggregate level.

4.187 Bit Commons[229] said that "ancillary engineering functions are contracted out, then the incremental cost ought to be easy to identify. This then leaves what additional costs BT wishes to allocate to be added. The BT Undertakings do need to be extended to allow Ofcom to review contractor costs. This seems a necessary minimum where state aid is present and where additional incentives to invest are needed."

4.188 CWW[230] responded that "neither approach sounds particularly robust". Also, it said that "understand the difficulties involved and we will seek to understand the importance of this issue once we see more detail".

4.189 A CP[231] said that it considered that the charge control basket structure appeared to be working. However, it also said that "further detail would be required on the proposed approach to understand whether this would continue to be the case given the changes which Ofcom is proposing to the overall method for setting the relevant charge controls more widely."

4.190 Virgin[232] said that "it will be important to assess the potential consequences of using an efficiency based approach over a cost based approach to ensure that the setting of a control for ancillary services (...) are fully assessed to ensure that the aim of the control is fulfilled". Virgin concluded that "whilst the use of an efficiency based approach simplifies the control (and therefore provides transparency as to how it operates) this should not be at the expense of failing to set charges that ensure that BT is constrained to provide a cost based service (as a whole) that does not benefit its own downstream business".

Our response: products in the MPF/SMPF and Co-Mingling baskets

4.191 Given the 2012 FAMR CFI responses from stakeholders with respect to basket structure for ancillary services, we remain of the view that a three basket structure (i.e., MPF, SMPF and Co-Mingling) is appropriate.

4.192 We consider that we have addressed the risk which TalkTalk noted, regarding the fact that BT uses tie cables but do not use other Co-Mingling basket products, through basket design. Specifically, we think that a tighter inertia clause or an equivalent sub-cap will be sufficient to prevent the potential risk of excessive pricing for the ancillary services in the Co-Mingling basket that are used by CPs other than BT. We set out our reasoning for a tighter sub-cap in more detail under the heading on controls within the baskets. Moreover, considering the price evolution in 2010/11[233] for the ancillary services in the Co-Mingling basket we did not find that the

[229]Bit Commons, *Response to the November 2012 Call for inputs*, December 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/The_Bit_Commons_Limited.pdf.
[230]CWW, *Response to the November 2012 Call for inputs*, December 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Cable_Wireless_Worldwide.pdf.
[231][✂]
[232]Virgin, *Response to the November 2012 Call for inputs*, December 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Virgin_Media.pdf.
[233]Openreach's pricing is available at http://www.openreach.co.uk/orpg/home/products/pricing/loadPricing.do.

inertia clause was binding (or close to binding) for any service (including those used by CPs other than BT).

4.193 In the case where MPF New Provide can be used instead of MPF Stopped Line Provide we note that:

- MPF New Provide is subject to a separate charge control, in particular, we propose to enable charges to glide to forecast efficient costs by 2016/17, thus, this charge will allow BT to fully recover its costs even if CPs choose to buy MPF New Provide instead of MPF Stopped Line Provide;

- the fact that CPs prefer a more expensive product does not imply that this is an inefficient choice, in fact, CPs may avoid their own development costs[234];

- the fact that Stopped Line Provide is in the MPF ancillary basket, which is currently under a control of RPI-9%, makes it feasible for BT to widen the charge differential between the two products, i.e., Stopped Line Provide and MPF New Provide, in particular by decreasing the charge for Stopped Line Provide; and

- the fact that the revenues (and likely, the volumes) of Stopped Line Provide were particularly small[235] in 2009/2010 suggests that the issue appears to have limited materiality.

4.194 In the case where WLTO is employed rather than MPF Migration, even though the customer is not a home mover we note that, with respect to 2009/10, the WLTO revenue is of very low materiality.[236] In any case, we now propose to separately charge control MPF migrations setting charges to converge towards LRIC levels (see the heading on migration services in this section). The control on MPF Migrations should, therefore reduce the charges on MPF Migrations relative to now and thus incentivise greater use of this service, if it is more efficient.

4.195 In the case where CPs use MPF to WLR+SMPF Simultaneous Provide (expired offer) followed by mass migration of WLR to MPF rather than MPF migration, we expect this to be less of a concern going forward because we now propose separate controls for each one of these products.[237] Provided the charges are set to reflect the LRIC differences the choice of which service or combination of services is used should be efficient.

4.196 We think that new provide and migration services should be separately charge controlled. We consider that it would not be appropriate to allow BT flexibility to vary relative charges for these services within a basket. There is a risk that such flexibility could be used to set charges which would discourage switching or lead to inefficient choices between substitute services. Migration charges, for example, can have an impact on consumer switching costs and, as a consequence, on market competition. We do not think that putting a number of services such as new provides, migrations, Working Line Takeover and Stopped Line Provide services in a same basket would increase efficiency. Conversely, it could instead increase the risk of gaming (see the

[234]"When the saving per order is small the price difference isn't sufficient to justify the business case for new system development by the CP", Openreach's slides on "WLR LLU CC Basket design", 16th April 2013 (confidential version).
[235]The revenue of MPF Connection Charge Stopped Line Provide in 2009/10 was of £7,315, i.e., virtually 0% of the total revenues in the MPF ancillary basket. See Template 7, BT Response to Third s.135 to BT.
[236]See Template 7, BT Response to Third s.135 to BT.
[237]See Openreach's slides on "WLR LLU CC Basket design", 16th April 2013 (confidential version).

reasoning under the heading "weighting price changes and consideration of additional controls within baskets" in this section).

Question 4.10: *The complete list of ancillary services considered in the MPF, SMPF and Co-Mingling baskets for the charge control period 2014/17 is included in the "Legal Instruments" Annex. Do you agree with our proposal to control three ancillary services baskets and with the proposed lists of ancillary services for the MPF, SMPF and Co-Mingling baskets? Please provide reasons to support your views.*

Our response: setting the cap for the ancillary services

4.197 We have considered two main options in relation to the methodology for setting values of X for ancillary services: (i) X based on the projected overall rate of efficiency gain in core rental services; and (ii) X set to bring prices into line with costs for a set of services for which we have data but which does not correspond exactly to the set of services in the ancillary services basket (a proxy approach using RFS information for ancillary services at an aggregate level). We propose to set Xs for ancillary baskets using the latter approach, based on data for those ancillary services for which information is available in the RFS at an aggregate level.

X based on an overall efficiency approach

4.198 If current charges were reasonably in line with costs and large volume movements were unlikely, then X based on the projected underlying rate of efficiency gain would be appropriate. This approach would avoid the need to generate detailed projections of costs. However, the overall efficiency approach also has disadvantages, namely: (i) costs at the granular level are unobservable, thus, it is difficult to say if charges are reasonably in line with costs, and (ii) significant volume movements may happen.[238]

4.199 However, BT and TalkTalk said in response to the 2012 FAMR CFI that they broadly supported setting an X or Xs on the basis of modelling the revenues and costs of the baskets, on the grounds that they considered this more accurate.

4.200 As a high-level cross-check on the approach, we have looked at how costs have evolved over the most recent period for which RFS costs are available for some of the key services in question and compared this with anticipated efficiency for this period. In the March 2011 Consultation, we set our base case assumption of net annual efficiency at 4.5% within a range of 3.5% to 5.5%. In the March 2012 Statement we concluded that the appropriate gross efficiency rate should be 5.0%, equivalent to a net annual efficiency rate of 4.5%.[239] As shown in Table 4.21 below, the FAC unit cost changes differed significantly from what would be expected considering inflation and efficiency alone.[240]

Table 4.21: Cost changes for major services in the baskets

	31 March 2011 FAC £	31 March 2012 FAC £	% Cost change
MPF New Provides	43.99	40.22	-8.6%

[238]See BT's RFS 2012 (page 55 and 56). For example, the volume of MPF Tie Cables was 41,134 cables in 2010/11 and 325,953 cables in 2011/12. Also, note that pages 55 and 56 in BT's RFS 2012 concern aggregate products which do not show likely volume movements at a more granular level.
[239]See paragraph 6.42 of the March 2012 Statement (and Annex 3 for more details).
[240]The products which we cross-checked are in themselves aggregated and contain a number of services. Therefore the difference in costs may relate to changes in volumes and/or product mix.

	31 March 2011 FAC £	31 March 2012 FAC £	% Cost change
MPF Ceases	7.65	10.12	32%
SMPF Ceases	8.61	10.28	19.4%
MPF Room Build	177.55	13,756.18	7648%
MPF Hostel Rentals	6,061.49	6,499.26	7.2%
MPF Tie Cables	500.04	45.11	-91%

Source: RFS 2012 (pages 55 and 56), available at http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2012/index.htm.

4.201 We therefore consider that we should model the costs and revenues of each basket (albeit at an aggregate level).

X based on a partially different set of ancillary services (proxy approach at an aggregate level and that relying on projected rates of efficiency would not be appropriate)

4.202 We have considered whether to set Xs for the ancillary baskets in a similar way as in the March 2012 Statement:

- X for SMPF ancillaries basket based on the costs and revenues of SMPF Ceases[241];
- X for MPF ancillaries basket based on the costs and revenues of MPF New Provide and MPF Ceases[242]; and
- X for Co-Mingling ancillaries basket[243] based on the costs and revenues of Room build, Hostel Rentals and Tie Cables.[244]

4.203 Having considered the approach taken in the March 2012 Statement, we now propose to set Xs for the ancillary baskets in a different way for the MPF and SMPF baskets but in similar way for the Co-Mingling basket. Our proposal is to set the relevant X's as follows:

[241]This is the "SMPF Ceases" aggregate as in BT's RFS (2012 page 55) which includes four products: the SMPF Cease charge (separately charge controlled at zero), SMPF MDF Remove Jumper Order Singleton charge (controlled in the SMPF ancillary basket), SMPF MDF Remove Jumper Order Bulk charge (controlled in the SMPF ancillary basket) and SMPF Flexi Cease Fault Investigation charges (controlled in the SMPF ancillary basket).
[242]This is "MPF New Provides" and "MPF Ceases" aggregate information as in BT's RFS (2012 page 55) which include MPF New Provide Standard and MPF Cease charge (both separately charge controlled), and MPF MDF Remove Jumper Order Singleton charge (controlled in the MPF ancillary basket), MPF MDF Remove Jumper Order Bulk charge (controlled in the MPF ancillary basket), MPF Connection Charge Stopped Line Provide (controlled in the MPF ancillary basket) and MPF Working Line Takeover (WLTO, controlled in the MPF ancillary basket).
[243]The proposed Co-Mingling basket is restricted to the list of Co-Mingling products set out in Section 17 (Legal Instruments). See "Meaning of Co-Mingling Services" in the "Legal Instruments" section.
[244]This is Room build, Hostel Rentals and Tie Cables aggregates as in BT's RFS 2012 (page 55) which comprise all the ancillary products in the Co-Mingling basket plus a number of other ancillaries which, currently, are outside the scope of our charge control but are under an SMP obligation of fair and reasonable terms, conditions and charges. Also, note that Condition FAA4 imposes a cost orientation obligation upon BT (see paragraph 4, page 198 of the 2012 LLU WLR Charge Control Annex).

- set the same value of X for both SMPF and MPF ancillaries baskets based on the pooled costs and pooled revenues of SMPF Ceases, MPF Ceases and MPF New Provide[245]; and

- set the X for Co-Mingling ancillaries basket based on the costs and revenues of Room build, Hostel Rentals and Tie Cables.[246]

4.204 We note that in the May 2009 Statement[247] we decided to set equal price caps for the MPF ancillaries baskets, SMPF ancillaries baskets and the Co-Mingling ancillaries. The Carphone Warehouse Group plc appealed against our decision claiming that setting equal price caps for each of the three separate baskets for ancillary services (MPF, SMPF, and Co-Mingling) had not been properly justified and, in the light of substantial deviations in the relationship between cost and price in relation to each basket, was not justifiable. The CC determined that we had erred by not setting individual Xs for each of the three ancillary baskets.[248]

4.205 We also note that our current proposal with respect to the basis of X for the MPF, SMPF and Co-Mingling baskets is different from our decision in the May 2009 Statement. A number of ancillary services in the MPF and SMPF baskets present a high level of similarity in terms of engineering activity and, likely, in terms of cost. See, for example, Table 4.28 for further details. Therefore, we think that it is proportionate to set the same value of X for both SMPF and MPF ancillaries baskets, while setting a different X for the Co-Mingling basket.

4.206 Another difference to the March 2012 Statement is that this time we consider the option of removing LLU Expedites from the ancillary baskets and imposing a safeguard cap on each Expedite service charge. For further details, see the heading on "LLU Expedite connection services" below.

4.207 Given the lack of available data, we do not consider that setting the Xs based on ancillary information a more granular level, i.e., revenue and cost information on a product by product basis, would be feasible. BT said that did not produce this data to this level of granularity in a readily available format.[249]

4.208 Our approach to computing the Xs for the ancillary baskets is based on the use of proxies for the services for which we do not have data. The proxies are chosen to be closely related to the ancillary basket services. We assume that charges for services on which we do not have revenue and cost information are currently earning broadly similar returns to the chosen proxy and that costs for the basket as a whole will move in the same way as those of the services for which we have data. We consider this the best approach possible with the available data and note that a broadly similar approach was also adopted when the previous cap on ancillaries was calculated.

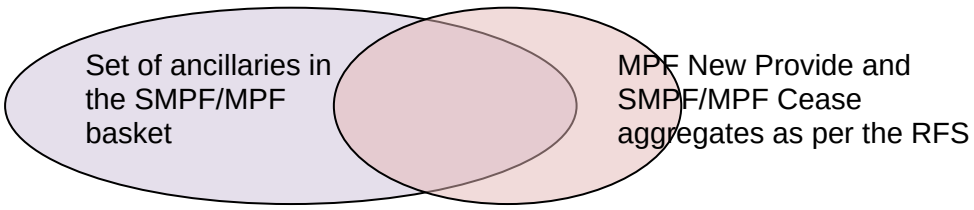
[245]We propose to use the same RFS service aggregates as in the March 2012 Statement to set the X for the MPF and SMPF baskets. However, this time, we propose to pool those service aggregates so that it generates the same X for both the MPF and SMPF baskets.
[246]This is consistent with our approach to set the X for the Co-Mingling basket in the March 2012 Statement.
[247]See "A new pricing framework for Openreach", 22 May 2009, available at http://stakeholders.ofcom.org.uk/binaries/consultations/openreachframework/statement/statement.pdf.
[248]See Appendix H, paragraph 5, CC Determination (31 August 2010) at http://www.catribunal.org.uk/files/1.1111_Carphone_Warehouse_CC_Determination_310810.pdf.
[249]See 28 of May 2013 letter (by e-mail) from Openreach to David Clarkson (Ofcom) on "Fixed Access Market Reviews: Approach to setting any future LLU and WLR Charge Controls".

4.209 The product information (volumes, cost and revenues) that we have available corresponds to the BT RFS product aggregates (see 2012 RFS page 55).[250] The list of services in the MPF and SMPF ancillary baskets partially overlaps with the individual services in the SMPF Ceases, MPF Ceases and MPF New Provide product aggregates of the RFS.

4.210 The list of ancillaries in the Co-Mingling basket is completely contained in the RFS product aggregates of Room build, Hostel Rentals and Tie Cables together – indeed the latter exceeds the information strictly required. In principle we might disaggregate the product aggregates further from the RFS, but we do not have the necessary information (namely, costs and volumes) to do that. Thus, we propose using all the information available (at the aggregate level) that is related with the ancillary baskets as this is most appropriate given the circumstances.

4.211 Ofcom considers that in 2009/10 the products in the SMPF and MPF ancillaries baskets that are included in the "MPF New Provide" or "SMPF/MPF Cease" aggregates (i.e., the intersection in Figure 4.1 below), for which financial data are reported in BT's RFS, represented slightly less than 30% of the total revenue in the SMPF/MPF baskets or just over 47% of "MPF New Provide" and "SMPF/MPF Cease" pooled revenues as shown in the RFS.[251] We consider that this is equivalent to say that, in terms of Figure 4.1, the intersection represents 30% of the set of ancillaries in the SMPF/MPF basket, and 47% of the MPF New Provide and SMPF/MPF Cease aggregates as per the RFS.

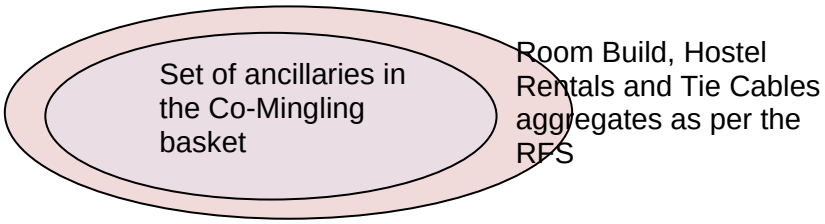
Figure 4.1: X for SMPF/MPF ancillary baskets based on the pooled costs and pooled revenues of MPF New Provide and SMPF/MPF Ceases aggregates



4.212 The products in the Co-Mingling basket are a subset of the pooled aggregates Room build, Hostel Rentals and Tie Cables (see Figure 4.2 below). In particular, we consider that in 2009/2010, the Co-Mingling basket represented 72% of the total revenue in of Room build, Hostel Rentals and Tie Cables aggregates together.[252] We consider that this is equivalent to say that, in terms of Figure 4.2, the "set of ancillaries in the Co-Mingling basket" represents 72% of the set "Room Build, Hostel Rentals and Tie Cables aggregates as per the RFS".

[250]We have volume (including volume forecasts for the duration of the next charge control), cost and revenue information for MPF/SMPF New Provide, Single Migrations, Bulk Migrations, Ceases, Rentals, MPF Room build, MPF Hostel Rentals and MPF Tie Cables.
[251]See Template 7, BT Response to Third s.135 to BT for a breakdown of the total revenue in the SMPF/MPF baskets in 2009/2010. See BT response to question 5 in First s.135 to BT for the MPF New Provide and SMPF/MPF Cease revenues in 2009/2010. The presented percentages with regard to revenue overlapping exclude MPF mass migrations from the MPF basket and SMPF bulk migrations from the SMPF basket.
[252]See Template 7, BT Response to Third s.135 to BT for a breakdown of the total revenue in the Co-Mingling basket in 2009/2010. See BT response to question 5 in First s.135 to BT for revenues in of Room build, Hostel Rentals and Tie Cables in 2009/2010.

Figure 4.2: X for Co-Mingling ancillaries basket based on the costs and revenues of Room build, Hostel Rentals and Tie Cables aggregates



Question 4.11: *Do you consider that X in CPI-X for the ancillary service baskets should be determined as: the same X for both SMPF and MPF ancillaries baskets based on the pooled costs and pooled revenues of SMPF Ceases, MPF Ceases and MPF New Provide; and X for Co-Mingling ancillaries basket based on the pooled costs and pooled revenues of Room Build, Hostel Rentals and Tie Cables? Please provide reasons to support your views. If you consider a different basis is more appropriate please set out what this approach would be and why.*

Weighting price changes and consideration of additional controls within baskets

4.213 The basket control limits the maximum weighted average increase in prices in any given year. When Openreach sets prices each year we need to consider how the weights should be determined, e.g., whether they should be based on the previous year's revenues or a forecast of the current year revenue weighting.

Approaches to set basket weights

4.214 Any basket control limits the maximum weighted average increase in charges for the services in the basket to the controlling percentage, typically defined as CPI-X or RPI-X.

4.215 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 variant of the former is the **snapshot approach** which consists in changing the definition of prior year revenue so that it is calculated as a "snapshot" using actual volumes at a suitably recent point in time multiplied by average price during the 12 months prior to the start of the charge control year.[253]

Previous Ofcom charge controls

4.216 In the March 2012 Statement we concluded that prior year weights should be used as the basis for assessing compliance with the control. We considered that using prior year weights would enable Openreach to plan its prices in a given year with

[253]See 2013 BCMR Statement, paragraph 18.154.

confidence that it will meet the overall basket control to within a small margin of error.[254]

4.217 Indeed, Ofcom has generally preferred prior year weighting to current year weighting. This is primarily because current year weights cannot be calculated with certainty until after the end of the price control year in which compliance is being assessed. This means that, to decide how far to reduce prices, the charge controlled firm has to make forecasts of weights, with the consequent need for it to make retrospective adjustment for errors in forecasting. This in turn means that current year weighting can lead to uncertainty and volatility in prices, which could adversely affect CPs ability to plan ahead, as well as adding to the costs of monitoring compliance.

4.218 The main disadvantage of prior year weighting is that it is vulnerable to a particular form of gaming. This gaming involves targeting price increases on services whose weights in the basket are growing over time, so that the prior year revenue weight understates the effect of the price increase on actual revenues. The CC identified this as a concern in its determination of the 2010 LLU appeal. The CC noted that when prices are weighted by revenues and volumes of the previous year, there is scope for the regulated business to increase its profits by imposing larger price increases for products that are increasing in volume relative to other products in the basket. The CC found that Ofcom erred in not implementing sufficient safeguards against this form of gaming.[255]

4.219 Inertia clauses which limit the maximum annual increase or decrease in each charge are one way of addressing this form of gaming without departing from prior year weighting. In the March 2012 Statement, we set an inertia clause on each of the three LLU ancillary services baskets (MPF, SMPF and Co-Mingling). We considered that prior year revenue weights combined with an appropriate inertia clause would be sufficient to take into account the risk of this type of gaming. We consider prior year revenue weights a more appropriate and proportionate approach than current year weights.[256]

4.220 The “snapshot” approach described above can also be used to reduce the risk of this form of gaming. We have used the “snapshot” approach in the new leased line charge controls set in the 2013 BCMR Statement.[257]

Our analysis and proposal

4.221 In light of the CC’s 2010 determination[258], we have considered the most appropriate and proportionate way to mitigate the risk that Openreach could game the control by increasing prices of products which are growing in volume relative to other products.

[254]In practice Openreach must notify CPs of changes to prices 90 days in advance. Therefore when setting prices at the start of the new control year Openreach relies on revenue data from the first nine months of the year and forecasts for the final three months. However, if forecast current year weights were used it would base prices on forecasts up to fifteen months in advance. See March 2011 Consultation, paragraph 4.33. See also the March 2012 Statement Annexes, page 179. However, we note that the 2013 FAMR is proposing now the reductions in charges (including special offers) for WLA network access products and services to be made with 28 days notice.
[255]See Competition Commission Determination of 31 August 2010, paragraph 3.178 (page 3-35), available at http://www.competition-commission.org.uk/assets/competitioncommission/docs/appeals/carphone-warehouse-group-plc-local-loop-unbundling-appeals/llu_determination.pdf.
[256]See March 2012 Statement, paragraphs 4.169 to 4.184.
[257]See March 2013 Statement, paragraphs 18.153 to 18.157.

4.222 We have identified a number of safeguards that could prevent or mitigate the risk of gaming. We have considered how each safeguard could work in practice and considered for each whether it would result in any unintended consequences. We assess in turn:

- use of current year weightings (including additional safeguards to restrict gaming of this form of basket formula);
- use of prior year weightings (including additional safeguards to restrict gaming of this form of basket formula); and
- use of a modified definition of prior year revenue to be calculated as a "snapshot" of actual volumes multiplied by average price.

Use current year weightings to measure compliance against basket controls

4.223 As noted above, the CC recognised in principle that one way to limit the scope for the manipulation of a price cap based on prior year weights would be to measure compliance of basket revenues against current year volumes rather than previous year volumes.

4.224 We have therefore considered how a basket control with current year weightings would work in practice and assessed whether there are any potentially unintended consequences.

Risk of gaming with current year weights

4.225 If Openreach sets prices based on forecasts of current year volumes it will have to recover any over- or under-charging which results from divergence between forecast and actual volumes in subsequent periods. It could therefore have an incentive to overcharge in the short term and repay the "overcharge" in subsequent periods – and there may be a cash flow incentive to do so unless interest is due on any "overcharge". It is also possible that some CPs could try to game the control and try to influence Openreach's pricing decisions by providing misleading forecasts. If CPs were able to influence Openreach in this way it could increase volatility in price setting. In principle an appropriately set interest rate would reduce or remove any incentive for Openreach to "overcharge" or for CPs to try to influence Openreach's pricing to "undercharge".

4.226 However, the calculation of such a rate of interest is likely to be complex and raises question of whether the interest rate should reflect the true opportunity cost of funds for Openreach or be set to include an additional premium to act as a further disincentive against over-charging to exploit the current year weights mechanism.

4.227 An alternative way to mitigate the risk of this type of gaming would be for Ofcom to review Openreach's volume forecasts. However, Ofcom is not well placed to know the extent to which Openreach's forecasts are accurate. Furthermore, this would impose a significant administrative burden on Ofcom and CPs as the necessary information would need to be gathered on an ongoing basis to enable Ofcom to review the forecasts.

[258]See Competition Commission Determination at 31 August 2010, available at http://www.competition-commission.org.uk/assets/competitioncommission/docs/appeals/carphone-warehouse-group-plc-local-loop-unbundling-appeals/llu_determination.pdf.

Volatility in prices

4.228 Using forecast current year volume weightings would lead to volatile movements in prices as charges are set, then later adjusted for over- and under-recovery against the controlling percentage for the cap. This is because demand for ancillary services is volatile and forecast volumes are likely to vary from actual volumes. Changes in demand that are *unforeseen* by Openreach are likely to have a big impact on variation between outturn and forecast volumes and hence are likely to have a significant impact on whether the price changes meet the basket control. For example, as can be seen from Figure 4.18 in 2011/12 industry forecasts were 75% higher for MPF single migrations than actually occurred; and a slight decline in actual volumes of SMPF single migrations was forecast between 2010/11 and 2011/12, whereas in fact there was a 33% decrease.

Table 4.22: Volume of LLU services

	2010/11 Actual	2011/12 Forecast	2011/12 Actual
MPF single migrations	1,223,557	1,341,000	768,307
SMPF single migrations (external)	293,181	280,000	195,157

Source: Actual data in BT's RFS 2012 (pages 55 and 56), forecast data provided by BT for the previous charge controls (responses of 31 August 2010 to question 3 of First s.135 to BT dated 16 July 2010).

4.229 As set out above, the magnitude of volatility could be increased if Openreach's customers try to game the process of price setting.

4.230 The volatility in wholesale prices caused by the use of forecasts of current year volume weightings could ultimately be harmful to consumers. It would create uncertainty for Openreach's customers and limit their ability to plan. The greater the volatility in wholesale prices, the greater the risk that downstream CPs will set retail prices to cushion this volatility (acting as insurance against the risk of wholesale prices being higher than anticipated).

4.231 Given the risk of gaming, administrative burden, and the potential volatility in prices with current year weights this is not our preferred approach.

Prior year weights and removing pricing flexibility

4.232 An alternative approach to prevent gaming would be to remove upward pricing flexibility. This could be achieved either by:

- setting additional controls on services within baskets; or
- requiring all items to move in line with the basket control.

4.233 Removing upward pricing flexibility would provide greater certainty to CPs that Openreach would not manipulate the control and would minimise the administrative burden on Ofcom and Openreach of monitoring compliance with the charge control.

4.234 However, removing pricing flexibility removes one of the main benefits of basket controls, i.e., that they allow Openreach to adjust prices to recover costs efficiently.

As discussed above, this flexibility allows Openreach to efficiently adjust prices in response to unforeseen changes in costs or demand. Although where the fixed common costs between services in the basket are not significant (as is the case with at least some ancillary services)[259], the loss of efficiency from restricting pricing flexibility is diminished.

4.235 There are also practical limitations to how we might restrict pricing flexibility for all ancillary services. As set out above, we would not be able to set individual controls which reflect costs accurately as detailed data on costs and volumes for lower volume products are not available. A requirement for all items to move in line with the basket control would tend to perpetuate over- and under-recovery of costs where prices for individual services within each basket were out of line with costs.

4.236 We therefore do not consider that the removal of all pricing flexibility is an appropriate and proportionate approach to mitigating the risks inherent with a prior year weights basket formula.

Prior year weightings and tighter basket controls

4.237 An alternative approach to mitigate the risk of over-recovery of costs would be to tighten the basket controls. The aim would be to adjust the CPI-X control to anticipate volume growth and associated gaming such that Openreach would only be likely to recover costs if it differentially adjusted its prices by increasing charges for products which are growing in volume relative to other products.

4.238 We recognise that in principle this approach could mitigate the risk of gaming. However, in practice it would be difficult to implement:

- first, in order to set the control we would have to accurately forecast the scope for Openreach to game the control by increasing the prices of products growing in volume across the whole portfolio of services in the basket. In practice, such forecasting would be difficult and prone to inaccuracy;

- second, our volume forecasts would have to be adjusted for elasticity of demand in response to projected profit maximising price changes. There is no readily available data on the elasticity of demand for each of the ancillary services; and

- third, the forecasts used by us to adjust the controlling percentage could be gamed by both Openreach or CPs in order to influence the basket control.

4.239 We therefore consider that this complex approach to setting the price cap would not be appropriate or proportionate. Moreover, this approach would not prevent gaming though it could redistribute the benefits of it to (some) CPs.

Prior year weighting, sub-caps and inertia clauses

4.240 The application of sub-caps or inertia clauses may prevent Openreach from adjusting prices to game the control.

4.241 For services within the ancillary and Co-Mingling baskets, charges are currently subject to an inertia clause of 7.5%, by which the maximum price change up or down

[259]According to BT's RFS 2012 (page 55), we may find the following LRIC/FAC ratios: MPF New Provides (96.5%), MPF Ceases (94.2%), SMPF Ceases (94.3%), MPF Room Build (58.5%), MPF Hostel Rentals (64.32%), MPF Tie Cables (57.4%).

relative to the overall basket control (currently of the form RPI-X) is restricted to 7.5%. In the May 2009 Statement,[260] we set an inertia clause of 10% per annum, i.e., changes in individual charges were restricted to within RPI-X+/-10%.

4.242 We use the term "sub-cap" to mean a restriction on price increases for individual services within the basket. By contrast, an inertia clause sets both the maximum and minimum price change for individual services.

4.243 We think that a sub-cap or, alternatively, an inertia clause has some benefits in restricting Openreach's ability to game the basket formula because:

- it is easy to understand and set; and
- it can be calibrated to mitigate the risks of gaming whilst allowing some pricing flexibility.

4.244 In the May 2009 Statement[261] we decided to institute an inertia clause of 10% (i.e. a basket control of RPI-X+/-10%) which limits the relative movement of charges in the ancillary baskets. In the March 2012 Statement we decided to set up a tighter inertia clause at 7.5% (i.e. a basket control of RPI-X+/-7.5%).

4.245 In the charge control year 2010/11 the inertia clause was binding for a number of individual services in the MPF and SMPF ancillary baskets and always on price increases (not decreases).[262] This suggests that use sub-caps (i.e., a limit on maximum price increase) rather than symmetric inertia clauses (i.e., a limit on maximum price increases together with a limit on maximum price decreases) may be the relevant controls within the baskets in question. Additionally, due to the overall basket control which is likely to be binding, a sub-cap on each and every charge also prevents very rapid reductions in charges by limiting the ability to offset them with increases on other services within the basket.

4.246 As discussed earlier in this section, Openreach has an incentive to increase prices of products which are growing in volume relative to other products.[263] This incentive will increase the faster the growing products grow relatively to other products in the same basket. Given that we forecast some products to face a relatively strong growth[264], while the volumes for other products in the same basket are expected to decrease

[260]See May 2009 Statement, http://stakeholders.ofcom.org.uk/binaries/consultations/openreachframework/statement/statement.pdf.
[261]See May 2009 Statement, paragraph 6.6, at http://stakeholders.ofcom.org.uk/binaries/consultations/openreachframework/statement/statement.pdf.
[262]See spreadsheet "LLU Products 2010-2011 Pre CAT" in the WLR LLU 2010/11 Compliance Statement. Price variations on a product by product basis may also be computed from Openreach's pricing.
[263]For example, for the year ended 31 March 2011 there were 646,855 MPF Ceases at an average price of £7.49, while for the year ended 31 March 2012 there were 1,143,533 MPF Ceases (increase of 76.8% in volume) at an average price of £9.20 (increase of 22.8% in price). Source: BT RFS 2012 (pages 55 and 56).
[264]Products that we expect to grow in volume from 2013/14 to 2016/17 are: MPF Tie Cables (Co-Mingling basket), MPF Ceases and MPF New Provide (MPF ancillaries basket).

significantly during the charge control[265], we think that it is appropriate to consider a tighter sub-cap than the upper bound of the current inertia clause.[266]

4.247 In the March 2012 Statement we decided to set up a tighter inertia clause in 2.5% as compared to the May 2009 Statement. We consider now a similar adjustment. We think that an adjustment higher than 2.5% would not be proportionate – BT should be allowed some freedom for price adjustment to efficiently recover costs.

A "snapshot" of actual volumes multiplied by average price

4.248 We have also considered the use of a snapshot of actual volumes at the most recent point in time rather than previous year volumes as a means to define the basket formula.

4.249 By using a snapshot of volumes at the most recently available date prior to setting prices the scope for differences between prior year weights and current usage patterns to emerge is reduced. This approach is particularly useful if different products in the same basket have stable volume trends and volatility is small.

4.250 However, if volumes are volatile the latest volume information is unlikely to be the most representative. In the case of the LLU ancillaries considered in the baskets there is a significant degree of revenue and, likely, volume volatility.[267] This is likely to reflect the fact that the volume of many ancillaries is not a stock but rather a flow over time. That is, many ancillaries tend to be one-off purchases, for example at the time of changing provider.

Conclusion on basket weighting and restrictions on gaming the control

4.251 We propose to use prior year weights with a sub-cap on each charge.

4.252 We do not propose to use the snapshot approach as it does not seem appropriate for ancillary services where volumes can be volatile, nor do the current year weights approach since it involves uncertainty or further risks of gaming which are not straightforwardly remedied.

4.253 Setting the appropriate sub-cap on individual charges within the (prior year weighted) basket requires the exercise of regulatory judgment to balance the benefits of allowing some flexibility to change prices against the risk of gaming. We propose to favour sub-caps rather than inertia clauses. First, we think there is likely to be greater risk of BT pricing too high rather than too low in these markets. Second, in any case, a sub-cap on each charge is likely to prevent very rapid reductions in other charges in the basket if BT is to price up to the overall cap.

[265]Products that we expect to decrease in volume from 2013/14 to 2016/17: MPF Room Build (Co-Mingling basket) and SMPF Ceases (SMPF ancillaries basket). We expect MPF Hostel Rentals (Co-Mingling basket) to remain constant over the charge control period.

[266]In the case of MPF Room Build a significant decrease in volume is expected to happen from 2014/15 to 2016/17, while MPF Tie Cables and MPF Hostel Rentals are expected to increase in volume in the same period. We acknowledge that Openreach may have an incentive to decrease the price for MPF Room Build, while increasing the prices for the MPF Tie Cables and MPF Hostel Rentals. However, this incentive is (at least partially) offset, since MPF Room Build and Hostel Rentals are mainly for external consumption, while a significant volume of MPF Tie Cables is for internal consumption. As our volume forecasts may change, we remain open to the possibility of implementing an inertia clause.

[267]See, for example, the revenue evolution for ancillaries from the financial year 2008/2009 to 2009/2010 in Template 7, BT Response to Third s.135 to BT.

4.254 We consider that there may be a case for tightening the sub-caps across the MPF, SMPF and Co-Mingling baskets, relative to the current maximum increase permitted under the current inertia clause. In other words, we see a case for considering that the maximum increase under the cap would be the controlling percentage for the basket (CPI-X) plus 5%, rather 7.5% as is currently the case under the existing charge control.

Question 4.12: *Do you agree that sub-caps applied to the ancillary services baskets should be tighter than CPI-X+7.5%? Please give views on the appropriate level of sub-caps in the range 5% to 7.5%. Please provide reasons to support your views.*

Additional controls within baskets: MPF Stopped Line Provide

4.255 MPF Stopped Line Provide falls within the MPF ancillary basket and in the March 2012 Statement[268] we set a sub-cap on MPF Stopped Line Provide at the same level as the overall MPF basket control (RPI-9%).

4.256 MPF Stopped Line Provide is used by CPs to provide an MPF service to premises that have an existing but inactive copper line. We understand that this is predominantly used by CPs to provide service when a consumer moves home (the line in the new property having been disconnected).

4.257 By the time of the March 2012 Statement some CPs were forecasting a rise in the number of such services. This raised a gaming concern as potentially Openreach could structure charges to exploit this rise and so we decided to set a control on MPF Stopped Line Provide at the level of the MPF ancillary basket controlling percentage.

Proposal to moderate the sub-cap on MPF Stopped Line Provide

4.258 We now propose to moderate the sub-cap on MPF Stopped Line Provide and to set it in line with the sub-cap proposed for other services within the MPF ancillary basket. The rationale for this proposal is three-fold:

- first, the current RPI-9% sub-cap on MPF Start of Stopped line has not been binding (see Table 4.23 below)[269], i.e., the charge for MPF Stopped Line Provide has been decreasing by more than is required by the sub-cap;
- second, CPs can use MPF Single Migration as a cheaper alternative to MPF Stopped Line Provide, therefore, a competitive constraint is imposed by the charge control on MPF Single Migration (currently MPF Single Migration is charged at £30.65, see Openreach's pricing as of 1/5/2013); and
- third, there is the added attraction of simplicity if all services in the basket are subject to the same sub-cap.

[268] See paragraphs 4.185 to 4.206 of the March 2012 Statement.
[269] According to the March 2012 Statement (page 2) the sub-cap control is 3.6% for 2012/13 and RPI9% for 2013/14, where RPI for 2013/14 is 3.2%, this corresponds to a control of -5.8% [=3.2%-9%] for 2013/14.

Table 4.23: MPF Stopped Line Provide: price level and % variation

MPF Stopped Line Provide	1/4/2011 - 31/3/2012	1/4/2012 – 31/3/2013	1/4/2013 – 31/8/2013	1/9/2013 (expected)
Price level £	47.12	43.33	40.86	37.57
Price variation		-8%	-5.7%	-8%

Source: Price information available at http://www.openreach.co.uk/orpg/home/products/pricing/loadPricing.do.

4.259 Therefore we propose to impose a sub-cap on MPF Stopped Line Provide set at the same level as for the sub-cap on other services within the MPF ancillary basket, i.e. CPI-X+Y, where Y is in the interval 5% to 7.5%.

Question 4.13: *Do you agree that the sub-cap on MPF Stopped Line Provide should now be set at the same level as the sub cap for other services in the MPF ancillary basket? Please provide reasons to support your views.*

Alignment of charges for minor services

4.260 There are a number of equivalent services in the MPF and SMPF ancillary services baskets. In this sub-section we consider whether charges for equivalent services from the MPF and SMPF baskets should be aligned.

4.261 The structure of the baskets and basket controls ensures that, by the end of the charge control, the prices of ancillary services will, in aggregate, be reflective of forecast CCA FAC for the baskets as a whole. It is not our intention in this charge control to micromanage the charges of ancillary services within the baskets.

4.262 However, we would be concerned about misalignment of certain charges, which arise when a customer switches CP, even where, in aggregate, MPF and SMPF basket prices were reflective of costs. This is because a misalignment of switching charges, which did not reflect the underlying costs of provision, might distort competition or distort the choice between MPF and WLR plus SMPF to favour BT's downstream operations over its rivals.

4.263 Under this heading we consider whether we should align the charges for the following products:

- LLU Expedite connection services;
- WLR Expedite connection service;
- LLU Singleton and Bulk Jumper removal services;
- LLU Enhanced Care services;
- LLU Special Fault Investigations (SFIs);
- Tie Pair Modification (3 working day lead time Re-termination);
- Tie Pair Modification (Multiple Re-termination);
- Cancellation of orders for Migration, Modification or Amend;

- Amend Orders; and
- Standard Line Test.

LLU Expedite connection services

4.264 LLU Expedite connection services allow CPs to expedite LLU New Provide services, which allows CPs to respond more flexibly to their customer needs.

4.265 MPF New Provide (MPF provided on a new line involving a visit to the customer's premises) typically takes 5 working days. Minimum system lead-time is 3 working days (actual lead-time is dependent on availability of appointments). SMPF Basic Provide (SMPF provide with existing narrowband voice service) takes 4 working days.[270]

4.266 The Expedite charge is payable in addition to the respective MPF or SMPF connection charge. "The charge is only raised if the revised Customer Committed Date is met".[271]

4.267 It is noteworthy that Openreach will provide WLR Expedite (per appointment)[272] starting from the 22nd of July, 2013. We discuss WLR Expedite after LLU Expedite connection services.

March 2012 Statement

4.268 In the March 2012 Statement we decided not to align (i.e. we did not set at the same level) the charges for MPF Expedite connection and SMPF Expedite connection over the course of the charge controls.[273] Each Expedite service was included in the respective LLU ancillaries baskets (i.e. MPF Expedite in the MPF ancillary basket and SMPF Expedite in the SMPF ancillary basket).

4.269 We considered and rejected the option of setting the differential between the charges for the Expedite services at the level of the differential between the charges for standard connections at the start of the charge control. However, as we explained in the March 2011 Consultation and the November 2011 Consultation, the SMPF and MPF Expedite connection services are substantially different services, as they provide enhanced engineering support for the provision of SMPF New Provide and MPF New Provide, which are significantly different services in terms of planning, capital and engineering effort.[274] Thus, an alignment of the service charges would not be consistent with the underlying costs.

4.270 In any case, in the March 2011 Consultation we said that volumes of MPF Expedite were not material.[275] We said that it was difficult to estimate the cost of LLU Expedite connection services for two main reasons. Firstly, the low volumes associated with these services made cost estimation difficult and secondly, the primary cost for

[270]See MPF and SMPF Lead-Times at http://www.openreach.co.uk/orpg/customerzone/products/llu/mpf/description/leadtimes/leadtimes.do.
[271]See Full MPF and Shared MPF price lists at http://www.openreach.co.uk/orpg/home/products/pricing/loadPricing.do.
[272]See "Launch prices for WLR Amend and WLR Expedite" at http://www.openreach.co.uk/orpg/home/products/pricing/loadPricingNotifications.do.
[273]See March 2012 Statement, paragraphs 4.255 to 4.260.
[274]See November 2011 Consultation, paragraph 2.130.
[275]March 2011 Consultation, paragraph 4.88.

expediting a service was the opportunity cost with respect to the other activities the engineer may otherwise be engaged in.

4.271 Nevertheless, we said that we would expect the differential between the MPF Expedite connection and SMPF Expedite connection charges to be broadly consistent with the differential in the charges for the underlying standard MPF New Provide and SMPF New Provide, as we considered that this would reflect the opportunity cost difference in terms of engineering time. We noted that the percentage difference between the LLU Expedite connection services was broadly consistent with the percentage difference between the standard LLU New Provide services, which suggested that there was no basis for a resetting of the charge differentials.

Responses to the 2012 FAMR CFI

4.272 We have received views from Openreach [276] on the alignment of charges for MPF and SMPF Expedite.

4.273 Openreach said that "aligning the prices of similar services between the SMPF and MPF ancillary baskets, which have different price control obligations, requires rebalancing on other products; for example such as Expedite". As a result of how baskets work, over the course of the current charge control, the difference between SMPF and MPF Expedite has increased.

4.274 Openreach said that it had tried to align the prices of SMPF and MPF ancillary items where they are similar. However, it will be difficult to continue this approach if the current control applied for another three years.

4.275 Openreach also said that "combining MPF and SMPF ancillary baskets allows similar products to continue to be priced the same without distorting the rest of the basket."

Our response and proposal

4.276 Currently the standard LLU New Provide charges and the Expedite connection service charges are the following.

Table 4.24: Standard LLU New Provide charges and Expedite connection service charges as of 1 of April 2013

	LLU New Provide	LLU Expedite connections
MPF	£45.53	£167.32
SMPF	£30.82	£88.71
MPF/SMPF price difference	£14.71	£78.61

Source: Prices available at http://www.openreach.co.uk/orpg/home/products/pricing/loadPricing.do

4.277 We have considered two options in relation to the MPF and SMPF Expedite charges:

[276] See Openreach's slides (issue/option 3) on "WLR LLU CC Basket design" (Non-Confidential), 16th April 2013.

- **Option 1**: maintain MPF Expedite and SMPF Expedite in the respective ancillary baskets (i.e. the status quo); and

- **Option 2**: remove MPF Expedite and SMPF Expedite services from the ancillary baskets and impose a safeguard cap on each Expedite service charge. For the safeguard cap we have identified two alternatives: (i) a constant nominal cap (effectively CPI-CPI); and (ii) a constant real cap, i.e., CPI-0%.

4.278 We set out below the advantages for each option.

4.279 Option 1 is most appropriate if the degree of substitution between Expedite and regular services is limited as it would be expected to provide a greater level of protection to CPs purchasing Expedite services. Moreover, if the basket X (in the CPI-X formula derived at the aggregate level) for MPF and SMPF ancillaries are (broadly) similar, then Openreach will be able to more closely align the Expedite services (i.e., reduce the MPF/SMPF price difference for Expedite services).

4.280 Option 2, is appropriate where the availability of the charge controlled MPF and SMPF New Provide services is likely to be an effective constraint on the prices of the Expedite variants, however, the strength of that constraint is uncertain. Under Option 2, Openreach will be able to more closely align the Expedite services. Moreover, under Option 2 it is more likely that the aggregate information (MPF/SMPF Ceases and MPF New Provide) from which we derive the basket Xs will be representative of the costs and revenues of the remaining products in the baskets.[277]

4.281 Option 2 is our preferred option. Our reasoning is two-fold:

- we would expect the differential between the MPF Expedite connection and SMPF Expedite connection charges to be broadly consistent with the differential in the charges for the underlying standard MPF New Provide and SMPF New Provide. Therefore, we think Openreach should be allowed a sufficient degree of freedom to attain such consistency; and

- we only wish to regulate to the extent proportionate given existing competitive constraints. This points to not regulating with a strict cost based cap for the Expedite services if these are constrained by the standard MPF and SMPF New Provide services. However, it is hard to estimate the degree of substitution between MPF and SMPF Expedite services and the standard MPF and SMPF New Provide services. Therefore, for the period of this market review, we consider that a safeguard cap provides an appropriate level of protection against excessive pricing by Openreach.

4.282 In terms of the safeguard cap, our view is that it should not be tighter than the charge control set out for the standard LLU connection services – i.e. MPF and SMPF New Provide. We think that a safeguard cap at constant real prices (CPI-0%) represents an adequate protection against excessive price increases, and this is comfortably above the cap on the standard services (CPI-12.5% cap for MPF New Provide and CPI-12.75% for SMPF New Provide). This seems appropriate since the main cost may be the opportunity cost caused by longer waiting times for standard services, and it is not clear that this would be expected to decline in real terms.

[277]The reason for this being that the aggregate information (MPF/SMPF Ceases and MPF New Provide) from which we derive the basket Xs is not related with LLU Expedite services.

4.283 BT said that "greater flexibility in basket structures, including broader baskets, would now seem appropriate given that LLU products are now mature and highly competitive in the market".[278] As discussed earlier, we consider that wider baskets would not be appropriate but we have looked into the regulation of MPF and SMPF Expedite services for other ways of addressing Openreach's concerns on the alignment of these charges.[279] In theory, price differentials for substitutable inputs should equal LRIC differentials as with new provides. However, in practice, it is difficult to assess cost differentials as the main cost of an Expedite connection is longer waiting times for standard connections – so the most appropriate measure of cost is likely to be an opportunity cost associated with engineering effort.

4.284 The price for MPF and SMPF Expedite services are shown in Table 4.25 below, alongside the price for the corresponding New Provide services. As can be seen, the charge difference for Expedites from 1 September 2013 is expected to be smaller than its level from 31 March 2012, i.e., Expedite charges will be more aligned from September 2013 than they were at the start of the current charge control. Moreover, safeguard-caps (as we now propose) rather than basket controls coupled with an inertia clause (as now) will allow for closer alignment whilst providing appropriate protection for users should the constraint from standard New Provides not prove sufficient.

Table 4.25: Standard LLU New Provide charges and Expedite connection service charges at 31/3/2012, 1/4/2013 and 1/9/2013

	31/3/2012	1/4/2013	1/9/2013 (announced)
MPF Provide	£52.79	£45.53	£45.53
MPF Expedite	£163.15	£167.32	£145.00
SMPF Provide	£39.79	£30.82	£30.65
SMPF Expedite	£106.29	£88.71	£100.10

Source: http://www.openreach.co.uk/orpg/home/products/pricing/loadPricing.do.

Question 4.14: *Do you consider that LLU Expedite charges should be based on Option 1 (maintain MPF Expedite and SMPF Expedite in the respective ancillary baskets) or Option 2 (remove MPF Expedite and SMPF Expedite services from the ancillary baskets and impose a safeguard cap on each Expedite service charge)? Please give reasons for your answer. Please provide reasons to support your views. If you consider a different basis is more appropriate please set out what this approach would be and why.*

WLR Expedite connection service

4.285 Openreach will provide WLR Expedite (per appointment)[280] starting from the 22 July, 2013 at a price of £145.00. According to Openreach's web-site, when an end-user appointment is expedited and that involves more than one product, only the highest expedite price will be charged per appointment. For instance, if a simultaneous

[278] BT, *Response to the November 2012 Call for inputs*, January 2013, http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BT.pdf
[279] See Openreach's slides on "WLR LLU CC Basket design", 16 April 2013.
[280] See "Launch prices for WLR Amend and WLR Expedite" at http://www.openreach.co.uk/orpg/home/products/pricing/loadPricingNotifications.do.

provide of WLR and SMPF is expedited only the £145.00 WLR Expedite charge will be raised.

4.286 Given that this is a new product to be introduced, we have not received stakeholder comments on WLR Expedite.

Our proposal

4.287 We consider that the availability of the charge controlled MPF and SMPF New Provide services is likely to be an effective constraint on the prices of the Expedite variants, we also expect some constraint from WLR Connections on WLR Expedite. Also, we note that downstream BT is one of the main users of WLR products.

4.288 As mentioned earlier in this sub-section, the primary cost for expediting a service is the opportunity cost with respect to the other activities the engineer may otherwise be engaged in. On 1 September 2013 MPF Expedite (see Table 4.25 above) is scheduled to have the same price as the starting price for WLR Expedite (and WLR+SMPF Simultaneous Provide Expedite). Therefore, this is consistent with what we would expect given expected cost differences (i.e., the opportunity cost).

4.289 Given our proposal for LLU Expedites, we also considered a safeguard cap on WLR Expedite. However, we note that:

- first, we are not starting from a set of prices which were previously subject to basket controls (in contrast with LLU Expedites), so the regulatory history and starting prices are different from that for LLU Expedite;
- second, WLR Expedite is a nascent service and BT has introduced it off its commercial initiative and priced it for now at what seems a reasonable charge; and
- third, WLR Expedite will be subject to the usual SMP remedies (price notification, no undue discrimination, fair and reasonable access) assuming we maintain our proposacls in the 2013 FAMR.

4.290 Given the reasons above, we are consulting on the view that it would not be appropriate to propose a charge control (or safeguard cap) on WLR Expedite for the next charge control period.

LLU Singleton and Bulk Jumper removal services

4.291 LLU Singleton Jumper removal services are used by CPs when they require Openreach to physically disconnect cabling they use to connect a copper line to their equipment. This is normally done when the CP needs space for other services or Openreach requires the CP to rationalise the frame space that the CP uses. Where a CP wishes to disconnect a service but is content to leave the cabling in place they would normally only use an LLU Cease service (which involves only an update to records, not engineering activity).

4.292 The jumper removal services can be a termination cost that CPs face when a consumer switches to a new supplier. In the March 2011 Consultation, we noted that jumper removal charges could be passed onto consumers and, therefore, any

differential in the prices for MPF and SMPF variants could have an impact on competition between CPs using those services.[281]

4.293 We also noted that the physical difference between SMPF Singleton Jumper removal and MPF Singleton Jumper removal is that SMPF Singleton Jumper removal also requires one jumper provision whereas MPF Singleton Jumper removal does not.[282]

Table 4.26: Activity required to perform a jumper removal (reproduced from Figure 4.5 in March 2011 Consultation)

Product	Jumper removed	Jumper provided	TAM test	Line Test	Other comments
MPF	2	-	N	N	
SMPF	2	1	N	N	SMPF requires removal of the SMPF jumpers, and replacement of the WLR jumper.

March 2012 Statement

4.294 In the March 2012 Statement[283], we considered that the difference in the prices between MPF and SMPF variants should be broadly reflective of the relevant LRIC of providing these MPF and SMPF variants. However, we noted in the November 2011 Consultation that we did not have precise LRIC information for these services and as such, we assessed what activities are required to provide the LLU Singleton Jumper Removal services and checked the CCA FAC costs against these. We explained that the CCA FAC information indicated that the difference in CCA FAC allocated between the MPF and SMPF variants was due to more jumpering work being required for the SMPF variant, than the MPF variant.

4.295 In light of this analysis, we decided to set starting charges for both MPF and SMPF Singleton Jumper removals at their respective CCA FACs.

4.296 We also recognised that there should be an appropriate price differential between the LLU Singleton Jumper removal and the respective LLU Bulk Jumper removal services. Accordingly, in order to set an appropriate differential between these services we decided to set starting charges for the MPF Bulk Jumper removals and SMPF Bulk Jumper removal services.

4.297 While we did not have CCA FAC information for the MPF Bulk Jumper removals and SMPF Bulk Jumper removal services, we considered that the absolute differences in price at the time of the March 2012 Statement between the Singleton and Bulk products (of the MPF and SMPF variants) would be an appropriate measure of the minimum differential between our new starting charges for LLU Singleton Jumper removals and the Bulk products.

4.298 Accordingly, we decided to set starting charges for MPF and SMPF Bulk Jumper removals as set out in Table 4.27 below.

[281]See March 2011 Consultation, paragraph 4.90.
[282]See March 2011 Consultation, paragraph 4.91.
[283]See March 2012 Statement, paragraphs 4.280 – 4.291.

Table 4.27: Price evolution 2011-2014 for LLU Singleton and LLU Bulk Jumper removal services

	MPF Singleton Jumper Removal	MPF Bulk Jumper Removal	SMPF Singleton Jumper Removal	SMPF Bulk Jumper Removal
Prices at 1 April 2011	£17.30	£11.12	£30.78	£25.62
Prices at 1 April 2012[284]	£25.81	£19.63	£28.15	£22.99
Prices at 1 April 2013	£26.25	£19.96	£26.25	£19.96
Prices at 1 September 2013 (announced)	£22.48	£19.02	£24.34	£19.02
Prices at 1 March 2014 (announced)	£23.28	To be announced	£23.28	To be announced

Source: Openreach's pricing at http://www.openreach.co.uk/orpg/home/products/pricing/loadPricing.do.

Our proposal

4.299 As noted earlier, jumper removal services can be a termination cost that CPs face when a consumer switches to a new supplier. Like migration charges, termination costs can act as a barrier to switching if they are passed through to consumers.

4.300 We have considered two options to control jumper removal charges:

- **Option 1** (status quo): maintain MPF/SMPF single/bulk jumper removals within the respective ancillary baskets.
- **Option 2** (separate charge controls for single/bulk jumper removals): remove single/bulk jumper removal services from the ancillary baskets and set charges at incremental cost as a matter of consistency with our proposals on migration charges.

4.301 Option 1 (status quo) is consistent with our approach in the March 2012 Statement and also has the advantage of avoiding a proliferation of charge controls. These controls will leave Openreach with sufficient scope to adjust the other charges appropriately in the basket, to adhere to the overall basket control. We also consider that this approach will allow Openreach to recover its efficiently incurred costs.

4.302 A potential disadvantage with Option 1 is that setting charges on an FAC basis rather than a LRIC basis may, as with migration charges, be less satisfactory from a

[284] We decided to set starting charges (at 1 April 2012) for both MPF and SMPF Singleton Jumper removals at their respective CCA FACs. From 1 April 2013 the charges for MPF and SMPF Singleton Jumper removals were controlled in the respective ancillary basket.

competition or consumer perspective. In addition, BT may have an incentive to charge excessive prices for jumper removal services, particularly against MPF jumper removals (essentially for external consumption), and, as a consequence, increase the switching costs faced by its downstream competitors.

4.303 Option 2 (separate controls for single/bulk jumper removals) is consistent with our proposals on single/bulk migrations. This alternative would require further controls. It would also (under our proposals) mean setting the caps for the ancillary baskets using even less representative cost information.[285]

4.304 As explained earlier in this section, we now propose to set the same value of X for the MPF and SMPF ancillary baskets based on the pooled costs and revenues of MPF and SMPF Ceases and MPF New Provide.[286] If we removed single/bulk jumper removals from the ancillary baskets, the information on MPF/SMPF Ceases and MPF New Provide would be significantly less representative of the remaining ancillaries in the MPF and SMPF baskets. Excluding the jumper removal products from the respective MPF/SMPF baskets, would mean that the overlap between the services in the MPF and SMPF ancillary baskets and the services in the product categories for which we have cost and revenue information (i.e. MPF New Provide pooled with SMPF Ceases) becomes immaterial in terms of revenues in 2009/10.[287]

4.305 In the light of the above, our preference is that the MPF and SMPF Jumper removal charges should remain in the respective ancillary baskets (i.e. Option 1). We also note that the revenues (and most likely, the volumes) with respect to MPF jumper removal services (essentially for external consumption) are small as compared to SMPF jumper removal services.[288] Therefore, we think that it is unlikely that jumper removal services have a significant impact on the competitive position between WLR/WLR+SMPF and MPF services.

Question 4.15: *Do you consider that MPF/SMPF single/bulk jumper removal charges should be based on Option 1 (status quo) or Option 2 (separate charge controls for single/bulk jumper removals)? Please provide reasons to support your views. If you consider a different basis is more appropriate please set out what this approach would be and why.*

LLU Enhanced Care services

4.306 LLU Enhanced Care services offer consumers higher levels of care (in response to reported faults) than are available to customers of the LLU rental services. BT has harmonised Enhanced Care services across its portfolio of products.[289]

[285]If we excluded the singleton/bulk jumper removal services from the ancillary baskets, the information used to determine X for the MPF and SMPF ancillaries basket would be based exclusively on the costs, volumes and revenues of MPF New Provides and SMPF cease, rather than MPF New Provides, SMPF cease and MPF cease RFS aggregates. Note that the reason why we also use the information from the MPF cease (RFS aggregate) to determine the X for the MPF and SMPF ancillary baskets is because it includes "MPF MDF Remove Jumper Order Singleton" charge and "MPF MDF Remove Jumper Order Bulk" charge (both in the MPF ancillary basket).
[286]See our proposal under the heading "Our response: setting the cap for the ancillary services".
[287]See Template 7 of BT's response to Ofcom's Third s.135 Notice.
[288]In 2009/2010 the revenue for SMPF Remove Jumper Order Singleton Charge was [✂] (more than 10 times more than the MPF correspondent service), while the SMPF Remove Jumper Order Bulk Charge was at [✂] (more than 20 times more than the MPF correspondent service). See spreadsheet Template 7 of BT's response to Ofcom's Third s.135 Notice.
[289]See March 2012 Statement, paragraph 4.386 and 4.387.

4.307 In the 2009 WLR charge control implementation Statement[290] we decided to remove cost orientation requirements from WLR Enhanced Care services, largely as we considered there was a market driven constraint from the WLR rental charge that prevented BT from pricing WLR Enhanced Care services excessively.

4.308 In the March 2012 Statement we imposed an obligation on BT to align LLU Enhanced Care service charges with WLR Enhanced Care service charges.

4.309 We considered that LLU Enhanced Care service charges would be constrained by the WLR rental prices[291], and explained that this would then allow us to remove cost orientation obligations for LLU Enhanced Care services. We noted that under this framework there was a risk that BT may be able to unfairly enhance its profitability by increasing charges for enhanced care levels which are not heavily utilised by WLR customers (e.g. levels 3 and 4) but are an essential service for some MPF and SMPF customers.[292] We considered that this risk was low.[293]

4.310 However, in light of the low risk we said we would continue to monitor the charges for LLU Enhanced Care services, and would look carefully at any significant increases, over the course of the charge control.[294]

Responses to the 2012 FAMR CFI

4.311 TalkTalk said that LLU Enhanced care services should be charge controlled in the relevant ancillary baskets (e.g. MPF enhanced care in MPF ancillary basket).[295]

Our response and proposal

4.312 We have assessed BT's prices for LLU and WLR enhanced care services[296], and note that these have not changed since the March 2012 Statement (or indeed prior to that review). We therefore consider that the current regulation appears to be effective and that there is no evidence to suggest further more onerous regulation would be necessary or proportionate.

[290] See March 2012 Statement, paragraphs 4.41 to 4.47.
[291] WLR rental charge control prevents BT from pricing WLR Enhanced Care services excessively. Therefore, the obligation on BT to align LLU Enhanced Care service charges with WLR Enhanced Care service charges should prevent BT from pricing LLU Enhanced Care services excessively as well.
[292] See March 2011 Consultation, paragraph 4.162.
[293] We considered the following reasons. First, there was likely to still be a sufficient proportion of customers (i.e. WLR Enhanced Care service and LLU Enhanced Care service customers combined) that will be willing to switch to the respective standard service, in order to act as a constraint on the levels of charges for all Enhanced Care service packages. Second, we noted that customers would also have the option to purchase support services on a piecemeal basis when needed (e.g. using "expedite repair") if they did not wish to have an ongoing Enhanced Care service support arrangement (i.e. customers can use once off repairs instead of ongoing Enhanced Care services). Third, we noted that that the vast majority of Enhanced Care users are SMPF customers, and that BT was a significant consumer of these services. We therefore considered that Openreach's incentives to price LLU Enhanced Care services excessively is likely to be weakened if the charges for LLU Enhanced Care services are aligned to the charges for WLR Enhanced Care services.
[294] See March 2012 Statement, paragraphs 4.398 to 4.403.
[295] TalkTalk, *Response to the November 2012 Call for inputs*, December 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.
[296] Openreach's pricing available at http://www.openreach.co.uk/orpg/home/products/pricing/loadPricing.do.

4.313 In light of this, we propose that the existing obligation on BT to align LLU Enhanced Care service charges with WLR Enhanced Care service charges should be retained and consider it would be unnecessary for a more interventionist approach as suggested by TalkTalk. We propose to continue to monitor the charges for LLU Enhanced Care services, and will look carefully at any significant increases, over the course of the charge control.

Question 4.16: *Do you agree that the existing obligation to align LLU Enhanced Care service charges with WLR Enhanced Care service charges should be retained? Please provide reasons to support your views.*

Special Fault Investigations (SFIs)

4.314 SFIs[297] are products requested by CPs to further investigate faults on the MPF/SMPF line, where the MPF/SMPF line seems to be testing as "ok" on Openreach's system. The product is sold in individual modules for both MPF and SMPF (Base, Network, Frame, Internal wiring, Internal equipment, Coop, and Frame direct). The investigative work is carried out at various points between (and including) the exchange and customer premise/wiring. CPs often request more than one module to locate and fix a fault. Modules are charged on a per hour cost of an engineer's visit, and can vary per module chosen.[298]

Our proposal

4.315 We propose to continue to align the charges for SMPF and MPF SFIs for the same reasons as set out in the March 2012 Statement.[299] We do not consider that there have been changes which would lead us to take a different view. In particular, in 2012, our view was based on the fact that the cost of SFI work is largely based on direct and indirect labour engineering time charged on an hourly incremental basis, and end-user or exchange visit costs where applicable, and that the time spent investigating and remedying the source of broadband problems and these activities are the same between MPF and SMPF services; and so the underlying costs are likely to be similar for MPF and SMPF SFI services. We consider that these factors remain for SFIs.

4.316 Also, we note that the 2013 FAMR Consultation is proposing cost orientation on SFI charges. Refer to the 2013 FAMR Consultation, paragraphs 12.70-12.79, as to the reasons why the charges for these products should remain cost oriented.

4.317 We did not receive views or comments from stakeholders on SFIs, in response to the 2012 FAMR CFI.

Question 4.17: *Do you agree with our view that it is not necessary to impose a separate charge control on Special Fault Investigations? Please provide reasons to support your views.*

Question 4.18: *Do you agree that the charges for special fault investigations should remain aligned between MPF and SMPF? Please provide reasons to support your views.*

[297] SFI is a chargeable investigation product from Openreach. We note that the SFI services which were replaced by SFI2 no longer exist.
[298] March 2012 Statement, paragraphs 4.343 and 4.344.
[299] March 2012 Statement, paragraphs 4.359 to 4.369.

Other LLU ancillary services

4.318 In this sub-section we consider whether we should align the remaining charges in the MPF and SMPF baskets.[300]

4.319 These services are:

- Tie Pair Modification (3 working day lead time Re-termination);
- Tie Pair Modification (Multiple Re-termination);
- Cancellation of orders for Migration, Modification or Amend;
- Amend Orders; and
- Standard Line Test.[301]

March 2012 Statement

4.320 In the March 2012 Statement we decided that we should not align (i.e. not set equal) the SMPF and MPF service charges identified in the previous paragraph during the charge control period.

4.321 Specifically, we decided that that no alignment obligation was necessary for these services given that we considered that they either do not have a material impact on competition and/or, were likely to be aligned when we started the charge control and/or, there was no CCA FAC information available, and so any meaningful alignment obligation would not be practical.

Responses to the 2012 FAMR CFI

4.322 We have received one response in favour of charge alignment for the ancillary services. TalkTalk said in its comments on the approach to the charge control for ancillary services that SMPF, MPF and WLR charges should be aligned where they involve similar activity.[302]

Our response and proposal

4.323 We note that the charges in question are currently already aligned (see Table 4.28 below) and all the reasons pointed out in the March 2012 Statement (summarised in paragraph 4.321 above) for not requiring alignment of the charges remain valid. We consider that this would involve the imposition of disproportionate and unnecessary regulation. Therefore, we do not think there is a reason to change our position on this issue as compared to the March 2012 Statement.

[300]Note that MPF and SMPF standard line tests present significant differences in activity (see paragraph 4.305 in March 2012 Statement).
[301]Note that MPF and SMPF "Order rejected at initial validation", "Order rejected at detailed evaluation", "Order returned for Amendment" and "Network RWT", previously controlled in the respective ancillary baskets, were withdrawn on 20 June, 2013.
[302]TalkTalk, *Response to the November 2012 Call for inputs*, December 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.

Table 4.28: Prices of equivalent products controlled currently within MPF and SMPF baskets[303]

	Ancillary product in the SMPF basket	Potentially equivalent product in the MPF basket	Similarity in engineering activity	SMPF price £ (1/4/2013)	MPF price £ (1/4/2013)	MPF/ SMPF diff
1	SMPF Tie Pair Modification (3 working day lead time Re-termination)	MPF Tie Pair Modification (3 working day lead time Re-termination)	Highly similar	39.30	39.30	0.00
2	SMPF Tie Pair Modification (Multiple Re-termination)	MPF Tie Pair Modification (Multiple Re-termination)	Highly similar	29.56	29.56	0.00
3	Cancellation of SMPF orders for Provide, Migration, Modification or Amend	Cancellation of MPF orders for Provide, Migration, Modification or Amend	Highly similar	11.46	11.46	0.00
4	Amend orders (SMPF)	Amend orders (MPF)	Highly similar	11.46	11.46	0.00
5	SMPF Standard line test	MPF Standard line test	Partially similar	4.30	4.30	0.00

Source: MPF/SMPF prices available at Openreach's web-site, http://www.openreach.co.uk/orpg/home/products/pricing/loadPricing.do.

Question 4.19: *Do you agree that we should not align the SMPF and MPF services set out in Table 4.28 above? Please provide reasons to support your views.*

Co-Mingling basket services also useable for leased lines

4.324 In the March 2012 Statement the Co-Mingling basket included services which could be used by CPs both for leased line products as well as for LLU.

4.325 In particular, we identified 44 accommodation products offered by Openreach that CPs may use for leased lines that are regulated as part of the March 2012 Statement in the Co-Mingling ancillary services basket. These overlapping products are identical except that under the terms for "Access Locate" CPs can house a wider range of equipment than under LLU.[304]

[303]The price of symmetric services may be misaligned at the beginning of the control or may diverge during the control period. This could be for various reasons: charges could diverge as Openreach chose to vary prices differentially (for example to recover different amounts of common costs from similar charges); or be because similar services will be controlled in different baskets with different basket controls.

[304]"Overlapping Accommodation Services" used for leased lines listed under Annex to Condition 5.5, Section 2, pages 205-208 of the 2013 BCMR Annex. The "Access Locate" consists in "Contract conversion From RANF to Access Locate. Administration charge (3)" (see page 205 of the 2013 Leased Lines Charge Control Annex) at http://stakeholders.ofcom.org.uk/binaries/consultations/business-connectivity/statement/annexes1-7.pdf.

4.326 Given that the accommodation products were already charge controlled under the March 2012 Statement, we were concerned that implementing a separate regulation on the overlapping products in the 2013 BCMR Statement, could lead to inconsistency and create compliance issues for Openreach, especially as the 2013 BCMR Statement set controls for the period April 2013 – March 2016 which includes two years beyond with the period covered by the WLR and LLU Charge Control set in the March 2012 Statement (i.e., April 2012 – March 2014).

4.327 In order to avoid a situation where Openreach may breach one set of SMP conditions in order to comply with another set of SMP conditions, our view was that the overlapping products should be subject to one charge ceiling. Since the majority of volumes in relation to Co-Mingling services are associated with the provision of LLU services, we considered in the 2013 BCMR Statement that it would be appropriate to determine their level in the WLR LLU Charge Control.

4.328 In the 2013 BCMR Statement[305] we noted that the leased line volumes and revenues associated with these overlapping products were captured in the compliance assessment of the Co-Mingling basket for WLR LLU.[306] This means that the accommodation products for leased lines are already part of the latter charge control. The introduction of an additional requirement as part of the leased lines charge control would have meant that those products would be subject to two different charge controls, so we did not impose a further price ceiling as part of the 2013 BCMR Statement. However, in recognition that the Co-Mingling ancillary services basket includes accommodation services which are used by CPs for leased line products as well as LLU, our view in the 2013 BCMR Statement was that they should be subject to the same regulation and we therefore required Openreach to price accommodation products used for leased lines purposes the same as for LLU Co-Mingling products. By virtue of this obligation imposed in the 2013 BCMR Statement, the new charge controls we propose to set for the Co-Mingling products will effectively apply regardless whether they are used by CPs for leased line products or for LLU.

No cost orientation obligation for services that are subject to a charge control

4.329 A cost orientation condition (typically referred to as a “basis of charges” condition in the legal instruments) can be used alongside a basket control as a way of placing bounds on the flexibility to vary individual charges within the overall basket constraint. Cost orientation has usually been interpreted as requiring charges to remain between DLRIC and DSAC.[307]

4.330 Cost orientation to date has typically linked prices to actual rather than forecast costs, with actual costs for any year only known after the end of that year. This can be a disadvantage if it means that, at the time a price is set, it is unclear whether it is

[305] See paragraph 22.105, 2013 BCMR Statement, available at http://stakeholders.ofcom.org.uk/binaries/consultations/business-connectivity/statement/Sections17-24.pdf.

[306] See March 2012 Statement Annexes, page 179, where we say “For the avoidance of doubt, for the purpose of calculating the Percentage Change for the basket specified in paragraph FAA4(A).1(c), the revenues accrued for Co-Mingling Services shall be taken to include all revenue accrued from selling Co-Mingling Services and/or other services irrespective of their use”. Available at http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/annexesMarch12.pdf.

[307] DSAC stands for Distributed Stand Alone Costs and DLRIC stands for Distributed Long Run Incremental Costs.

cost oriented. Sub-caps can also be used to limit price flexibility, and avoid this uncertainty.

4.331 In the 2013 FAMR Consultation, we proposed that that the imposition of an additional Basis of charges obligation in addition to a charge control would be unnecessary and disproportionate since we consider that an appropriately designed charge control, constraining prices but allowing for the recovery of efficiently incurred costs, is proportionate to address our competition concern. Having set out our proposal we explained that we would set out in more detail the forthcoming 2013 LLU WLR Charge Control Consultation how exactly the design of our charge control results in a Basis of charge obligation being unnecessary, including through the use of sub caps.

4.332 As noted in the 2013 FAMR Consultation, the aim of a charge control is to prevent excessive pricing. Our view is that a well designed charge control which sets prices so that they are constrained to a reasonable level of cost would achieve this aim.

4.333 We set out below how the design of our charge control means that an additional basis of charge obligation is unnecessary.

Responses to the 2012 FAMR CFI

4.334 Four stakeholders commented on cost orientation. Sky, TalkTalk and Virgin seemed broadly supportive of cost orientation, while BT appeared to be supportive of not imposing cost orientation.

4.335 BT said that overlapping obligations can make it difficult to comply with all regulatory obligations. In particular, BT mentioned that "to remain cost orientated, the price of Tie Cables required a decrease that broke the inertia clause for the Co-Mingling basket."[308]

4.336 Sky said that it considered that there were eventualities which may merit the introduction of a cost orientation remedy, in particular where the sub-caps, sub-baskets and inertia clauses were insufficient to prevent the prices of individual services from being excessive.

4.337 TalkTalk said that a cost orientation ceiling is a preferable mechanism to constrain prices as compared to sub-caps or safeguard caps. The effectiveness of sub-caps or safeguard caps to constrain prices depend on a number of factors (e.g. what are the current prices, how costs are likely to develop?), whereas "setting cost orientation ceilings are a more targeted form of regulation since they set the constraint directly rather than indirectly".

4.338 TalkTalk said that a cost orientation obligation that set the ceiling at DSAC had a potential problem in that it was difficult for BT to exactly know the ceiling in advance since the ceiling was based on actual costs. "However, if the ceiling is set with reference to FAC (rather than DSAC) then there is little difficulty predicting costs since FAC costs are well understood and can be easily forecasted".

4.339 TalkTalk did not support DSAC as a price ceiling. It said that DSAC was an arbitrary concept with no basis in economics except that it is a cost that sits between LRIC+EPMU (or FAC) and SAC, it is complex to calculate and allows BT lots of discretion in how it is calculated.

[308]See Openreach's slides on "WLR LLU CC Basket design", 16th April 2013.

4.340 Virgin considered that cost orientation was a valuable remedy as a complement to a charge control. In particular Virgin said that two of the functions of cost orientation (in combination with a charge control) were: the protection from charge control failure due to forecasting errors, especially where the market is unstable, and protection in relation to the pricing of individual services within the wider basket.[309]

Our response and proposal not to impose cost orientation for services within the charge control[310]

4.341 As explained above, the 2013 FAMR Consultation proposed the removal of the cost orientation obligation for services that are charge controlled, including ancillary services. A main reason for not imposing cost orientation alongside a charge control is that we consider that a charge control is the most proportionate remedy to address our competition concern of excessive pricing. We recognise that this approach represents a change to Openreach's current obligations, which include both cost orientation and charge control obligations.

4.342 As noted above, we consider that allowing some flexibility to vary relative charges within the ancillary baskets would be desirable. However, as also noted above this flexibility could be used by BT to its strategic advantage, for example by targeting price reductions/increases at particular services.

4.343 We have proposed to address the risk of Openreach exploiting this flexibility in two ways:

- first, basket caps designed to bring Openreach's aggregate level of charges into line with costs by the end of the charge control period. This would address the risk of excessive pricing at an overall level for services; and

- second, sub-caps on each and every charge within the ancillary baskets to reduce the risk of excessive pricing for these individual services by restricting Openreach's ability to increase any given charge too quickly. We consider that the proposed sub-caps give a greater degree of certainty to stakeholders than cost orientation.

4.344 In the light of that proposed regulation, our view is that it would be inappropriate and disproportionate to impose cost orientation obligations on the products considered in our charge control for to the following reasons:

- first, we consider that the charge control and sub-caps would give a greater degree of certainty to stakeholders in this market than cost orientation. We considered that cost orientation would give stakeholders relatively less certainty, as (at best) actual costs would be known to Openreach's customers only with a lag;

[309]Virgin in its *Response to the November 2012 Call for inputs*, December 2012, also mentioned that cost orientation was important as a protection from (i) excessive pricing, (ii) predatory pricing / price squeeze and (iii) the exploitation of new services entering the market. These concerns are addressed in the 2013 FAMR Consultation.

[310]The 2013 FAMR Consultation considered only three exceptions, i.e., three products that should be under cost orientation: Time-related charges (TRCs), Special Fault Investigations (SFIs) and Electricity charges. Refer to the 2013 FAMR Consultation as to the reasons why the charges for these products should be cost oriented.

- second, the likely absence of actual cost data for ancillary services would make it difficult to verify compliance with cost orientation for individual services within the baskets; and

- third, we have crossed checked that the proposed sub-caps will keep charges below projected DSACs.[311] We therefore consider that the proposed basket caps and further sub-caps are an effective means of addressing the varying risks of excessive pricing for ancillary services. As such, we consider that the imposition of additional cost orientation obligations would be disproportionate.

4.345 In response to BT[312], we note that the 2013 FAMR Consultation proposes to remove cost orientation, thus, ruling out overlapping obligations. In particular, charges will not be simultaneously subject to cost orientation and sub-caps or inertia clauses.

4.346 TalkTalk does not support DSAC as a price ceiling. Our proposal to use sub-caps rather than cost orientation – whether the latter is based on DSAC or some other cost standard – is not based on rejecting the concept of DSAC, rather, we consider sub-caps (as an adjunct to basket controls) as a more straightforward means to address Openreach's ability and incentive to engage in excessive pricing.

4.347 Virgin argued that a cost orientation requirement could provide protection from charge control failure due to forecasting errors, especially where the market is unstable, and provide protection in relation to the pricing of individual services within the wider basket.

4.348 We think it is important to emphasise that the duration of the charge control is limited to three years, as set out above under the heading "Duration of the LLU and WLR charge controls" in Section 3, and this limits the scope for forecasting errors. Also, as pointed out above, we think that the use of sub-caps to constrain pricing of individual services has an advantage over cost orientation in that it provides a greater degree of pricing certainty to stakeholders. The corollary could be some loss of allocative efficiency, since prices would not be directly related to actual costs. We consider that, in the case of ancillary services, the dynamic efficiency advantages are likely to outweigh allocative efficiency considerations.

Question 4.20: *Do you agree that with basket controls coupled with sub-caps on individual services, a cost orientation obligation is unnecessary for the ancillary services? Please provide reasons to support your views.*

[311]DSAC projections for a given service in a given year are based on the respective FAC forecast for that product in that year, assuming that the FAC/DSAC ratio will be held constant at the level of 2011/12 (base year). Projections are made for proxies where necessary.
[312]See issue 4 in BT's slides on "Basket Design", 16 April 2013.

Section 5

Quality of service review and fault rate effects

Introduction

5.1 In this section we explain our ongoing work in relation to Openreach's quality of service in access markets (the QoS review) and in relation to fault rates. We explain how these work streams may impact the eventual levels of the charge controls.

5.2 First, we explain why mandatory levels of service, imposed as part of the fixed access market reviews, have the potential to change what could be considered to be the level of efficiently-incurred costs by Openreach and therefore the appropriate level of the charge controls. As we have set out in section 3, above, one of our objectives in setting charge controls is to set charges to incentivise efficient behaviour that will promote competition and benefit consumers whilst allowing BT to recover efficiently incurred costs.

5.3 Secondly, we outline the assumptions on which we are consulting in relation to fault rates, in particular the relative fault rates of MPF versus WLR+SMPF services and the question of early life failures. This issue was part of the appeal brought by Sky and TalkTalk against the 2012 Statement and the CC identified errors in our approach. Given the complexity of this issue, and the ongoing work being conducted by the OTA in coordination with industry, we are carrying out further work to better understand the issues currently surrounding fault rates.

5.4 For the reasons we explain below, the proposals on which we are consulting are at a preliminary stage and, as a result, we are planning to consult further on these issues in the autumn, including on any consequential changes to the charge control ranges set out in this document.

Quality of service

5.5 As part of the fixed access market reviews, we have been examining matters relating to the quality of service delivered by Openreach in the supply of its regulated wholesale fixed access services. In the FAMR Consultation we have proposed a number of remedies relevant to quality of service, including the proposal for minimum standards against which Openreach will be required to deliver key provisioning and fault repair obligations. Our proposal to introduce a minimum set of standards for Openreach is set out in full at paragraphs 10.285 to 10.332 of the FAMR Consultation.[313] This is a complex area in which, as we explain below, suitable data upon which to reach a fully developed position on which to consult is not readily available. We explain in the FAMR that we are not therefore, currently in a position to make firm proposals on the appropriate level of the minimum standard. As such, we are also not in a position to make firm proposals in this document on the consequential impact on the level of the charge controls (to the extent that there is any such impact).

[313]See Section 9: Remedies: Quality of service introduction and Annexes 9 and 10. Responses to the 2012 FAMR CFI relating to Openreach quality of service are considered and addressed in the FAMR Consultation.

5.6 For the purposes of this consultation, we have not included any specific allowance for a change in service levels in our modelling of the charge controls. As such, the projections of Openreach's costs that are set out in this consultation and on which our model is based, assume that the service standard supported by the resources available in 2011/12 (the base year of our model) is maintained.

5.7 In Table 5.1 below we set out our best estimates of the performance levels in 2011/12. Table 5.1 is based on two different data sets (both of which were obtained using our statutory information gathering powers):

- The *WLR and MPF Copper Appointment Availability to SLA* measure describes the percentage of occasions on which Openreach provides a first available appointment for the provision of a WLR / MPF line within the period specified in its contractually agreed service level agreement (SLA).[314] This data has been provided to us by BT in response to our statutory information requests and relates to the period 2011 to 2012.

- The *WLR and MPF Right First Time* describes a measure of orders completed by the Customer Confirmed Date (CCD) and which do not lead to an 'early life failure' (a fault in the first 8 days). These data sets are the provision performance measures that BT reports to the OTA2 and are similar to the SLA measures of 'order completion by CCD. The OTA2 data covers the period 2009 to 2013.

- The *WLR and MPF Repair* measure describes the percentage of occasions on which Openreach provides a repair within the contractually agreed timescales and which do not lead to a repeat fault within 8 days. This data is derived from data that BT reports to the OTA2. Again, it covers the period 2009 to 2013.

Table 5.1: Openreach performance levels in 2011/12

	2011/12
WLR Copper Appointment Availability to SLA (Note 1)	58-69% *(Note 2)*
MPF Copper Appointment Availability to SLA (Note 1)	58-69% *(Note 2)*
WLR Right First Time (Note 3)	91.0%
MPF Right First Time (Note 3)	95.1%
WLR repair (care-level 1) (Note 3)	81.0%
MPF repair (care-level 2) (Note 3)	73.3%

Notes:
(1) Data provided by BT to Ofcom.
(2) In 2011/12 an SLA did not exist under these categories. The range that we show therefore is an estimate of performance set against a notional SLA target of 13 working days.
(3) Data originally provided by BT to OTA2, and subsequently provided to Ofcom under statutory powers.

5.8 One potential option is to set the minimum level of service quality that Openreach is required to deliver by reference to the 2011/12 delivery standard, on the assumption that Openreach is currently funded to that level. An alternative option would be to require Openreach to deliver to a higher standard. We would anticipate that the latter approach would be linked to increases in engineering resource and hence costs for

[314]For both WLR and MPF/SMPF, the Appointment Availability SLA is currently 13 working days from 1 November 2012 reducing to 12 from 1 November 2013.

Openreach, which would need to be reflected in the charge control to ensure that BT was able to recover its efficiently incurred costs, although this may not necessarily be the case.

5.9 The relationship between engineering resource requirements and service levels is likely to be non-linear to some extent because Openreach is essentially a queue-based organisation at the operational level. We are therefore pursuing two lines of enquiry in order to estimate the impact on Openreach's engineering resources of operating at higher service levels.

5.10 Firstly, we have analysed information obtained from Openreach using our statutory powers in order to gain an understanding of the relationship between performance, fault/order volumes and engineering resources in the recent past.[315] We have considered a range of analysis techniques including:

- matching resource level increases to demand level increases (to return performance to what it had been),
- queuing theory to relate performance to demand and resource levels,
- simple regression of the performance and resource data (to derive a relationship between them), and
- discrete event simulations of varying degrees of detail.

5.11 We have found, however, that there are significant limitations in the period of time over which the key performance and related data is retained by BT. This has limited our ability to estimate the resource impacts of service changes for the purposes of this consultation in that we have only been able to obtain data relating to the last two years. This is one of the reasons why we will be carrying out further work on service levels.

5.12 But even with a more comprehensive data set, there are limitations to the insights that these analysis techniques can give. Consequently, our view is that a very much more detailed approach to the analysis based on simulation techniques, is preferable.

5.13 Openreach has informed us of a very detailed discrete event simulation ("DES") of their operations. We consider that this has the potential to offer a sound basis for estimating the resource impact of service changes because detailed simulation of queuing and resource allocation decisions should enable the relationship between performance and resources to be more completely described. We propose to seek independent validation and verification of this model and to use results from the model as an input to determining the relationship between performance measures and engineering resource levels we require for the regulatory cost models. We will also continue to examine the alternative approaches to estimating costs.

[315]Information requested included: order volumes; CP forecast and actual orders split for each forecast region; provision and repair performance (average time to complete and percentage completed on time); engineering resources deployed on provision, repair and preventative maintenance tasks; preventative maintenance capital and operational expenditure; volumes of reported and cleared faults classified by CP, cause, location, service life, and whether covered by MBORC; MBORC declarations including the time and date raised, duration, area covered and reason; and order intake and cancelled order volumes (not orders completed as provided in response to first notice).

5.14 Openreach has provided some initial results based on the DES model. It should be noted that these results do not necessarily reflect any indicative levels for the proposed minimum standard obligation, but they do give some broad indications of the relationships between service levels and resources (and so costs).

5.15 Development of the DES model is not yet complete so the initial results we have received need to be treated with caution and as indicative only at this stage, especially as further capability and performance affecting factors are to be incorporated.316 BT has explained that the DES model effectively seeks to build a very detailed plan of tasks and associated engineer resource requirements, to meet given performance criteria, from 2011/12 detailed records of provision and repair tasks. Baselines of required resources have been established by setting the performance criteria to that which actually prevailed in a given past year. Flexing the performance criteria then produces resource differences relative to a relevant baseline resource to give an indication of the resource changes needed to improve performance.

5.16 Figure 5.1 below presents the indicative results from the E&Y model that we have received from Openreach for the resource increments relative to the base case required to improve provisioning performance. The results are for "earliest available engineering appointment" with the base case selected as 2011/12 data against a notional 13 day SLA provisioning target. For the purposes of this analysis, repair performance and SLA's are held constant at the actual reported level for the year, while the provisioning parameters are flexed. Openreach estimate that to deliver 80% of its provisions within the future 12 days SLA (from current levels of performance) would lead to an indicative increase in resource of 5.6% to 6.4% being required compared to 2011/12 resource levels.

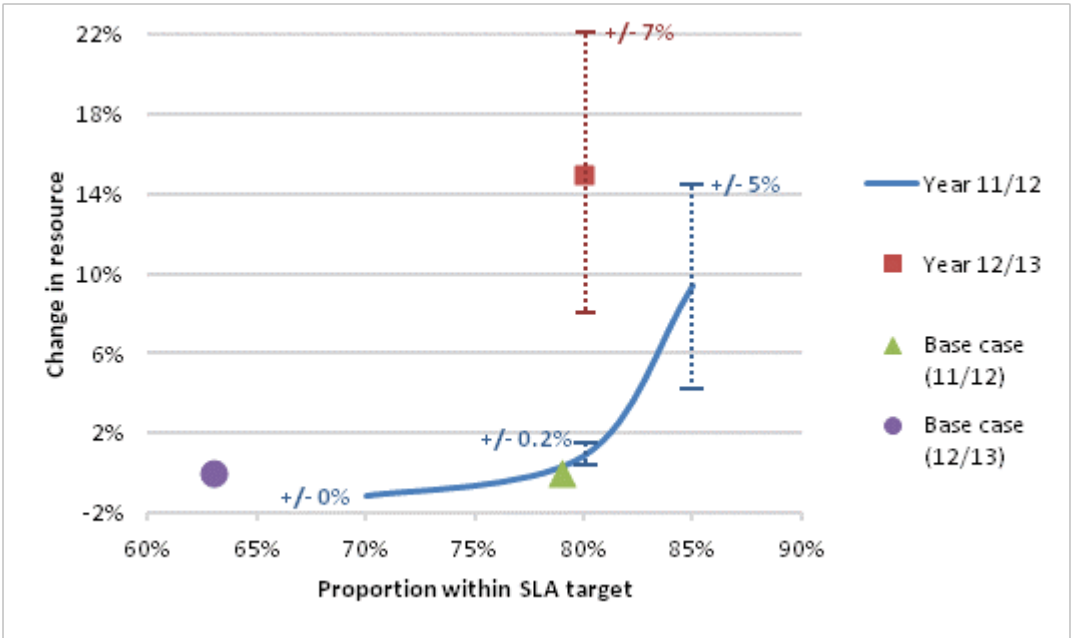
5.17 We would note that while we accept that ensuring an increased proportion tasks meet SLA targets can lead to a permanently higher increase in resources, it is less clear why a reduction in the lead time from 13 days to 12 days appears to require a sustained increase in resources rather than a short term increase to bring about the reduction in lead times.

[316] We understand from Openreach that factors already incorporated in the model to some degree are: (i) the availability of engineers with appropriate skill levels to complete the queued tasks; (ii) the geographic location of available engineers compared to the location of queued tasks; and (iii) different repair care levels. Factors that have yet to be fully incorporated in the model relate mainly to: (i) task completion times tending to increase under particularly heavy load conditions due, for example, to staff being temporarily relocated to work in other areas; and (ii) staff being transferred from one job before it is complete to address a higher priority task. Openreach has also made us aware there may be a practical limit to the performance levels that can be achieved due to a proportion of task situations where it is practically impossible, e.g. specialist equipment is required, or it is commercially not viable to complete the task within the SLA target times. Openreach have suggested such effects may effectively limit the proportion of tasks that can be completed within SLA targets to 85%. Although the model does reflect variations in task time to an extent, Openreach believe work can usefully be done to enhance the model's ability to reflect extreme variations in times of peak workload.

Figure 5.1 Indicative resource increments (FTEs) (relative to 2011/12) required to improve provision performance

5.18 Figure 5.2 below presents the indicative results from the DES model that we received from Openreach for the resource increments required to improve repair performance relative to the performance delivered in 2011/12. Three repair scenarios (proportion within SLA target) are shown for 2011/12 (70%, 80% and 85%) against a base case of actual service level for 2011/12 (the green triangle). We have also shown one repair scenario for 2012/13 (the red square at 80%) against a base case for 2012/13 (the purple circle). Provision performance and SLA's are held constant at the actual reported level for the year while the repair parameters are flexed. Openreach estimate to deliver improved repair performance to an 85% delivery level compared to a 2011/12 baseline requires an indicative increase in resource of 4.4% and 14.4%. Openreach also estimate to deliver a repair performance of 85% compared to 2012/13 baseline requires an indicative increase in resource of 8% to 22%.

Figure 5.2 Indicative resource increments (FTEs) (relative to 2011/12) required to improve repair performance



5.19 We propose to continue to seek improvements and refinement of the performance / resource relationship information emerging from the DES model and seek to derive from such information inputs to the regulatory cost models to the extent that the information we are able to derive is robust.

5.20 Using the ranges in increase in FTE submitted by BT as a guide, we have sought to provide a provisional estimate of how such increases in FTE might translate to an increase in BT's costs of delivering LLU and WLR services. BT has provided us with an estimate of the engineering service costs implicit within the 2011/12 baseline data, including pay and directly incurred non pay items. By way of a guide to the potential order of magnitude that mandatory minimum service levels might involve at different levels, we have flexed these engineering service costs for the 2011/12 base year by the various FTE ranges. The results of this flexing for projected WLR, and MPF rental and connection cost stacks in 2016/17 are shown in Table 5.2 below.

Table 5.2: Potential Levels of Changes in 2016/17 Cost Stacks for WLR and LLU corresponding to changes in FTE

FTE Increase	Minimum Unit Cost Impact	Maximum Unit Cost Impact
5%	£0.40	£0.70
10%	£0.90	£1.30
15%	£1.30	£2.00

+Source: Ofcom analysis of BT data

5.21 We note here that we have included the broad estimates in Table 5.2 in order to give an indication of the potential scale of the impact on costs of requiring a higher base level of performance. We would stress that, given the limited data available to us, that these numbers are indicative only at this stage. These numbers are included to provide indicative figures only and do not reflect our view of final year impacts.

5.22 We also intend to consider as part of our further consultation on this issue in the autumn, the level of Service Level Guarantee (SLG) payments implicit within the base year of 2011/12. In particular we propose to review whether the base level costs should be adjusted to account for proposed changes in service targets. We would expect to include SLG payments at a level which would be incurred by an efficient operator.

Question 5.1: *We would welcome the views of stakeholders on our proposed approach to estimating the cost of changes to service levels.*

Fault rates

5.23 The cost of repairing faults is a significant proportion of the cost of providing the rental services.[317] In the 2011/12 base year of the Cost Model, the cost of repairing faults represents 16% of the MPF cost stack, 14% of the WLR Basic cost stack and 27% of the SMPF cost stack. It is therefore important to obtain accurate base year data on which to determine the appropriate level of fault repair costs.

5.24 This issue was part of the appeal brought by Sky and TalkTalk against the 2012 Statement and the CC identified errors in our approach. Given the complexity of this issue and the CC's determination, we are carrying out further analysis to seek to understand:

5.24.1 the appropriate level of faults for the base year from which we are forecasting, explaining if and why it should deviate from that reported reported by BT;

5.24.2 the appropriate level of faults for the end year (2016/17), explaining if and why that level is different from the start year (for example due to the impact of so called early-life failures (ELFs)[318]; and

5.24.3 for 2016/17, the likely relative incidence of early-life and in-life faults on MPF and WLR+SMPF lines, respectively, and whether there is likely to be any enduring difference between the incidence of faults on MPF lines as opposed to WLR and WLR+SMPF lines.

5.25 From our analysis to date we know that the influences on fault rates are varied. Teasing out the main factors affecting fault rates is not straightforward. It is clear in the light of the CC's findings in the determination of the appeals and the evidence discussed in that context, that the level of faults, particularly early life faults appears to have increased in the last couple of years. Given industry concerns on this issue, the OTA2 is also currently reviewing the apparent increase in the level of ELF on MPF lines in order to understand what is driving this and to identify what mitigating actions can be taken to it. The OTA2 is aiming to conclude this analysis in August 2013.

[317] In 2011/12 figures. These comprise the cost components which include repair costs: -Side Copper Current, D-Side Copper Current, PSTN Dropwire Maintenance, Local Exchange General Frames Current

[318] ELFs are faults that occur within the first month of the completion of an order from a CP (e.g. a migration from one CP to another, or the addition or removal of a feature on the line), measured as 30 days for WLR and 28 days for MPF. In-life failures are, in contrast, those occurring after 28 days. A 'young line' is a line in it its first 28 days since installation or change of service. Any failure on that line is considered to be an ELF. *Limited and TalkTalk Telecom Group Plc v Office of Communications, Case1192/3/3/12. Glossary, Glos.3,* 27 March 2013

5.26 We propose gathering further data from BT and other CPs to help us to understand the current and expected future trends in fault rates. We also propose to take account of the conclusions of the OTA2's current review.

5.27 Once we have completed our further analysis, we intend to publish the results and our proposals for consultation in the autumn, including any consequential impact on the level of the proposed charge controls.

5.28 However, for the purposes of this consultation, we have included in our cost model the reported cost level for faults reported as actually arising the base year (2011/12).[319] We have also used a relative fault rate between MPF, WLR and SMPF of 1.04, 1.0 and 0.16 respectively, with any differences from 2011/12 being driven by volumes of the relevant services and the CVEs for the cost components affected by fault repairs. The way in which we have implemented this is set out in Annex 13 paragraphs A13.112 to A13.121.

The case for equalising fault rates across MPF v. WLR+SMPF lines

5.29 We propose to approach this faults issue by gathering further data from BT and other CPs to help us understand the apparently higher MPF fault rates. We also propose to take account of the conclusions of the OTA2's current review.

5.30 As noted above, for the purposes of this consultation, we have used the base year (2011/12) level of costs as the basis for projecting costs out to 2016/17. This implicitly embeds the level of faults from 2011/12 (i.e. with seemingly elevated early life failures for part of this year), with any differences from 2011/12 being driven by volumes of the relevant services (MPF, WLR and SMPF) and the CVEs for the cost components affected by fault repairs.

5.31 If our analysis on faults cannot identify explicable and measurable, systematic differences in faults between different lines/services then we may consider equalising the fault costs between MPF and WLR+SMPF. Our logic in doing this would be that all lines are basically the same and that the number of faults on an MPF line (which is generally used to support voice and broadband) should therefore be the same as the number of faults on an WLR+SMPF line (which is being used to support voice and broadband). There are also a number of practical and policy reasons for this approach:

5.31.1 gathering reliable data on fault rates for different lines/services may prove to be extremely difficult and costly;

5.31.2 if BT knows that the price of MPF will rise, relative to WLR+SMPF, if it reports/allocates more faults to MPF then this could distort its decisions as to how it reports/allocates faults. There is some overlap here with the point above; and

5.31.3 we are trying to ensure that a CP's choice of what wholesale products to purchase (MPF v WLR+SMPF) is based on which is most efficient and we would not want this decision to become distorted by inappropriate, and unsustainable, fault cost allocations.

[319] E-Side Copper Current, D-Side Copper Current, PSTN Dropwire Maintenance, Local Exchange General Frames Current

Question 5.2: *We would welcome the views of stakeholders on our proposed approach to analysing fault rates. In particular do stakeholders believe that fault rates should differ between MPF, WLR and SMPF? Please provide reasons to support your views.*

Section 6

Charge control cost modelling

6.1 In this section we set out our proposed approach to modelling the costs of the WLA and WFAEL services to 2016/17 for the purposes of setting charge controls.

6.2 In particular, we explain the design of the model by which we have calculated the proposed charge controls and our approach to modelling BT's operating and capital costs. We also summarise our proposals for the key modelling inputs (such as volumes, efficiency, inflation and WACC), note the treatment of cumulo costs and present a sensitivity analysis, which shows the impact of our proposals on the level of the charge controls.

6.3 As part of this consultation, in Annex 11 we set out modelling documentation which explains the mechanics of the Cost Model in more detail. We have published at Annex 12 the Cost Model used to forecast BT's costs for the charge controls to 2016/17.

6.4 We explain our proposals in relation to the modelling of a number of other specific cost items in Annex 13. The treatment of cumulo costs is covered in Annex 14.

Summary of proposals contained in this section

6.5 This section sets out in detail our proposals to:

- use a model to calculate the proposed charge controls that is based on cost components contained in BT's RFS that are relevant to the services we propose to control ('the Cost Model'). This is a departure from the modelling approach used in the March 2012 Statement for the current charge controls for LLU and WLR services. However, it is a methodology used by Ofcom for the purposes of setting a number of other charge controls on BT, including, most recently, the 2013 BCMR Statement[320];

- project BT's costs (excluding copper and duct costs) forward in the Cost Model for the period 2014 - 2017 by applying the asset volumes elasticities ('AVEs') and cost volume elasticities ('CVEs') to the RFS cost components and multiplying through the forecast volumes for each service. As explained elsewhere in this consultation, we propose to continue to value copper and duct assets using the RAV model;

- project costs using an appropriate efficiency forecast;

- include an appropriate return on capital employed, based on a weighted average cost of capital ('WACC') for BT's copper access business;

- forecast copper and duct assets on an aggregate basis using the RAV model, rather than by applying the AVEs (this is consistent with the approach taken in

[320]2013 BCMR Statement: The *'Business connectivity market review'*, published 28 March 2013: http://stakeholders.ofcom.org.uk/consultations/business-connectivity-mr/final-statement/ http://stakeholders.ofcom.org.uk/binaries/enforcement/competition-bulletins/closed-cases/all-closed-cases/cw_01097/Final_Determination_Non_Con1.pdf

the March 2012 Statement). The resultant copper and duct capital costs are used as inputs into the Cost Model;

- adjust the base year costs derived from BT's RFS to be consistent with (i) the previous regulatory treatment of certain classes of asset or cost where we believe this remains appropriate (e.g. uplifting linecard costs to their steady state) and/or (ii) our preferred modelling approach (e.g. the exclusion of costs incremental to NGA but ensuring that all relevant common costs are within the cost base); and

- adopt a set of AVEs and CVEs appropriate for the cost components in question.

Our modelling approach

6.6 In order to calculate the proposed charge controls set out in this consultation, we have designed and built a Cost Model that is based on relevant cost components contained in BT's published RFS, which are then forecast forward using AVEs and CVEs applied to our forecast of service volumes. This is a departure from the modelling approach used in the March 2012 Statement for the current charge controls for LLU and WLR services. As we explain below, this is an established methodology that has been used by Ofcom for the purposes of setting a number of other charge controls on BT's regulated services. We consider that this modelling methodology provides an appropriate and robust basis by which to forecast BT's costs in 2016/17.

Regulatory background

6.7 For the purposes of the LLU and WLR charge controls set in the March 2012 Statement we adopted a modelling approach that took a two stage approach to forecasting costs:

- first, we created a forecast of operating costs and capital expenditure at an Openreach level in a Cost Forecast model ('CF model'). We forecast costs using an activity based costing model, using data based on historically observed activity levels and costs together with estimates of future demand; and

- secondly, we then allocated this cost and asset data to individual services to derive unit cost estimates using a Cost Allocation model ('CA model'). This Cost Allocation model also contained legacy asset information and inputs from an additional model (the RAV model) which reflected the required Regulatory Asset Value (RAV) adjustment.

6.8 In the 2012 FAMR CFI, we explained that this modelling approach was previously adopted on the basis that it had certain advantages associated with the fact that it was based on Openreach's internal forecasting models. In particular, we noted that:

- the modelling reflected Openreach's own assessment of costs and cost behaviour, which Ofcom considered could usefully inform its own assessment;

- the modelling approach was particularly relevant to the charge control analysis in that, for example, it:

  - provided a useful separation of costs and activities related to the access services;

- was relatively closely mapped onto the services for which Ofcom needed to cost and set charge controls; and
- covered a large part of the services that were subject to review.

6.9 However, we explained our view that given developments in the period since the March 2012 Statement these advantages were less compelling and, furthermore, that they needed to be considered alongside a number of potential drawbacks that have become evident since the March 2012 Statement. We also explained our concerns regarding the continued practicality of the CF and CA models in the context of setting any new charge controls for LLU and WLR services. In summary these issues include:

- the growth of NGA Services;
- the availability of input data in a form consistent with the CF and CA models;
- difficulties associated with reconciliation to BT's RFS;
- the level of detail in the model and the disproportionate effort necessary to assess large numbers of cost parameters; and
- the level of disclosure possible with the model.

6.10 In contrast, in the light of circumstances applicable in the present review, we consider that the Cost Model we have designed for this review, based on BT's RFS and AVEs and CVEs, provides a number of benefits, including:

- the familiarity of stakeholders with such RFS-based Cost Models;
- the data is based on audited RFS data; and
- the higher level of disclosure available in the consultation process.

6.11 We explained in the 2012 FAMR CFI our view that, considering the drawbacks of the CA and CF based modelling approach and assessing the benefits of an AVE/CVE approach to modelling, on balance, the AVE/CVE approach is a more appropriate and proportionate methodology for the period from April 2014. On that basis, we explained our preference to use an AVE/CVE model based on RFS data following our standard analytical framework.[321]

Responses to 2012 FAMR CFI

6.12 With the notable exception of BT, most respondents were either neutral on, or broadly supportive, of our proposed approach. For example, [✂] one respondent noted that the approach proposed in the CFI could offer benefits such as greater transparency and simplicity. It went on to note that year on year there can be large variations in costs reported in the RFS and so advised caution when choosing the base year for the Cost Model.

6.13 BT did not explain in detail what it considered to be the drawbacks of the proposed approach, however, it felt such a move would require an additional separate consultation. BT did state that the results from the proposed modelling approach

[321]Set out at paragraph 6.38 of the 2012 FAMR CFI

should in theory be consistent with those from the CF/CA models, however, it felt there was a risk that this might not be the case.

6.14 BT explained its view that a major benefit of the CF/CA approach was that the data was derived from its operating plan, which was subsequently reconciled to the audited RFS. BT implied that a model that forecasts costs materially divergent from those derived from the operating plan would prevent Openreach from recovering its efficiently-incurred costs.

6.15 BT further suggested Ofcom is likely to want to baseline costs against a benchmark level of service. BT said that, on the face of it, Ofcom's preferred approach would require significant adjustment to discretely isolate the operational factors that determine costs so that these costs could be modelled at a different level of service from that delivered by Openreach in the base year. BT felt that the CA/CF approach to modelling would more easily accommodate this type of adjustment, as it is an activity based cost model.

6.16 TalkTalk stated that Ofcom's suggested approach does not reduce the need for close scrutiny of the allocations in order to establish the correct base year.[322]

6.17 Frontier Economics, in a report commissioned by Sky and TalkTalk, stated that although the proposed methodology has advantages in both transparency and simplicity:

> "...the methodology will not take account of movements in component costs which are due to changes over time in the allocation of joint and common costs between different components. This compares less favourably to the current model which attempts to replicate fully this effect for all components within Openreach. For a move to the simplified modelling approach to be justified, the benefits from increased simplicity would have to outweigh any potential loss in accuracy."
>
> "[The] interdependency between the costs of a component and demand for services which use other components means that the purely CVE/AVE based forecasting methodology may produce inaccurate results. The forecasting of cost components, and hence the services that use these components, should take account of relative growth rates in demand for all services that use the underlying shared resources.[323]"

6.18 Frontier Economics noted its view that it is not appropriate to use AVEs for all cost types (such as network capex). However, Frontier Economics stated that the modelling approach proposed by Ofcom in the 2012 FAMR CFI is likely to be as accurate in forecasting operating costs as the CA/CF model.

[322] Paragraph 3.44, *TalkTalk Group Submission*, 21 December 2012 http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf

[323] Page 13-14, Frontier Economics, *Fixed Access markets reviews: Call for Inputs – Ofcom's proposals for cost modelling for the LLU and WLR charge controls*, January 2013, http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BSkyB_and_TTG_cost_implemen1.pdf

Ofcom's analysis and assessment of responses

6.19 We note that one stakeholder who was broadly in support of our proposed approach, noted that Ofcom should be cautious about the base year selected for the Cost Model. We note the concern about variations in allocations and the need to exercise caution in selection of the base year.

6.20 For the purposes of this consultation, we have used 2011/12 as the base year. This is the most recent year for which we have available the published RFS and therefore it contains the most up to date audited information. We consider that the allocation basis used in the 2011/12 RFS is reasonable for the purposes of forecasting costs to 2016/17, unless otherwise stated in this consultation (for example the use of the RAV, as set out in Annex 5, and the adjustments described below and in Annex 13).

6.21 BT plans to publish its RFS for 2012/13 later this summer. We will therefore be able to take this information into account, alongside other information, in our cost estimates and it may be appropriate to use 2012/13 as the base year in our model. To the extent that changes in the 2012/13 RFS reflect changes in accounting methodologies (such as cost allocation rules) rather than changes in the underlying costs, we will need to consider if and how it is appropriate to reflect these changes in our base year costs and whether they justify a move away from the methodologies used in this Consultation.

6.22 In response to BT's suggestion that it is necessary to hold a further standalone consultation on the modelling approach, it should be noted that the 2012 FAMR CFI consulted specifically on whether we should "seek to implement a new cost model for the connection and rental charges of the core access products which relies less on disaggregated BT management accounting data and instead is based on BT's RFS network components and CVEs and AVEs"324. This gave stakeholders the opportunity to comment on our overall approach to modelling and we have developed the modelling approach set out in this document taking into account of the responses to that consultation. Having done this, we are now consulting on the detailed means of implementing our chosen approach and we welcome stakeholder views on our proposed means of implementing the modelling approach set out in this consultation. Having sought and received stakeholders' views on the modelling approach in the 2012 FAMR CFI, we do not consider that anything further would be added by undertaking a further, standalone, consultation on the modelling approach divorced from the actual implantation of that approach.

6.23 Moreover, the approach to modelling that we have adopted for the purposes of this consultation is one that is known and understood by stakeholders, including BT, as it has been used for the purposes of setting a number of other charge controls on BT's regulated services, including the 2013 Leased Lines Charge Control325, the 2011 WBA Charge Control326 and the last 2009 Wholesale Narrowband Statement.327

6.24 We set out below what we consider to be the main drawbacks of using the CF/CA approach for forecasting Openreach's costs to 2016/17. We also explain what we

[324]Consultation question 6.3 in the 2012 FAMR CFI.
[325]*Leased Lines Charge Control, A new charge control framework for wholesale traditional interface and alternative interface products and services*, Statement, 9 July 2009, http://stakeholders.ofcom.org.uk/binaries/consultations/llcc/statement/llccstatement.pdf
[326]*WBA Charge Control, Charge Control framework for WBA Market 1 Services*, Statement, 20 July 2011. http://stakeholders.ofcom.org.uk/binaries/consultations/823069/statement/statement.pdf
[327]*Review of BT's Network Charge Controls*, 15 September 2009 (especially Annex 2). http://stakeholders.ofcom.org.uk/binaries/consultations/review_bt_ncc/statement/nccstatement.pdf

consider to be the key advantages of the AVE/CVE approach to modelling which we proposed in the 2012 FAMR CFI.

6.25 The main drawbacks of the CA/CF approach are:

The growth of NGA services

6.26 In light of our intention to model costs assuming that there was no deployment and take up of NGA services, the extent to which Openreach's own forecasts as set out in the CF and CA models (which will reflect such deployment) can inform our own is reduced[328].

Availability of inputs

6.27 The inputs from Openreach for the CF and CA models (particularly in relation to activity and cost allocation) may no longer be available in a form consistent with the models used for the March 2012 Statement, meaning that a substantial reworking of the models would be required.

Reconciliation

6.28 The CA and CF models involved a substantial exercise to reconcile the Management Account inputs with BT's Regulatory Financial Statements (RFS) for the 2009/10 base year in March 2012. Given ongoing changes in BT's business in the intervening period, we would expect this exercise to be even more difficult, for example changes made to the way BT prepares its internal management accounts may make reconciliation more complex.

Level of detail

6.29 The highly granular nature of the CA and CF models may result in disproportionate effort being directed towards large numbers of individual cost parameters and data points.

Disclosure

6.30 Stakeholders have previously expressed certain concerns with the modelling approach used in the March 2012 Statement. Since the CF and CA models rely on highly disaggregated and commercially sensitive inputs from Openreach, when approaching disclosure of the cost modelling, it has been necessary for Ofcom to balance the confidential nature of the data underlying the modelling against the need to ensure appropriate transparency. Whilst we consider the level of disclosure provided was appropriate for ensuring effective consultation, stakeholders have nonetheless expressed concerns regarding the level of disclosure in previous charge control reviews.

6.31 The key benefits of the proposed approach, to use a model based on BT's RFS and projected forward using AVEs and CVEs are:

[328]It is possible to remove direct NGA costs; however Openreach's forecasts (the basis for the CF/CA model) would include common costs allocated to NGA services. As the deployment of NGA increases, Openreach's management account forecasts would become increasingly less relevant for forecasting an ongoing copper network.

Familiarity of Stakeholders with RFS cost models

6.32 We (as well as stakeholders) are experienced in this approach and it would be consistent with the approach we used in the 2013 Leased Lines Charge Control[329], the 2011 WBA Charge Control[330] and the last 2009 Wholesale Narrowband Statement.[331]

Based on audited RFS data

6.33 The AVE/CVE model is based on audited information in the RFS that captures recent movements in costs and efficiencies and does not require the same level of reconciliation necessary for the CF and CA models.

Disclosure

6.34 A greater degree of disclosure of the modelling is possible than was the case for the CF and CA models. This is because the modelling is done at a higher level of aggregation (at the cost component level), which is consistent with the RFS.

6.35 BT also highlighted its concern that the outputs of the Cost Model would be inconsistent with those that would result from using the CF/CA approach. As part of our review to calculate the proposed charge controls, we have performed an exercise to compare the 2013/14 FAC from the March 2012 Statement with the FAC for 2013/14 in the Cost Model (i.e. the using the AVE/CVE approach to modelling). We did this to compare the costs used to set the 2013/14 price (i.e. the current price in force at the date of this consultation) to the costs which we propose to use in order to calculate the X for the proposed charge controls.

6.36 We set out in Table 6.11, an explanation for the major movements in costs, as compared to the March 2012 Statement and consider that the two models would produce broadly consistent outputs. This means that other than where we have made specific policy decisions, such as decisions following from the recent appeals and changes in the way BT accounts and allocates certain costs we expect the FACs from both models would produce broadly similar outputs

6.37 In response to BT's comment regarding the use of AVE and CVE figures from its LRIC model, we agree that it would not be appropriate to take the outputs from BT's LRIC model simply at face value. We have checked the outputs from BT's LRIC model and considered whether they would they produce changes in costs which we would expect given our knowledge of BT's costs. We have proposed adjustments to the CVEs derived from BT's LRIC model where we consider that these figures are not appropriate for forecasting costs to 2016/17.

6.38 As described in paragraph 6.36 above, we have also performed a cross-check of the resulting unit cost outputs of the Cost Model used to forecast FAC costs to 2013/14 (by comparing them to the outputs of the 2013/14 FAC used to set the charge control explained in the March 2012 Statement). This ensures that the Cost Model operates

[329] *Leased Lines Charge Control, A new charge control framework for wholesale traditional interface and alternative interface products and services*, Statement, 9 July 2009, http://stakeholders.ofcom.org.uk/binaries/consultations/llcc/statement/llccstatement.pdf
[330] *WBA Charge Control, Charge Control framework for WBA Market 1 Services*, Statement, 20 July 2011. http://stakeholders.ofcom.org.uk/binaries/consultations/823069/statement/statement.pdf
[331] *Review of BT's Network Charge Controls*, 15 September 2009 (especially Annex 2). http://stakeholders.ofcom.org.uk/binaries/consultations/review_bt_ncc/statement/nccstatement.pdf

as expected. We discuss our approach to estimating AVEs and CVEs in more detail from paragraphs 6.75 and 6.96 respectively.

6.39 In relation to BT's concern that the Cost Model may not align to Openreach's business plan, we do not consider that the outputs of the Cost Model, which incorporates our assumptions, should necessarily align with Openreach's business plan. We have reconciled the base year of our model to BT's audited RFS and consider that this represents an appropriate starting place for forecasting costs to 2016/17. We consider that this approach will provide Openreach with the opportunity to recover its efficiently-incurred forward looking costs.

6.40 We discuss our approach to estimating the cost of service level changes in Section 5. We note here, however, that we consider that the Cost Model will be capable of reflecting any changes to costs which are necessary to reflect service levels.

6.41 We agree with TalkTalk that our proposed approach still requires scrutiny of costs and allocation bases in the Cost Model. We have undertaken an analysis of the allocation basis for the major components and we are proposing changes to the allocations of certain components. This is explained in more detail in Annex 13.

6.42 We note Frontier Economic's concern that the Cost Model does not take into account changes in allocations of common costs as a result of relative changes in demand. Frontier Economics uses the reallocation of duct costs from copper access services to NGA to explain its point. For the purpose of the proposed charge controls, we are estimating a copper-only network therefore we do not factor in any relative change in demand as a result of NGA roll-out.

6.43 Frontier Economics cited the re-allocation of costs in the 2013 Leased Lines Charge Control to illustrate its point. We note, however, that in the Leased Lines Charge Control, there were significant volume movements as a result of declining TISBO services and growing Ethernet services, whereby a re-allocation of common costs may be appropriate. In addition, as Frontier Economics notes, the cost components for TISBO and Ethernet were largely separate therefore in terms of modelling, costs were not automatically reallocated between the two services.

6.44 In the context of the WLA and WFAEL markets, we are not forecasting a significant change in the overall number of copper lines. Further, as the majority of cost components are common between WLR rentals and MPF rentals, we do not consider that that our proposed modelling approach will require a common cost re-allocation to take account of any such shift in demand.

6.45 We agree with TalkTalk that it is not appropriate to use AVEs to forecast all cost types. For this reason we have separately calculated network capex using the RAV model. This is explained from paragraph 6.112.

Proposals on modelling approach

6.46 The adoption of an appropriate and proportionate means by which to model BT's forecast costs for the purposes of setting charge controls for LLU and WLR services is clearly of central importance to this review. There are, as with many aspects of the proposals contained in this consultation, potentially a number of alternative ways by which Ofcom could undertake the modelling process by which to derive a robust forecast of BT's costs. In selecting the appropriate modelling approach, Ofcom is required to exercise its judgement, based on its experience as the sector regulator for these services.

6.47 In previous LLU and WLR charge controls we have used the CF and CA models based on BT's forecasts of costs. In a number of charge controls covering other regulated services we have used an approach based on AVEs and CVEs. Whilst the CF and CA approach was appropriate for the purposes of previous LLU and WLR charge controls, for the reasons explained above, we now consider that this approach would no longer be fit for purpose in a number of respects and in other respects involve material disadvantages in comparison with the AVE and CVE approach.

6.48 Whilst stakeholders have raised a number of issues for Ofcom to consider when undertaking the modelling exercise, for the reasons set out above we do not consider that any of those issues are materially different from the kind of issues previously faced by Ofcom when using the CF/CA approach and, moreover, our view is that those concerns can be addressed by adopting the safeguards and precautions outlined throughout this consultation.

6.49 Having carefully considered the advantages and disadvantages of the alternative modelling approaches and stakeholders' responses to the 2012 FAMR CFI, we continue to consider that a model based on information from BT's RFS, which is forecast to 2016/17 using AVEs and CVEs represents the most appropriate and proportionate means of deriving BT's forecast costs in 2016/17. We have therefore commissioned Analysys Mason to build an AVE / CVE based model that would follow our standard analytical framework for such models. The modelling approach that we have used for the purposes of proposing the charge controls in this consultation involves the following steps:

- identify from the RFS the cost components relevant to the services which we propose to control (and consider if others need to be defined);
- calibrate our base year costs for the modelled network to BT's RFS;
- adjust the base year costs to be consistent with (i) the previous regulatory treatment of certain classes of asset or cost and/or (ii) our preferred modelling approach (e.g. the exclusion of costs incremental to NGA, ensure that all relevant common costs are within the cost base);
- define the set of AVEs and CVEs most appropriate for the cost components in question (informed from BT's LRIC model);
- project costs forward for the period 2014 - 2017 by applying the AVEs and CVEs to the base period costs and multiplying through the forecast volume changes. Our projected costs would also embed the appropriate efficiency forecast (typically applied as a further annual percentage change in costs) and capital related costs would include the appropriate return on capital employed (based on the WACC for BT's copper access business – see below); and
- assess the charges for the final year of the charge control (based on projected costs) to determine whether any further adjustments are necessary – for example, setting the differential in key rental charges to LRIC.

6.50 We have published a non-confidential version of the Cost Model alongside this document as Annex 12. In addition we have published, at Annex 11, the model documentation produced by Analysys Mason to assist stakeholders when using the Cost Model. We intend to further refine this Cost Model, after considering

consultation responses and new information as available (e.g. updated volume forecasts and cost information) to assist us in setting the final charge controls.

Cost Model: audit and publication

6.51 One of the benefits of the new modelling approach that we have proposed, as part of this consultation, is the increased level of disclosure of the modelling underpinning the proposed charge controls for stakeholders. We consider that it is important for stakeholders to be able to understand how the models work and in particular, how the cost stacks have been calculated. As part of this, we have considered carefully the confidential nature of certain of the data used which inform our proposals and the need to ensure appropriate transparency, including in relation to the financial modelling underlying our proposals.

6.52 The modelling undertaken as part of this review contains data supplied by Openreach with respect to its business which has been obtained under the Act. There is a general restriction under the Act on Ofcom disclosing such information without consent unless an exception applies[332]

6.53 One of the exceptions under the Act permits Ofcom to disclose data without consent for the purpose of facilitating the carrying out of its functions, including its functions as to consultation.[333] Ofcom has engaged closely with Openreach on model disclosure to obtain Openreach's consent to allow underlying data to be disclosed, including testing Openreach's assertions on confidentiality. The charge control models contain highly disaggregated Openreach data, much of which Openreach considers is commercially confidential or outside the scope of these charge control reviews. Consequently, Openreach has withheld its consent in relation to certain data underlying the models.

6.54 In light of the level of disclosure consented to by Openreach, Ofcom has considered whether any further disclosure is required, including considering whether confidentiality concerns can be addressed by masking and/or aggregating data and/or using appropriate ranges from which a random number is selected. This allows stakeholders to understand the mechanics of the model.

6.55 In undertaking this excerise, we have also considered our framework for disclosure of charge control models.[334]

6.56 We have also engaged with stakeholders prior to this consultation to ensure that they understand our approach and how it has been developed, and have had the opportunity to contribute to it.

6.57 In light of thse considerations, we are proposing to disclose:

- a version of the cost model which includes non-confidential input data and the formulae, published alongside this consultation document at http://stakeholders.ofcom.org.uk/consultations/llu-wlr-cc-13;
- and the volume forecast model, published alongside this consultation document at http://stakeholders.ofcom.org.uk/consultations/llu-wlr-cc-13.

[332]Section 393 of the Act.
[333]Section 393(2)(a) of the Act.
[334]'Framework for Disclosure of Charge Control Models' published in October 2010 http://stakeholders.ofcom.org.uk/binaries/consultations/784024/Charge_control.pdf.

6.58 We have also published a model documentation report (Annex 11) prepared by Analysys Mason which explains how the model has been constructed.

6.59 It is Ofcom's view that the non-confidential models made available, taken together with the description in this document, provide the level of transparency necessary to allow those consulted to give intelligent consideration and an intelligent response.

6.60 In order to give stakeholders confidence that our charge control model is robust and fit for purpose, we have commissioned a separate team in Analysys Mason to undertake an audit of the full version of the Cost Model. Alongside this, we have conducted our own audit of the Cost Model. This should provide stakeholders with confidence as to the validity of any information withheld.

Using the model to forecast a copper only network

Regulatory background

6.61 In the March 2012 Statement, we forecast costs at a total Openreach level in the CF model. We then allocated those costs to the LLU and WLR services in the CA model. For the purposes of the March 2012 Statement, the base year for the modelling was 2010/11 and, on that basis, we considered that the level of fibre deployment and roll-out would be low. We removed the direct costs of NGA and removed NGA services from the CF and CA models to ensure that costs for WFAEL and WLA services were not over- or under-estimated as a result of NGA roll out.

6.62 The base year we have adopted in the Cost Model for the purposes of this consultation is 2011/12 and there has been further fibre roll-out in this period (compared with 2010/11). Therefore, if we were to replicate the CF and CA modelling approach for the proposed charge controls, it is likely that total Openreach costs may be over-stated as a result of further fibre deployment.

6.63 In the 2012 FAMR CFI, we explained that we proposed to use an anchor pricing approach to set charges, based on the efficient ongoing costs of providing services over a copper network, ensuring all incremental fibre costs are excluded from the base year (and forecast) costs. As a result, it is necessary to ensure that the input data used in the Cost Model does not include costs associated with fibre.

Responses to 2012 FAMR CFI

6.64 Some stakeholders were concerned that the costs included in our cost model would be too high as a result of indirect NGA costs. Sky and TalkTalk both raised the scenario where duct was repaired prior to installation of fibre. This would be reported as a general duct cost, which would get allocated to copper and fibre. However, Sky and TalkTalk argued that, in a copper-only scenario such repairs would not happen and that therefore common duct costs should be properly allocated to fibre. Sky and TalkTalk suggest that this would require an adjustment in the model to reflect a reduction in copper costs.

6.65 In contrast, BT argues that, in a copper-only world, the duct system would need to be upgraded over time and that therefore the copper cost components would still pick up costs relating to the repair of duct.

Ofcom's analysis and assessment of responses

6.66 We explain our reasons for proposing to model a hypothetical copper only network in Section 3. In order to estimate the costs of a hypothetical copper only network, we need to ensure that both direct and indirect NGA costs are excluded from the costs allocated to the WLA and WFAEL markets.

6.67 The input data in the Cost Model is BT data, obtained under our statutory information gathering powers, which reconciles to the RFS. This data is based on cost components, which are allocated to services using usage factors.

6.68 We note that many of the cost components within the Cost Model are solely allocated to services within the WLA and/or WFAEL markets, therefore these would not include any costs associated with NGA.

6.69 However duct costs which are allocated to D-side and E-side copper components which are common between copper and fibre products, are allocated based on 'The Absolute Duct Study' which determines the split between Access Duct used for fibre and Access Duct used for copper cable when the survey was carried out in 1997. This base is then updated based on the split of 1997 Gross Replacement Cost (GRC) for Access Duct plus fibre and copper Access Duct spend by Class of Work (CoW) since 1997.[335]

6.70 We note that Sky and TalkTalk are concerned that costs (in particular duct costs) may be overstated as indirect NGA costs could be included in the Cost Model.

6.71 It might be the case that, if the copper services picked up all of the cost of the existing duct network plus some of the capital expenditure on duct acquired in connection with NGA, copper services might pick up too big a share of total asset related costs. However, given that some of the cost of the existing duct network is already allocated to fibre in our cost modelling, we do not consider it likely that, at an aggregate level, copper services pick up costs in excess of those that would be incurred by a copper-only network.

6.72 Further, within the Cost Model, duct costs are projected forward based on assumptions about capital expenditure in the RAV model. We explain this from paragraph 6.112 below, however in summary, duct capital expenditure is forecast based on BT's copper only capital expenditure programmes. We are therefore able to isolate capital expenditure related to copper only. This means that the capital costs of copper cost components are not distorted upwards by either direct or indirect NGA costs.

6.73 We have performed a cross-check of the duct capex forecast in our cost model against the copper-only duct capex in the CF/CA models used for the March 2012 Statement. The duct capex forecast in the Cost Model of £66.8m in 2013/14 is lower than the forecast in the CF/CA charge control models of £80m for the same year which excluded NGA capex. For this reason, we propose that no adjustment should be made to the Cost Model to reflect duct costs.

[335] Page 157, BT, *Detailed Attribution Methods (DAM)* 2012.

Proposals on modelling approach

6.74 For the reasons described above, we do not propose to make any further adjustment to the Cost Model to exclude NGA costs as we are satisfied that the costs included in the Cost Model already represent the costs of a hypothetical copper-only network.

Cost Model: Operating costs

Regulatory background

6.75 In the 2012 FAMR CFI the approach we proposed to adopt for forecasting operating costs (before taking into account our input assumptions such as efficiency improvements and input price inflation[336]) was to:

- define a set of CVEs most appropriate for the relevant cost components; and
- apply the CVEs to our forecast of product or service volumes in order to project the operating costs forward from the 2011/12 base year to the final year of the charge controls in 2016/17.

6.76 CVEs are used to determine the level of operating costs needed in responses to changes in demand (the percentage change in operating costs for a 1% fall in volumes). CVEs (and AVEs) measure the extent of economies of scale and/or scope in the modelled network.[337] A CVE of 1 implies no economies of scale (or scope). A CVE less than one implies economies of scale (i.e. unit costs increase less than the increase in volumes) and a CVE greater than one implies diseconomies of scale (i.e. unit costs increase more than the increase in volumes).

Responses to 2012 FAMR CFI

6.77 Of those stakeholders that responded on the specific proposal to use CVEs in the modelling, two (Verizon and [✂]) were broadly supportive of the proposed approach.

6.78 However, Openreach raised a concern on the practical implementation of the CVE (and AVE) modelling methodology.

6.79 In its response, BT stated that we had not explained where we would source the CVEs, it argued that its LRIC model was designed to produce a long run view of costs and therefore may not be "fit for purpose" for setting charges over a three-year charge control.338

6.80 Frontier Economics, in its report commissioned by Sky and TalkTalk, also noted that BT's LRIC model is long-run and therefore may not reflect the marginality of costs over a three year charge control. Frontier Economics suggested that the previous CF/CA model may provide reasonable estimates of CVEs.

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[336]We set out our proposed approach to input assumptions from paragraph 6.115.

[337]Economies of scale arise due to the presence of fixed costs, i.e. as volumes increase costs increase less than proportionality, so unit costs fall. Economies of scale arise due to common costs – i.e. costs which reflect activities or investment which can support more than one service. When looking at how total unit costs change in response to a change in volumes, falling unit costs will be due to cots which are fixed for the change in volumes in question (and these might be service specific fixed costs - i.e. if the volume change is for less than the service in question) or fixed costs which are common across more than one service.

[338][Ref], BT, *Response to the November 2012 Call for inputs*, January 2013, http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BT.pdf

6.81 However, Frontier Economics also noted that a model based on CVEs is likely to be as accurate in forecasting operating costs as the CA/CF models.

Ofcom's analysis and assessment of responses

6.82 CVEs and AVEs can be calculated from BT's LRIC model by obtaining an estimate of Cost Volume Relationships ('CVRs') for each category of cost, asset and liability. The CVRs describe the level of cost, asset or liability that is estimated at different levels of volume of the appropriate cost driver. The CVRs are then used to derive a calculation of the LRIC, given the level of Fully Allocated Costs ('FAC'). The ratio of the LRIC to FAC then provides an estimate of the CVEs and AVEs.

6.83 BT originally developed the LRIC model to inform the way it set prices in various markets. The LRIC model has typically been used to inform the floors (DLRIC339) and ceilings (DSAC340) used as part of the assessment of cost orientation obligations where these have been set. A key assumption in the LRIC model is that costs, in particular some assets with long lives, are potentially fully scalable in the long run. We understand BT's argument that CVEs that are derived from the LRIC model were perhaps not intended to forecast costs over a three year horizon. However, the cost volume relationships within the model, particularly those for operating costs, do show how BT expects that costs will change as volume change and are therefore a useful input into the cost forecasting process.

6.84 However, we consider that the CVEs sourced from the BT LRIC model have the benefit of being based on the cost allocation methodology that derives the FAC published in the RFS.

6.85 Although we recognise that BT's LRIC model is designed principally to estimate changes in costs over longer periods of time than a three year charge control, we consider that it represents the best data available to us to estimate CVEs for the Cost Model. This is because:

- the CVEs derived from the LRIC model are intended to estimate a percentage change in costs for a given percentage change in volumes, which is what we are trying to achieve in the Cost Model;
- the CVEs reflect BT's up-to-date allocation basis underpinning its audited RFS; and
- the data in the LRIC model is consistent with the data being used in the Cost Model (i.e. FAC and 2011/12 RFS allocations).

6.86 As inputs to the Cost Model we requested 2011/12 CVEs derived from BT's LRIC model using our statutory information gathering powers. BT provided, in its response to the First BT information request, both pay and non-pay CVE estimates for the cost components included in the Cost Model for the years 2009/10-2011/12. These figures are calculated as the component LRIC estimate divided by the component FAC estimate for each year. These are set out in Table 6.1 below.

[339]Distributed Long Run Incremental Cost - As set out on page 124 of the 2011/12 RFS, this is the LRIC plus a share of common costs.
[340]Distributed Stand Alone Cost – As set out on page 124 of the 2011/12 RFS, this is the Stand Alone Cost excluding a share of core common costs.

Table 6.1: Openreach's 2011-12 CVEs

Cost Component	Weighted average of pay and non-pay CVEs
Wholesale Access specific	0.86
Routeing and records	0.97
MDF Hardware jumpering	0.97
Software jumpering	0.95
OR service centre provision WLR PSTN/ISDN2	0.90
OR Service centre provision LLU	0.90
Sales product management	0.93
Directories	0.80
E side copper capital	0.74
E side copper current	0.52
D side copper capital	0.80
D side copper current	0.56
Local exchanges general frames capital	0.93
Local exchanges general frames current	0.94
PSTN line test equipment	0.94
Dropwire capital and PSTN NTE	0.93
Business PSTN drop maintenance	0.96
PSTN line cards	0.87
Pair gain	0.95
OR service centre Assurance WLR PSTN/ISDN2	0.91
OR service centre Assurance LLU	0.90
Combi card voice	0.80
Local loop unbundling systems development	0.86
Broadband line testing systems	0.94
Local Loop unbundling room build	0.81
Local Loop unbundling hostel rentals	0.89
Local Loop unbundling hostel rentals power and vent	0.87
Local Loop unbundling tie cables	0.74
ADSL connections	0.93
DSLAM capital/maintenance	0.81

Source: Ofcom analysis of Openreach information

6.87 We propose to use the CVEs from BT's LRIC model, calculated as the LRIC/FAC ratio for each component where we consider that this data is the best available data

and is a robust approach for forecasting costs forward to 2016/17. Having obtained those figures, we agree with stakeholders that it is necessary to undertake an assessment of them to determine whether they are appropriate to use in practice.

6.88 Frontier Economics suggests deriving CVEs from the previous CF/CA model, however there are significant practical difficulties associated with this approach:

- the CF/CA model is an activity based costing model which was not intended to provide AVEs and CVEs, the basis for the model is a forecast of labour hours which is not consistent with an AVE/CVE model;
- the CF/CA model assumes that the majority of costs have a CVE of either 1 or 0, therefore we do not think that the CVE outputs from that CF/CA model would be appropriate for forecasting all costs to 2016/17;
- the CF/CA model uses different cost categories to those in BT's RFS, which we use in the Cost Model which would make any CVEs derived from that model difficult to translate to the cost components in the Cost Model; and
- the CF/CA model uses a base year of 2010/11 (which is a mix of actual and forecast data) and uses assumptions which we considered relevant to forecast Openreach's costs (at a total Openreach level) to 2013/14. In order to estimate CVEs which are robust for forecasting costs to 2016/17, we would need to refresh the CF/CA model, which is impractical and not proportionate.

6.89 We have taken into account stakeholders concerns about the appropriateness of outputs from BT's LRIC model for forecasting to 2016/17. We have therefore considered the CVEs and propose to adjust two of them, which we consider are unsuitable for cost modelling purposes.

6.90 This is because two of the CVEs provided by BT have values greater than 1, that is "PSTN line test equipment" and "Broadband line testing systems". Any CVE value that is greater than 1 would indicate that the operating cost for this cost component would increase by a greater proportion than any relative movement in volumes. We take the view that while this could be a theoretically valid relationship, we do not think it would be appropriate for these components, as they are not expected to have any diseconomies of scale. We have requested clarification from BT as to why these figures are greater than 1 and have been informed that this is a result of credits recorded against certain costs allocated to the components (where the components are an aggregate of a number of costs). This has resulted in the LRIC for these components exceeding the FAC.

6.91 As we do not consider that these figures are appropriate for use in the Cost Model, we need to determine appropriate alternatives. Our proposal is to replace those two LRIC/FAC CVEs that are greater than 1 with the figures for each of the two prior years' (2009-10 and 2010-11), which Ofcom's analysis shows was 0.96 for both CVEs. We consider this is appropriate, given our understanding of the nature of this testing equipment. For example, we understand that TAMs do not exhibit strong economies of scale and can be installed in relatively small modular units.

6.92 Therefore, the CVEs we propose to use are those set out in Table 6.1 above with the exception of the 'PSTN line test equipment' and 'Broadband line testing systems' where we have replaced the values with our view of appropriate alternative CVEs of 0.96 and 0.96 respectively.

6.93 Because we favour using up to date estimates as far as possible, we propose to use the latest AVEs provided by BT under section 135 of the Act and anticipate doing so again in advance of our statement on these charge controls. We would again review any updated AVEs to assess whether they were reasonable – i.e. consistent with a priori expectations and in a similar range to previous estimates.

Proposals on modelling approach

6.94 Following the process of cross-checking described above, we propose to use the 2011/12 CVEs from BT's LRIC model for the purposes of forecasting costs to 2016/17 which we have obtained using our section 135 information gather powers, where they are below 1.

6.95 In the two instances in which the 2011/12 CVEs are greater than 1, we do not consider that it would be appropriate to use the data provided by BT. In those instances we propose to use the average of the 2009/10-2010/11 CVEs.

Question 6.1: *Do you agree with our proposals for forecasting operating costs using CVEs based on BT's LRIC model? Please provide reasons to support your views. If you do not agree, please propose an alternative approach with supporting information.*

Cost Modelling: capital costs

Regulatory background

6.96 In the 2012 FAMR CFI the approach we proposed to adopt for modelling the asset capital costs other than copper and duct was to:

- define a set of AVEs most appropriate for the relevant cost components; and
- apply the AVEs to our forecast of volume movements in order to project the capital costs forward (from the 2011/12 base year) to the final year of the charge controls in 2016/17.

6.97 AVEs are used to determine the level of capital costs needed in response to falls in demand (the percentage change in assets, valued at gross replacement costs, for a 1% change in volumes). As with CVEs, AVEs measure the extent of economies of scale or scope. An AVE less than 1 implies economies of scale and/or scope.

6.98 In the 2012 FAMR CFI we explained that we propose to forecast the capital costs for Cable and Duct assets through the RAV model, the methodology involved in this approach is explained in paragraph 6.112 below.

6.99 Other relevant capital costs are those arising from the differences between current assets and current liabilities, i.e. net current assets (NCA). In the CF/CA Model we used the NCA as per Openreach's management accounts.

Responses to 2012 FAMR CFI

6.100 Of those stakeholders that responded on the specific proposal to use AVEs in the modelling, two (Verizon and [✂])were broadly supportive of its use.

6.101 However, a number of stakeholders raised concerns with the application of AVEs to forecast capital costs.

6.102 BT's arguments, discussed in paragraph 6.79 about the suitability of its LRIC model CVEs for forecasting a three year charge control would apply as much to AVEs derived from its LRIC model, and we have responded to these from paragraph 6.82 above.

6.103 Frontier Economics argued that using AVEs to forecast capital costs was inappropriate for modelling the capital expenditure requirements of the access network. It stated that the access network is characterised by very high fixed and sunk costs and therefore capital investment is a long term function that would not be accurately predicted by AVEs over the length of the proposed charge control period. It also considered that there could be spare capacity in the access network that would further invalidate the linear relationship between capital expenditure and volume change that the use of AVEs would assume.

Ofcom's analysis and assessment of responses

6.104 We agree with Frontier Economics that it would be inappropriate to rely solely on AVEs to forecast capital costs for the cost components utilised by services in the WLA and WFAEL markets.

6.105 We consider that the nature of investment in the cable and duct assets is likely to be of a more complex nature than will be described by the simple relationship derived through the use of AVEs. We have therefore estimated copper and duct capital expenditure separately in the Cost Model as part of the RAV calculation. This is explained further in paragraph 6.112 below.

6.106 However, we consider that non-copper and duct capital costs (for example, motor transport and computing) do not share the same longer term investment characteristics and can be effectively forecast using AVEs. We therefore consider that forecast volume change multiplied by the relevant AVE is an appropriate method for forecasting such capital costs to 2016/17.

6.107 As inputs to the Cost Model we requested 2011/12 AVEs from BT's LRIC model using our statutory information gathering powers. BT, in its response to the First BT information request, submitted AVEs for 2009/10-2011/12. The 2011/12 AVEs are set out in Table 6.2. The AVEs submitted by BT are provided by sector (this is an aggregate level of capital costs). We calculate an average AVE for each component in the Cost Model. These are calculated based on the GRC by sector for each component. This enables us to use AVEs submitted by BT in the Cost Model in order to forecast costs to 2016/17.

Table 6.2: Openreach's 2011-12 AVE submissions

Asset	AVE
Cable	0.31
Duct	0.05
Local Exchange	0.51
Main Exchange	0.47
Intangibles	0.92
Transmission	0.83
Other Network Equipment	0.92
Motor Transport	0.65
Land & Buildings	0.73
Computers & OM	0.72
Other	0.92

6.108 We consider that AVEs derived from BT's LRIC model are appropriate for forecasting (non-copper and duct) capital costs and propose to use them in the Cost Model because:

- the AVEs derived from the LRIC model are intended to estimate a percentage change in GRC for a given percentage change in volumes, which is what we are trying to achieve in the Cost Model;
- the AVEs reflect BT's up-to-date allocation basis underpinning its audited RFS; and
- the data in the LRIC model is consistent with the data being used in the Cost Model (i.e. FAC and 2011/12 RFS allocations).

6.109 We assessed whether it was necessary to change any of the AVEs and considered that they were appropriate for forecasting costs to 2016/17 – in particular they are in the range expected a priori, for example, the more "fixed" assets typically have lower AVEs (e.g. cable duct and exchange assets), whereas these likely to be more variable have higher AVEs (e.g. computers), and all are less than 1. We recognise that in some cases the AVEs are different from those used in earlier regulatory cost models. Because we favour using up to date estimates as far as possible, we propose to use the latest AVEs provided by BT under section 135 of the Act and anticipate doing so again in advance of our statement on these charge controls. We would again review any updated AVEs to assess whether they were reasonable – i.e. consistent with a priori expectations and in a similar range to previous estimates.

6.110 In respect of NCA, BT, in its response to the First BT Information Request, provided NCA at a service level. In the Cost Model, we then map this onto components using usage factors, as adjusted by Ofcom. We note that in the base year data provided by BT, the NCA is negative for all services except MPF Tie Cables and has been either negative or zero in 2009/10 and 2010/11. Ofcom's anlaysis shows that the NCA by service, has fluctuated year on year and the variations were not in a systematic

direction.[341] Given this instability it is not clear how NCA should be forecast going forward and for this reason we have held the NCA constant for the forecast period. When we obtain the NCA data for 2012/13 we will review whether this approach remains reasonable.

Proposals on modelling approach

6.111 We propose to adopt the 2011/12 AVE values submitted by BT in response to our section 135 information request without further adjustment as we consider that this provides the most up-to-date cost volume relationship for assets and the values obtained are reasonably consistent with what we would expect.

6.112 We propose to separately calculate network cable and duct capital expenditure in the RAV model. The starting point for our forecast was BT's planned 2013/14 Capex for specified Copper and Duct Classes of Work supplied under statutory powers. We adjusted these by applying our efficiency and inflation assumptions as well as flexing them to take account of our volume forecast rather than BT's.

6.113 As noted above, we have performed a cross-check of the starting point (2013/14) of our capex forecast against those forecast in the CF/CA models used for the March 2012 Statement. The difference was not material.

6.114 We propose to calculate the component AVEs using sector AVEs based on the GRC for each component with the exception of D and E Side Copper and Duct where we use a simplified aggregate approach

***Question 6.2**: Do you agree with our proposals for forecasting capital costs? Please provide reasons to support your views. If you do not agree, please propose alternative approaches with supporting information.*

Cost of capital

6.115 For the purposes of this consultation, we have used an estimate of the pre-tax nominal WACC for the copper access network of 8.8%. This is consistent with the WACC estimated for the 2013 BCMR Statement, although we have undertaken sensitivity analysis based on a range of 7.8% to 9.8%.

6.116 We set out our detailed reasoning on both our approach to the cost of capital and our estimation of the individual parameters in Annex 15 (cost of capital annex). In Annex 15, we ask the question below.

***Question A15.1:** Do you agree with our proposed approach to estimating the cost of capital of BT Group, Openreach and Rest of BT? Please provide reasons to support your views.*

Efficiency

6.117 Within the charge controls, we propose to use an efficiency range of 4-6% (net of the costs of achieving this efficiency). Within this, we propose to use a base case net efficiency rate of 5%.

6.118 We explain our basis for the efficiency range in Annex 7. In Annex 7, we ask the questions below.

[341] [✂].

Question A 7.1: *Do you agree with our proposed approach to modelling efficiency, both in general and in particular in applying a single efficiency target to both operating costs and capital expenditure? Please provide reasons to support your views.*

Question A 7.2: *Do you agree with our proposed net efficiency range of between 4% and 6% and base figure of 5%? Do you agree with the levels proposed? Please provide reasoning to support your views.*

Volume forecasts

6.119 We set out our proposed volume forecasts in Annex 8. However, to summarise the volume forecasts for MPF, WLR and SMPF rental services are set out below. We also ask the question below.

Table 6.3: Rental service volumes

	2012/13	2013/14	2014/15	2015/16	2016/17
Total WLR Rentals	18,565,744	17,866,145	17,155,779	16,523,328	15,931,684
Total MPF Rentals	5,858,510	6,710,042	7,552,373	8,340,404	9,093,603
Total SMPF Rentals	11,092,580	10,943,108	10,784,033	10,568,288	10,316,191

Source: Ofcom

Question A8.1: *Do you agree with our proposed approach to forecasting volumes as set out in Annex 8 and Annex 9? Please provide reasons to support your views.*

Input price inflation

6.120 In Section 2 we explain our choice of CPI as the proposed measure of inflation for indexing the charge controls. Aside from how we index the cap each year in the charge control, we also need to define how input prices for each cost item vary over time in our cost model. In this sub-section we set out our proposed inflation estimates used to forecast nominal costs to 2016/17 in the Cost Model.

6.121 In the Cost Model, we forecast input price inflation for capital costs, pay and non-pay operating costs separately. We explain our proposals on these points below.

Pay cost inflation

6.122 We have considered historical and current data in order to forecast BT's future pay inflation. In particular:

- we have compared BT's historical pay increases to both CPI and RPI to identify whether there is a trend that would favour a forecast linked to general inflation; and
- we have considered BT's latest pay deal of 2.8% effective from 1 April 2013.

6.123 In the March 2012 Statement, we forecast that pay costs would increase at our forecast of RPI. We consider that given the apparently low correlation of BT's recent pay costs with general inflation (as measured by RPI or CPI), the current pay inflation from BT's latest pay deal may be more appropriate for forecasting costs to 2016/17.

We note that BT's latest pay deal is only for one year, which will not take us to the end of the charge control.

6.124 However, as noted in Section 2, the average of independent forecasts for RPI over the forecast period is 3.3% and average CPI is 2.3%. As can be seen from Figure 3.2 in Section 3, average pay per BT employee has been less than the historic average of either RPI or CPI over the last 5 years, implying falling real wages on either measure of general price inflation. However, a sustained period of real terms wage reductions would not be consistent with ongoing gains in labour productivity, although the last 5 years have been particularly unusual in terms of economy wide labour productivity.[342] Therefore, while relative to forecast RPI out to 2017, a 2.8% assumption for wage growth would imply a small reduction in real wages, relative to forecast CPI it would imply a small increase in real wages. Given the expected uncertainty in the wider economy over this period and the uncertain relationship between wages and inflation in the historic period, we propose to use the latest available pay deal (of 2.8%) to forecast nominal wage inflation to 2016/17.[343]

6.125 We welcome stakeholder views on whether a longer time series would be more suitable for considering the relationship between wage growth and an inflation index; or whether additional data sources should be taken into account.

Non-pay cost inflation

6.126 In relation to BT's non-pay cost inflation, we have considered the costs that make up BT's non-pay costs.

6.127 We have performed analysis on the major cost items underpinning the Cost Model to identify whether there is a trend that would favour a forecast linked to general inflation. However, we have not found a strong correlation that would indicate linking non-pay cost inflation to either RPI or CPI.

6.128 We understand that the largest item of non-pay costs is accommodation. We note that rental rates are forecast to increase at 3% per annum, as part of the sale and purchase agreement with Telereal.[344]

6.129 We therefore propose to use accommodation cost increase of 3% per annum as a proxy for input inflation of BT's non-pay costs. We welcome stakeholder views on whether a longer time series would be more suitable for considering a correlation between individual non-pay operating costs and an inflation index; or whether additional data sources should be taken into account.

[342]Official papers on the productivity puzzle include the Bank of England Quarterly Bulletin 2012 Q2 at http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/qb120204.pdf, and the Office of Budget Responsibility *Forecast evaluation report¸October 2012*, http://cdn.budgetresponsibility.independent.gov.uk/23690-OBR-Web-Only.pdf

[343]We are also aware that BT's latest cost forecasting analysis assumes that direct labour and costs would rise by [✂] However, using this figure would imply wages growing [[✂] Balancing this against the recent historic evidence on BT labour costs relative to general inflation and in light of the latest pay deal, [✂] and therefore propose to use the latest pay deal which lies mid-way between the forecast of CPI and RPI.

[344]See the following for more information on this agreement: http://www.btplc.com/report/financial_fixedassets.shtml

Asset price inflation

6.130 The majority of BT's asset base for WLA and WFAEL services is copper and duct. We set out our approach to valuing copper and duct assets in the Annex 5. In that Annex, we explain that both pre- and post-97 copper and duct are forecast forward using RPI.

6.131 Consistent with this, we have assumed copper and duct assets within the Cost Model are inflated at RPI (this affects the dropwire and tie cable components in particular). This is done by inflating the copper and duct 'sectors' within the Cost Model. Sectors are a high level category of asset used in BT's accounting system. We have then allocated the sectors to components based on the proportions provided by BT in response to the First BT information request.

6.132 We propose to forecast the remaining sectors, which include motor transport, intangibles and land & buildings to increase at 0%. This is consistent with BT's accounting treatment as set out in BT's detailed valuation model ('DVM').

6.133 As explained in paragraph 6.110 above, we have forecast NCA to increase at 0% per annum.

Question 6.3: *Do you agree with our proposed estimates of inflation for BT's pay, non-pay costs and asset price inflation?*

Do you consider that using a longer time series to analyse the correlation of input prices with general inflation indices would provide more robust estimates of input price inflation?

Please provide reasons to support your views.

Cumulo costs

6.134 Cumulo rates are the non-domestic (business) rates that BT plc pays on the rateable assets (largely the duct, fibre, copper and exchange buildings) within its UK network. Within the charge controls, we propose to allocate the cost of Openreach's cumulo rates to MPF and WLR services according to the "Profit weighted net replacement cost" (PWNRC) method. This is consistent with the method used in the March 2012 Statement. We have checked the appropriateness of the base year (2011/12) allocation of cumulo costs in the cost model and we do not propose to make any adjustments to it.

6.135 We set out our detailed reasoning on our approach to cumulo cost allocation in Annex 14 (treatment of cumulo rates within the charge control). In Annex 14 we ask the question below.

Question A14.1: *Do you agree with our proposed approach to the treatment of BT's cumulo costs in the calculation of regulated charges for WLR and MPF? If not please explain why and tell us how you would propose to treat these costs and outline the calculations that would be involved.*

Broadband line testing costs

6.136 Broadband line testing costs are composed of two components:

6.136.1 TAMs (Test Access Matrices) used by every MPF line; and

6.136.2 evoTAMs (evolutionary Test Access Matrices) used by some SMPF lines.

6.137 While our model is mainly built on the costs and allocations in the 2011/12 RFS, we have decided not to use those allocations for broadband line testing costs for the purposes of this consultation.

6.138 This is because we do not have sufficient visibility of the reasons for the movements in broadband line testing costs over time, the absolute levels of line testing costs for MPF in 2011/12, and also the relative costs for MPF and SMPF. As a result, we are not comfortable that these allocations are appropriate. Therefore, instead of using the allocations consistent with the 2011/12 RFS, we have made a simple assumption of spreading the total broadband line testing costs over all MPF and SMPF so they are equal on a per line basis.

6.139 We will continue to investigate the costs of broadband line testing, and will be seeking further information from BT to understand the reasons for the level of MPF broadband line testing costs in the 2011/12 RFS. We would also welcome stakeholder views on the broadband line testing costs in BT's 2011/12 costs, in terms of whether the levels are reasonable, and in particular whether it is reasonable for the SMPF costs to be considerably lower than the MPF costs on a per line basis as in BT's RFS.

6.140 The extent of broadband testing costs, including TAMs costs, is a separate issue to our proposal to discontinue the TAMs pricing adjustment used in the March 2012 Statement. As set out in Section 3, our provisional conclusion on the approach to TAMs costs is that they should now all be recovered from MPF, with no TAMs costs recovered from SMPF, given that TAMs are only used by MPF.

6.141 However, we want to ensure that the TAMs costs recovered from MPF lines are reasonable. The adjustment described here is not intended to undermine the principle of recovering TAMs costs from MPF, but has been made because we do not yet understand the reason for the level of broadband line testing costs allocated to MPF in the 2011/12 RFS. If on further investigation we have sufficiently robust evidence that the TAMs costs in the 2011/12 RFS are reasonable, we would propose to recover those from MPF.

6.142 The treatment of broadband line testing costs makes a significant difference to the level of charges for MPF and SMPF and especially to the differential between MPF and WLR/WLR+SMPF charges. The approach we have adopted results in a LRIC differential of under £9 per line for 2016/17, which is slightly below the lower end of the range estimated in the March 2012 Statement for 2013/14. However, if we adopted the figures in BT's 2011/12 RFS, the difference in charges between MPF and WLR+SMPF would fall to about £3.

Changes in BT's 2011/12 RFS for broadband line testing costs

6.143 Table 6.4 below shows the costs on a per line basis for MPF, SMPF and WLR for BT's 2010/11 and 2011/12 RFS. It can be seen that there is a significant change in the broadband line testing costs for MPF, SMPF and WLR in BT's Regulatory Financial Statements between 2010/11 and 2011/12.

Table 6.4: Broadband line testing systems costs in BT's RFS

£ per line per year	2010/11	2011/12	Change
MPF Rentals	3.31	8.47	+5.16
SMPF Rentals	3.32	0.86	-2.46
WLR Rentals	-	0.49	+0.49

Source: BT's Regulatory Financial Statement, 2011/12, pages 101 and 108

6.144 BT informed us that for 2010/11 (and earlier years) it allocated the total TAMs and evoTAMs costs by simply spreading the total costs over all MPF and SMPF lines. In contrast, in 2011/12, it looked more carefully at the allocation of TAMs and evoTAMs and has allocated costs in what it considers to be a more accurate way by (i) allocating TAMs costs to MPF and (ii) allocating evoTAM costs to SMPF and WLR in the ratio 1.0: 0.6. It allocated evoTAM costs to both SMPF and WLR in the ratio 1.0:0.6 to reflect the allocation we used in the March 2012 Statement. BT informed us it allocated broadband line testing costs in the 2011/12 RFS based on the HCA depreciation for each service, which is significantly higher for TAMs than evoTAMs (TAMs HCA depreciation is approximately 2/3rd of the total TAMs and evoTAMs HCA depreciation).

6.145 The split of TAM and evoTAM costs used in the March 2012 Statement was based on information provided by BT. Therefore, we had expected this to result in similar broadband line testing costs allocated to each of MPF, SMPF and WLR as in the March 2012 Statement.

6.146 The first two columns of Table 6.5 below compare the figures in the cost stacks in the March 2012 Statement (for 2011/12) with the costs in the RFS. It can be seen that the RFS costs for MPF (relating to TAMs) are higher and the SMPF and WLR costs (relating to evoTAMs) are lower, compared to our March 2012 Statement. On 25 June, BT provided a comparison to us of the 2011/12 RFS figures and the figures in the March 2012 Statement. We will continue to investigate the reasons for the differences.

Table 6.5: Comparison of broadband line testing costs in BT's 2011/12 Regulatory Financial Statements and our March 2012 Statement [345]

£ per line per year	March 2012 Statement for 2011/12	2011/12 RFS	March 2012 Statement for 2013/14
MPF Rentals	5.42	8.47	3.93
SMPF Rentals	1.03	0.86	1.63
WLR Rentals	0.62	0.49	0.98

6.147 We also note that in our March 2012 Statement, we were assuming that the TAMs costs per MPF line would continue to fall fairly quickly over time. This can be seen in the final column in Table 6.5, which shows the figures for 2013/14 in our March 2012 Statement. The MPF figure was £3.93 for 2013/14 compared to £5.42 for 2011/12 in

[345]The figures in this table are all nominal figures, with no adjustment for general inflation.

the March 2012 Statement.[346] We would welcome stakeholders' views on the likely future trend in broadband testing costs per line.

Proposed change in recovery of evoTAMs costs

6.148 In the March 2012 Statement, we said that while evoTAMs are used primarily to test broadband, they can also used to test voice frequencies on WLR lines. We therefore considered that WLR Rentals should also pick up an allocation of the evoTAM cost. In the March 2012 statement, we estimated that around 40% of WLR lines were voice only, which are not capable of being tested by evoTAMs. Therefore we allocated the costs using the following usage factors: 0.6 to WLR and 1.00 to SMPF. This ratio was reflected in the 2011/12 RFS.

6.149 We now propose to allocate all of the cost of evoTAMs to SMPF. We consider that this approach better reflects cost causation (since evoTAMs are only used to support DSL enabled lines) and the distribution of benefits (since it is not clear why voice only customers should contribute to the cost of a service they are not using when there are not enduring externality or competition arguments for doing so).

6.150 For lines that take both WLR and SMPF, our proposal means that the evoTAMs costs would all be recovered through the SMPF Rentals. We consider this reasonable because there is a single WLR charge (so any other method would increase the cost for WLR only lines) and because it is not possible for a line that has SMPF to be without WLR.

Proposals for TAMs and evoTAMs costs

6.151 As described above, we have not been able to establish a robust understanding of the increase in TAMs costs and the absolute level of TAMs costs in the 2011/12 RFS, especially relative to past estimates of TAM costs and evoTAMs costs.

6.152 For the purposes of this consultation, we have made a simple adjustment. We have spread the total TAMs and evoTAMs costs over all MPF and SMPF lines. This results in a figure of £3.77 for broadband line testing equipment for MPF and SMPF. Table 6.6 below shows the figures in the 2011/12 RFS and the figures we have used for this consultation. Given our concern with the base year data and absent a better basis for forecasting costs, we have made the simplifying assumption that this £3.77 per MPF and SMPF line remains constant over time in nominal terms, and so have used the same £ per line contribution for 2016/17.

Table 6.6 Broadband line testing adjustment:

	Unit cost per 2011/12 RFS	Adjusted 2011/12 unit cost
MPF	£8.47	£3.77
SMPF	£0.86	£3.77
WLR	£0.49	£0.00

[346]The reason that the TAM costs in the March 2012 Statement is higher than the figure of £2.94 which is shown in the MPF cost stack after paragraph A5.4 in the March 2012 Statement is that this £2.94 is only part of the cost, with the return on TAMs capital included in the return on capital employed line. Similarly for the evoTAM costs in the WLR and SMPF cost stacks in the tables after paragraphs A5.5 and A5.6 respectively.

Question 6.4: *(a) Do you consider that the broadband line testing unit cost figures for MPF and SMPF in BT's 2011/12 RFS are reasonable? (b) What should Ofcom assume for broadband line testing costs for 2016/17? Please give reasons to support your views.*

How we calculate LRIC

6.153 As explained in Section 3, we propose to set:

- the price differential for certain services to be at the LRIC differential in 2016/17; and
- the price for certain services to be at LRIC in 2016/17.

6.154 We therefore need to estimate the LRIC for these services for 2016/17. Our preference would be to estimate the LRIC for each cost component in 2011/12 and forecast these to 2016/17.

6.155 In order to do so, we requested from BT (using our section 135 information gathering powers) LRIC data by component for each relevant service for the base year (2011/12)[347]. We then scrutinised the component level detail to ascertain whether it was suitable for calculating the LRIC of the relevant services. We found that the LRIC for certain components appeared somewhat volatile over time and others produced counter-intuitive results, such as a LRIC greater than the FAC figure for that component. For this reason, we do not consider that the 2011/12 LRIC figures at a component level would be appropriate for forecasting LRICs to 2016/17.

6.156 Having considered alternative approaches our view is that rather than estimating the LRIC for each component, for the purposes of this consultation, we have estimated LRIC at a service level. We analysed the published historic LRIC:FAC ratio for the WLA and WFAEL services and found that these were relatively stable with no obvious distortions (e.g. a LRIC:FAC ratio greater than 1). The results were consistent with our understanding of the variability of the product costs. For example products that have high fixed costs, such as the rentals products, where sunk copper and duct capital costs were prevalent had lower LRIC:FAC ratios, whereas products such as migrations in which variable labour costs were prevalent had higher LRIC:FAC ratios.

6.157 As with our approach to estimating CVEs described above, we propose to use the LRIC:FAC ratio for 2011/12 providing these numbers do not appear to be distorted.

6.158 As explained in paragraph 6.82 above, the CVEs are a product of BT's LRIC:FAC ratio, we consider that it is important to be consistent in our approach for estimating CVEs and estimating LRICs for the purposes of the Cost Model. We note that the two components where we adjusted the CVE (as it was greater than 1), "broadband line testing" and "PSTN line test equipment", affect WLR rentals, MPF rentals and SMPF rentals only. Therefore we consider that the LRIC:FAC ratios for these products will include component level data which is distorted in 2011/12.

6.159 For this reason we propose to estimate the LRIC for MPF rentals, WLR rentals and SMPF rentals using the average LRIC to FAC ratio for 2009/10-2010/11. This is

[347]First BT Information Request: The first statutory information request sent to BT on 8 February 2013.

consistent with our approach to adjusting the CVEs. We note that the SMPF average for 2009/10-2010/11 is equal to the 2011/12 ratio of 87%.

6.160 However, the MPF LRIC: FAC ratio is 59% compared to a WLR LRIC/FAC ratio of 53% in 2011/12. From 2008/09-2010/11 the MPF LRIC/FAC ratio has been either equal to or 1% below that of WLR. We therefore consider that the relative difference between the two LRIC:FAC ratios looks unusual in 2011/12. Having investigated this issue, our view is that this is likely to be driven by the broadband line testing LRIC:FAC ratio. As with our approach to estimating CVEs, we do not think that using the 2011/12 figure is therefore appropriate for forecasting costs to 2016/17. We therefore use the following average LRIC/FAC ratios in the Cost Model:

- WLR rentals 55%; and
- MPF rentals 54%.

6.161 The 2011/12 LRIC:FAC ratios for migrations, connections, and transfer services are not affected by the two components whose CVEs we propose to adjust. Therefore, we propose to use the 2011/12 LRIC:FAC ratios as these are the most recently available.

6.162 As the migrations, transfers and connection services have similar costs, and therefore LRIC:FAC ratios, we have calculated a volume weighted average LRIC:FAC ratio for the services. This is calculated as the LRIC:FAC ratio weighted by the 2011/12 volumes for these services and the resultant figure is 93%.

6.163 Based on these LRIC:FAC ratios, we propose to apply the following percentages to the 2016/17 forecast FAC from the Cost Model to arrive at an estimate of the 2016/17 LRIC:

- WLR rentals: 55%
- MPF rentals: 54%
- SMPF rentals: 87%
- Migrations/connections/new provides/transfers: 93%

6.164 From these LRIC forecasts in 2016/17, we can apply the LRIC differential adjustment for rentals and connections and set prices for migrations at LRIC. Following responses to this consultation and in light of updated cost information from BT, including BT's calculated LRIC for each component, we will review the most appropriate methodology for forecasting LRIC within our CVE/AVE cost model.

Question 6.5: *Do you agree with our proposed approach to estimating the LRIC for relevant services in 2016/17? Please give reasons to support your views.*

Reconciliation of the model

6.165 The starting place for the Cost Model is BT data, which is drawn from the same data source as that used for the 2011/12 RFS. We would therefore expect the Cost Model to closely reconcile to BT's 2011/12 RFS. We considered that it was important to ensure that the Cost Model closely reconciled to the RFS to ensure that the starting place for the Cost Model would allow Openreach the opportunity to recover its forward looking efficiently incurred costs.

6.166 Prior to making adjustments to the Cost Model parameters (e.g. changing usage factors or cost allocation assumptions among the modelled services) we checked that the Cost Model reconciled to the RFS. We did this by comparing the model as populated with the cost data provided by BT in response to our section 135 information requests with the cost information reported in BT's RFS. This was done at the level of the unit FAC for all services in the Cost Model. We considered at a service level, where the difference between the 2011/12 cost stack in the Cost Model differed from the 2011/12 cost stack in the RFS by:

- more than 1%; and
- more than £0.15,

6.167 we would make an adjustment to the Cost Model. This enabled us to ensure that the starting place, before we adjusted the Cost Model to incorporate Ofcom's policy proposals, was appropriate for forecasting costs to 2016/17.

6.168 In the Cost Model this led us to adjust two services: MPF rentals and MPF hostel rentals. We examined the component unit costs of these services and identified two cost components which did not reconcile to the 2011/12 RFS, namely:

- Broadband line testing; and
- LLU Hostel rentals.

6.169 We therefore adjusted the operating costs to reflect this. This added £3.4m to the total operating costs in the Cost Model. This is before any Ofcom adjustments to the model and is for the purposes of ensuring the base year cost stack closely reconciles to the RFS.

6.170 As a result the base year cost stack, prior to any Ofcom adjustments closely reconciled to the RFS.

Single jumpering

6.171 In Annex 9 of the March 2012 Statement, we set out our views on whether to set charges by assuming a single jumpering approach for MPF or the current jumpering approach. We concluded that:

- MPF provided via the single jumpering approach should be considered a different product to the current MPF jumpering approach;
- charging for the current MPF jumpering approach based on a different product would be inappropriate;
- expecting Openreach to introduce a new single jumpering product without industry support for the development of such a product would be unreasonable;
- when assessing the benefits of moving to single jumpering, it would be appropriate to include the costs of migrating existing lines from the current jumpering approach to the single jumpering approach; and
- while single jumpering has the potential to be more efficient in certain specific circumstances for some operators, the cost base is different in the two approaches (in particular because the responsibility for making decisions relating

to efficient delivery reside with the LLU operator rather than Openreach in the single jumpering approach). We do not consider that it is clearly the most efficient way to provide MPF.

6.172 We considered that industry discussions within the 'Copper Products Commercial Group' (the industry forum for discussion of Openreach's wholesale copper products, including the possible introduction of new products) would be the most appropriate way to progress investigation into the costs and benefits, and potential demand from CPs, of a new MPF product based on the single jumpering approach.

6.173 Following the March 2012 Statement, discussions between BT and stakeholders have continued, without a successful resolution. On 25 June 2013 a CP asked Ofcom to determine a dispute between it and BT over the introduction of a single jumpered MPF product for additional lines and we are currently considering whether to accept that dispute for resolution.

6.174 At this stage, we propose to retain the same approach as in our March 2012 Statement, and so to forecast costs based on the current double jumpering arrangements for MPF and not a single jumpering approach. However, this is without prejudice to our considerations in the recent dispute, which we note is primarily concerned with the jumpering arrangements for new line additions.

Cost modelling adjustments

6.175 In this Section, we have explained our overall approach to modelling. We also make a number of specific adjustments to the Cost Model to reflect our policy proposals. Our proposed approach to modelling specific cost items is set out in Annex 13 However, Table 6.7 below summarises the proposed approach we have taken, and sets outs:

- where the approach differs from the approach taken in the March 2012 Statement and subsequent appeal;
- where the approach differs from the RFS, and therefore an adjustment is required in the Cost Model; and
- an estimate of the unit cost impact of the proposal on WLR or MPF rental services.

6.176 Column 1 of Table 6.7 provides the paragraph reference to a more detailed description of the issues and proposed adjustments.

Table 6.7: Further adjustments made to the Cost Model

Issue and paragraph reference	Summary of approach	Does the proposed approach differ from the March 2012 Statement?	Does the approach differ from the 2011/12 RFS?	What is the likely impact on the proposed charge control?
SMPF cost modelling (A13.5 – 24)	We propose to model the unit costs of services in the WLA market using external costs and volumes only as this is consistent with the reporting for the WLA market in the RFS.	Yes – the CF/CA model forecast total Openreach costs which included internal costs for services in the WLA market. However, this should make no difference to the unit cost stack.	No – BT reports external costs only for the WLA market in the 2011/12 RFS	This will have no impact on unit costs.
Pensions (A13.25-52)	We propose to make no adjustment to the regulated cost stack to take account of deficit repair payments. This includes making no adjustment to the regulated asset base	No change to the approach in March 2012 Statement.	No – deficit repair payments are not included in the 2011/12 RFS.	This will have no impact on unit costs (BT's proposed adjustment would add around £0.40 per line to WLR and MPF Rentals in 2011/12).
Linecards (A13.53-72)	We propose to uplift the NRC of linecards to ensure that the FAC cost is £11 in 2011/12 (as a proxy for the steady state).	Approach consistent with steady state set out in March 2012 Statement.	Yes – the FAC in the RFS is below £11. We consider that this is because it is heavily depreciated, even though significantly used.	This adds around £2.90 to the WLR Rental unit cost in 2016/17.
Dropwire (A13.73-83)	We propose to make no adjustment to the dropwire capital costs in the model as the dropwire adjustment is no longer necessary for 2016/17.	Yes – the approach differs as the adjustment used in the March 2012 Statement is no longer necessary.	No – there is no adjustment to dropwire capital in the 2011/12 RFS.	No impact on WLR or MPF unit costs as the adjustment for 2016/17 would be zero.

Issue and paragraph reference	Summary of approach	Does the proposed approach differ from the March 2012 Statement?	Does the approach differ from the 2011/12 RFS?	What is the likely impact on the proposed charge control?
PSTN line test equipment (A13.84 – 96)	We propose to allocate test heads to MPF and WLR on an equal per line basis, with no allocation to SMPF.	Yes – the approach differs from the March 2012 Statement where the allocation was to WLR and SMPF only. This was appealed and our proposed approach is consistent with the CC's determination.	No – the allocation is consistent with the 2011/12 RFS.	The impact of this adjustment in 2013/14[348] was around: MPF + £0.50 WLR +£0.05 SMPF -£0.45
Broadband line testing (A13.97-A13.109)	We propose to allocate broadband line testing costs to MPF and SMPF on an equal per line basis. We propose to remove the allocation of evoTAMs to WLR.	Yes – in the March 2012 Statement we allocated evoTAMs to SMPF and WLR in the ratio 1:0.6.	Yes in the 2011/12 RFS evoTAMS are allocated to SMPF and WLR in the ratio 1:0.6. TAMS are allocated 100% to MPF in the 2011/12 RFS.	The reduces the 11/12 MPF cost stack by £4.70 This increases the SMPF cost stack by £2.91 This reduces the WLR cost stack by £0.49
Fault rates A13.112-121)	We propose to allocate faults on the basis of the 2011/12 RFS: WLR:1.0 MPF:1.04 SMPF: 0.16	No – this is consistent with the allocation in the March 2012 Statement.	No – this is consistent with the allocation in the 2011/12 RFS.	N/A

[348]This adjustment is taken from paragraph 7.46 of the 2013 LLU and WLR Determination.

Issue and paragraph reference	Summary of approach	Does the proposed approach differ from the March 2012 Statement?	Does the approach differ from the 2011/12 RFS?	What is the likely impact on the proposed charge control?
Service levels (A13.122-149)	We propose to estimate the service level differential as: WLR basic: 1.0 MPF, SMPF, WLR premium: 1.054	No – this is consistent with the allocation in the March 2012 Statement.	Yes – the 2011/12 RFS service differential is: WLR basic: 1.0 MPF, SMPF, WLR premium: 1.2	This reduces the 11/12 MPF unit cost by £1.27 This increases the 11/12 WLR unit cost by £0.84 This reduces the 11/12 SMPF unit cost by £0.20
Pair Gain (A13.150-165)	We propose to make no adjustment to copper capital components to reflect pair gain available on WLR lines.	Yes – in the March 2012 Statement we adjusted the copper allocation by: WLR: 0.994 MPF:1.0	No – there is no adjustment for pair gain in the 2011/12 RFS	We consider that the likely impact on the 2016/17 cost stack would be immaterial.
Cumulo (Annex 14)	We propose to make no adjustment to cumulo costs in the Cost Model.	No – there was no cumulo adjustment in the March 2012 Statement	No – there is no cumulo adjustment in the 2011/12 RFS	N/a
Directories (Section 3)	We propose to remove the costs of directories from the WLR cost stack.	Yes – directories formed part of the WLR cost stack in March 2012.	Yes – directories form part of the WLR cost stack in the 2011/12 RFS.	This reduces the 2011/12 WLR Rental cost by £1.43
Line length (Section 3)	We propose to make no line length adjustment to copper capital costs	Yes – in the March 2012 Statement we reduced MPF copper capital costs by 1.6%	No – there is no line length adjustment in the 2011/12 RFS	N/a

Source: Ofcom

Base case cost stacks for Rental services

6.177 We set out the forecast 2016/17 cost stacks for WLR Rental, MPF Rental and SMPF Rental services below, based on Ofcom's base case proposals set out in this document.

Table 6.8 2016/17 FAC of WLR and LLU Rental services (nominal terms)

Cost component (£)	MPF Rental	WLR Rental	SMPF Rental
E-side copper capital	7.14	7.14	-
E-side copper current	2.09	1.91	0.32
D-side copper capital	38.41	38.41	-
D-side copper current	6.67	6.09	1.02
Local exchanges general frames capital	3.41	1.71	1.71
Local exchanges general frames current	2.13	1.01	1.07
PSTN line test equipment	0.15	0.15	-
Dropwire capital & PSTN NTE	17.25	17.25	-
PSTN drop maintenance	4.19	3.98	
PSTN linecards	-	10.36	-
Pair Gain	-	0.01	-
Broadband line testing systems	3.77	-	3.77
Combi card voice	-	0.16	-
Service centre – assurance	2.09	0.68	0.38
Sales and product management	0.15	0.14	0.04
Directories	-	-	-
LLU systems developments	0.12	-	0.12
DSLAM capital/maintenance	-	-	1.06
Fully Allocated Cost	87.57	88.98	9.49

Source: Ofcom

6.178 Having estimated the 2016/17 FAC for each service, we then make a pricing adjustment which is explained in Section 4. For example, we propose to set SMPF rentals at LRIC and to set MPF and WLR rentals based on their LRIC differential.

Table 6.9 2016/17 Proposed Charges for WLR and LLU Rental services

(£)	MPF Rental	WLR Rental	SMPF Rental
Fully Allocated Cost	87.57	88.98	9.49
LRIC adjustments (see Section 4)*	0.68	0.92	-1.24
Proposed charge	88.25	89.90	8.25

Source: Ofcom

6.179 In Annex 13 we ask the questions set out below.

Question A13.1: *Do you agree with our proposed approach to calculating SMPF unit costs? Please provide reasons to support your views.*

Question A13.2: *Do you agree with our proposed approach to BT's pension deficit repair payments? Please provide reasons to support your views.*

Question A13.3: *Do you agree with our proposed approach to adjusting BT's linecard costs? Please provide reasons to support your views.*

Question A13.4: *Do you agree with our proposed approach to calculating dropwire costs for the purposes of forecasting to 2016/17? Please provide reasons to support your views.*

Question A13.5: *Do you agree with our proposed approach to allocating repair costs to services in the Cost Model? Please provide reasons to support your views.*

Question A13.6: *Do you agree with our proposed approach of excluding any pair gain adjustment for the purposes of forecasting D-side and E-side copper capital costs to 2016/17? Please provide reasons to support your views.*

Sensitivity analysis

6.180 We have performed sensitivity analysis on the key assumptions used when forecasting costs for WLR, MPF and SMPF rentals services. Table 6.10 below shows the estimated impact on the unit cost for each of these services.

Table 6.10 Sensitivity analysis for Rental services (2016/17 impact on FAC in nominal terms)

Unit cost impact (£)	MPF Rental: 16/17 FAC: 87.57	WLR Rental: 16/17 FAC: 88.98	SMPF Rental: 16/17 FAC: 9.49
Efficiency:			
1% higher	-2.06	-2.10	-0.43
1% lower	2.15	2.19	0.45
WACC:			
1% higher	2.79	3.19	0.01
1% lower	-2.78	-3.19	-0.00
Input operating cost inflation:			
1% higher	1.71	1.72	0.40
1% lower	-1.64	-1.65	-0.38
Service level differential at 1.2 (as per 2011/12 RFS)	0.44	-0.37	0.00
Broadband line testing allocated based on HCA depreciation (as per 2011/12 RFS).	4.7	0.49	-2.91
100k higher WLR and MPF lines in 2016/17	-0.31	-0.30	-0.00
100K shift of lines from MPF to WLR in 2016/17	0.01	0.00	-0.00
Fault rates set on an equal per line basis (WLR+SMPF v MPF) i.e allocation of 1.16 to MPF and 1.0 to WLR and 0.16 to SMPF	0.70	-0.24	-0.00

Source: Ofcom

Reconciliation to CF/CA Model

6.181 Table 6.11 shows changes in the 2013/14 forecast of costs from the CA/CF model to the Cost Model used in the current charge controls.

Table 6.11 Reconciliation of 2013/14 FACs for Rental services (CA/CF model to Cost Model)

Unit cost (£)	MPF Rental	WLR Rental	SMPF Rental
2013/14 Price as set in March 2012 Statement	85.04	94.75	10.40

Unit cost (£)	MPF Rental	WLR Rental	SMPF Rental
Remove impact of pricing adjustments and RPI difference	1.81	(2.10)	(1.98)
2013/14 FAC	86.85	92.65	8.42
Impact of CC adjustment	-1.48	-0.78	-0.65
2013/14 CC adjusted FAC	85.37	91.87	7.77
Impact of:			
Removal of directories	-	-2.23	-
Removal of line length adjustment	+0.52	-0.22	-
Change in line testing cost allocation	-0.23	-0.98	2.19
RAV unwind	3.00	3.00	-
Achieving greater efficiency than forecast	-0.70	-0.60	-0.10
Higher service centre cost	+0.60	-	-
Other	+3.35	+2.47	+0.04
2013/14 FAC per Cost Model	91.91	93.31	9.90

Source: Ofcom

2016/17 FAC and proposed charges for non-rental services

Table 6.12 FAC and proposed charges (after LRIC adjustments) for non-rental services

(£)	FAC 2016/17	Proposed Charge 2016/17
WLR Connections	34.73	34.76
WLR Transfers	10.47[349]	9.79
MPF New provides	35.40	35.38
MPF Single Migrations	30.21	28.43
MPF Bulk Migrations	20.56	19.12

[349]The FAC for WLR Transfers shown in Table 6.2 is the estimate for WLR transfers external. The WLR transfers internal FAC is slightly higher at 9.52, however we propose to set prices at the weighted average LRIC therefore there we propose that there will be no difference in the price of the two services.

(£)	FAC 2016/17	Proposed Charge 2016/17
SMPF New Provides	25.45	23.67
SMPF Single Migrations	29.58	28.43
SMPF Bulk Migrations	20.49	19.12
WLR+SMPF Simultaneous Provides	31.06	28.43
WLR Conversions	25.45	28.43

Source: Ofcom

Section 7

Proposed charge controls

Summary of proposals

7.1 This Section sets out our proposed ranges for the X, derived from the cost estimates set out in Section 6 and LRIC pricing adjustments explained in Sections 4 and 6.

7.2 We propose the following ranges for the charge controls:

7.2.1 WLR Rentals: CPI-2% to -8% with a base case of -5% in the first year, and CPI-0% to -6% with a base case of -2.5% in the two subsequent years [350];

7.2.2 MPF Rentals: CPI+4% to -4% with a base case X of -0.75%; and

7.2.3 SMPF Rentals: CPI-6% to -21% with a base case X of -7.75%.

7.3 In this section we also set out the proposed ranges for Xs for non-rental services and baskets.

7.4 We set out the underlying calculations and necessary explanations below.

Glide path

7.5 As explained in section 3 above, we consider it appropriate to set prices by reference to the unit cost stacks in 2016/17 (as adjusted for LRIC pricing adjustments). We consider it appropriate for prices to move by reference to the current prices set in accordance with the price control (that will expire on 31 March 2014). For all costs except for directories, we have adopted a glide path approach for moving prices to the 2016/17 level over the three years of the Market Review Period.

7.6 Also as explained in section 3 above, we are consulting on the basis of CPI as the base case for our charge controls. We note in paragraph 3.168 that in principle, the choice of an RPI-X or a CPI-X glide path should not matter in terms of the end point for nominal charges. The end charges would be the same in both cases, but the X would vary with the choice of inflation measure. We illustrate below the impact on the Xs if we were to use RPI as the inflation index.

Deriving Xs from the cost estimate

7.7 The calculation of the X required to deliver a glide path that should move the prices for the rental services into line with our base case cost estimates over the next three years is summarised below.

7.8 As explained in Section 3 and Section 4, we propose to set prices for SMPF Rental services at LRIC; to set the difference in prices for WLR and MPF at the LRIC differential; and to price migration/transfer services at LRIC. We propose to recover the common costs that would otherwise be recovered from SMPF Rentals and migration/transfer services if they were priced at LRIC from the WLR and MPF

[350] We propose to remove the allowance for printed directories in the WLR charge at the start of the charge control rather than through a glide path approach. This means that the percentage reduction is larger for the WLR rental in the first year.

Rentals on an equal per line basis. Table 7.1 below shows the cost estimate for 2016/17 from our Cost Model, and the impact of LRIC pricing adjustments, in order to arrive at the proposed charge for 2016/17 and the proposed base case X.

Table 7.1 2016/17 FAC and Proposed charges for Rental Services

(£)	MPF Rental	WLR Rental	SMPF Rental
Fully Allocated Cost	87.57	88.98	9.49
LRIC adjustments	0.68	0.92	-1.24
Proposed charge	88.25	89.90	8.25
X required to deliver annual change from 2014/15, rounded to nearest 0.25	CPI-0.75%	CPI-5% in the first year and CPI-2.5% in years 2 and 3	CPI-7.75%

Source: Ofcom

Proposals for final charges in each CPI-X control

7.9 We propose to apply the following formula formula to derive the base case X to be used in the CPI-X control[351] for each of the services where we propose to set a charge control:

7.10 We set out a worked example of this, for MPF Rentals in Table 7.2 below.

Table 7.2: Ofcom calculation of Xs for MPF Rentals (base case)

	MPF Rental
Current price (to 31 march 2014)	84.26
Proposed charge 2016/17	88.25
Change required (b/a-1)	+4.7%
Annual rate required to deliver ($c^{1/3}$)	+1.55%
Geometric mean CPI 2013/14-2016/17	2.22%
X required to deliver annual change from 2014/15 (d-e), rounded to nearest 0.25	CPI-0.75%

Source: Ofcom

[351] If we were to use an RPI-X control, the base case X for MPF rentals would be RPI-4%; WLR Rentals would be RPI-8.25% in the first year and RPI-6.0% in the subsequent two years and SMPF Rentals would be RPI-11.25% rounded to the nearest 0.25%. This is based on a geometric mean of RPI from 2013/14-2016/17 of 3.22%.

7.11 Table 7.3 below shows the proposed charge after LRIC adjustments and the proposed X, based on our base case assumptions for each of the non-rental services.

Table 7.3 – base case proposals for non-rental services

	Proposed Charge 2016/17	Proposed X (base case) rounded to 0.25%
WLR Connections	34.76	CPI-11.75%
WLR Transfers	9.79	CPI+40.25%
MPF New provides	35.38	CPI-10.25%
MPF Single Migrations	28.43	CPI-4.75%
MPF Bulk Migrations	19.12	CPI-14.50%
SMPF New Provides	23.67	CPI-10.50%
SMPF Single Migrations	28.43	CPI-4.75%
SMPF Bulk Migrations	19.12	CPI-14.5%
WLR+SMPF Simultaneous Provides[352]	28.43	CPI-4.75%
WLR Conversions[353]	28.43	CPI-4.75%

Source: Ofcom

7.12 For the purposes of this consultation, we have also produced ranges for the values of the X for each service. The upper and lower bounds of the range are calculated on a:

- 'high' cost case where we use Ofcom's low volume forecast, low efficiency forecast of 4%, a 1% increase in operating cost inflation and a high WACC estimate of 9.8%, all of which produce higher costs; and

- 'low' cost case where we use Ofcom's high volume forecast, high efficiency forecast of 6%, a 1% decrease in operating cost inflation and a low WACC estimate of 7.8%[354] all of which produce lower costs.

[352]We propose to align the charge of the WLR Conversion when it is provided simultaneously alongside SMPF New Provide with the charges of MPF/SMPF Single Migration in the first year of the charge control. The value of the X reflects the annual reductions in the remaining years of the charge control. We propose to implement the charge control on this service through a price discount on WLR Conversion when it is provided simultaneously alongside SMPF New Provide.
[353]We propose to align the charge of the WLR Conversion with the charges of MPF/SMPF Single Migration in the first year of the charge control. The value of the X reflects the annual reductions in the remaining years of the charge control.

7.13 In addition for the Rental services:

- the high case for MPF Rentals uses a service level differential of 1.2 rather than 1.054 as estimated in the base case, whereas this forms part of the low case for WLR Rentals and the high case SMPF Rentals; and
- the high case for MPF Rentals assumes the broadband line testing costs are allocated as per the 2011/12 RFS[355]. This forms part of the high case for WLR Rentals, but the low case for SMPF Rentals.

7.14 In Table 7.4 below, we show the proposed ranges of X for all services, the low case is estimated as described above, and rounded up to the nearest 1%; the high case is rounded down to the nearest 1%.

Table 7.4 Proposed ranges for X (based on high and low cases)[356]

	Range of X to be used in CPI+/-X formula
WLR Rentals	-0% to -6%
MPF Rentals	+4% to -4%
SMPF Rentals	-6% to -21%
WLR Connections	-8% to -15%
WLR Transfers	+36% to +45%
MPF New provides	-7% to -14%
MPF Single Migrations	-1% to -8%
MPF Bulk Migrations	-11% to -18%
SMPF New Provides	-7% to -14%
SMPF Single Migrations	-1% to -8%
SMPF Bulk Migrations	-11% to -18%
WLR+SMPF Simultaneous Provides[357]	-1% to -8%
WLR Conversions	-1% to -8%

Source: Ofcom

[354]We have not included any impact of changing the allocation of faults. The indicative impact of assuming faults are allocated equally between WLR+SMPF and MPF is included in Table 6.11, however the impact depends on what level the equal allocation is set at therefore, due to this uncertainty we have not included it in the ranges.
[355]Where costs are allocated 1.8 to MPF; 0.2 to SMPF and 0.1 to WLR.
[356]We are also imposing sub-caps on each item in the baskets with the sub-cap set so that each individual item can change by the general control for the basket plus 5% to 7.5%. For example, if the price control for the SMPF basket were set at CPI-8.5%, then the sub-cap would restrict the increase of any individual item in that basket to CPI-8.5%+[5% to 7.5%]. See from paragraph 4.251 for more details of this.
[357]We propose to implement this through a discount on the WLR Conversion when that is bought simultaneously with SMPF New Provide. The X shown here is for years 2 and 3 of the charge control.

Proposed basket Xs

7.15 We explain our approach to basket design in Section 4, the proposed basket Xs for the base case are as shown in Table 7.5 below. We have also estimated ranges for the value of X to be used in the baskets, these are based on our high case and low case, as described in paragraph 7.12 above. The low case is estimated as described above, and rounded up to the nearest 1%; the high case is rounded down to the nearest 1%.

Table 7.5: Base case and ranges for basket Xs for ancillary services[358]

	Base case basket X (rounded to 0.25%)	Basket X ranges
SMPF Ancillary Basket	CPI-8.5%	CPI-5% to CPI-12%
MPF Ancillary Basket	CPI-8.5%	CPI-5% to CPI-12%
Co- Mingling Basket	CPI-10.75%	CPI-8% to CPI-14%

Source: Ofcom

[358]We are also imposing sub-caps on each item in the baskets with the sub-cap set so that each individual item can change by the general control for the basket plus 5% to 7.5%. For example, if the price control for the SMPF basket were set at CPI-8.5%, then the sub-cap would restrict the increase of any individual item in that basket to CPI-8.5%+[5% to 7.5%]. See from paragraph 4.251 for more details of this.

Section 8

Charge control implementation

8.1 In this section we explain how the proposed charge controls for LLU services and WLR services are structured and how the proposed conditions will work in practice. In particular we discuss the following:

- how the conditions would work alongside other regulation;
- the effects of the conditions and the structure of the "baskets" of services;
- how we calculate whether Openreach is complying with the charge ceilings created by the CPI-X controls, including;
  - how we will determine the overall change in prices for each service or group of services; and
  - the information we will require from Openreach to enable us to monitor compliance with the charge controls; and
- how the conditions allow for corrections where there has been over- or under-recovery.

8.2 We also explain why we consider that the draft legal instruments set out at Annex 17 of this consultation satisfy the legal tests set out in the Act and why we consider that, in considering the proposals set out in this consultation we have complied with our applicable duties.

Interaction with other remedies

8.3 In the FAMR Consultation, which was published on 3 July 2013, relevant to this consultation, we are proposing to find that BT has significant market power in:

8.3.1 the supply of copper loop-based, cable-based and fibre-based wholesale local access at a fixed location in the UK excluding the Hull Area; and

8.3.2 wholesale fixed analogue exchange line services in the United Kingdom excluding the Hull Area.

8.4 Additionally, we are proposing in the FAMR Consultation to impose a number of SMP services conditions by way of remedy to BT's SMP, which will impose a number of obligations on BT as to how Openreach offers and provides wholesale services in these markets. Again, relevant to this consultation, we are proposing that Openreach will be required to:

8.4.1 provide network access on reasonable request (proposed Condition 1);

8.4.2 provide local loop unbundling services (proposed Condition 2.1A) and wholesale line rental services (proposed Condition 2.1B);

8.4.3 not unduly discriminate in relation to matters connected with network access (proposed Condition 4);

8.4.4 provide network access on an Equivalence of Inputs basis (proposed Condition 5);

8.4.5 publish a reference offer (proposed Condition 8);

8.4.6 notify charges and technical information (proposed Conditions 9 and 10);

8.4.7 publish Key Performance Indicators relevant to quality of service (proposed Condition 11 and proposed directions); and

8.4.8 provide defined services in accordance with minimum levels of service (proposed Condition 12).

8.5 The proposed charge controls form proposed Conditions 7A and 7C and will work alongside the SMP services conditions listed above to address the competition concerns arising in the WLA and WFAEL markets in which we propose that BT has SMP.

The proposed conditions

8.6 The SMP service conditions 7A and 7C will, as proposed, have three key effects. They will:

- set charge controls until 31 March 2017 for the services specified;
- ensure that average charges for services subject to charge controls do not change by more than the value of 'X', as specified; and
- require Openreach to provide information annually to Ofcom to enable compliance monitoring.

8.7 The proposed Conditions 7A and 7C are set out in full in Annex 17.

Basket structure

8.8 In Section 4 of this consultation we set out our proposals to have three separate baskets for LLU ancillary services.

8.9 We have structured Condition 7A to give effect to these proposals. As explained in Section 4 of this consultation, we have proposed a control on each of the three separate baskets of LLU ancillary services, which are separately identified in Condition 7A.1 as SMPF Ancillary Services, MPF Ancillary Services and Co-Mingling Services, respectively. This proposed structure means that the aggregate charges for each basket of services will be subject to a CPI-X charge control.

8.10 We have proposed removing a number of products from the current baskets in the proposed charge controls, namely: SMPF and MPF Bulk Migrations as well as SMPF and MPF Expedite. Our proposals are that these services be subject to separate, individual, charge controls.

The proposed values of X

8.11 The ranges of values of 'X' proposed for each service or basket are set out in Section 7.

Formulae to show how the Percentage Change is calculated for each service

8.12 At each of Condition 7A.4 and 7C.3 we have set out the formula that we propose to use (and, indeed, will expect Openreach to use) to determine the Percentage Change for single product services. For the First Relevant Year, we are proposing that various products will be subject to specific charge ceilings rather than having a Percentage Change applied. Those ceilings are set out at Conditions 7A.2 and 7C.2.

8.13 In relation to the SMPF, MPF and Co-Mingling baskets, the formula we are proposing to monitor the Percentage Change for the services each year is necessarily more complex, as it needs to take a revenue weighted average of the services contained within the baskets. As explained in detail in Section 4 of this consultation, we are also proposing to monitor Openreach's compliance with the basket controls using a prior-year weights approach. The relevant formula we are proposing for calculating the percentage change of each of the baskets is set out in Condition 7A.3.

8.14 We consider that BT should have the flexibility to make multiple price changes in respect of a particular service (subject to meeting its other regulatory obligations). However, we propose to modify the charge control formulae compared to those used in the March 2012 Statement. The proposed changes are intended to provide further clarity regarding how compliance with the control will be measured and make the control more robust against potential gaming that could have arisen under the existing formula.

- 8.14.1 First, we propose to weight service prices to reflect the proportion of the year during which they were in effect. A similar approach is applicable under the current charge control formula, although we have sought to clarify how multiple price changes would be aggregated.

- 8.14.2 Second, we propose to evaluate price changes for each service in relation to the weighted average charge that applied during the prior control year for that service, rather than being based on the price on the last day of the prior control year.

8.15 These are similar to the adjustments we proposed in the narrowband charge controls.[359]

LLU specific provisions

8.16 Condition 7A proposes a number of specific controls on particular LLU services.

8.17 As explained in detail in section 4 of this consultation, we are also proposing to set sub-caps for each of the baskets. The relevant formula we are proposing for calculating the percentage change of each of the baskets is set out in Condition 7A.3 and the sub cap constrains are in Condition 7A.5.

8.18 In Condition 7A.8 we propose a requirement for the charges made for certain MPF SFI services to be the same as the equivalent SMPF SFI service. This does not prevent the charges for the respective services from being increased or decreased, but requires equivalence between the respective services.

[359]For more explanation of why we have made these changes see paragraphs 11.105-11.108, Ofcom, *Review of the fixed narrowband services markets – consultation*, 5 February 2013, http://stakeholders.ofcom.org.uk/binaries/consultations/nmr-2013/summary/NMR_Consultation.pdf

8.19 Condition 7A.9 proposes a similar requirement in respect of enhanced care services. Under this proposals, which mirrors the position currently in place, the price of certain LLU Enhanced Care services must be the same as the equivalent WLR Enhanced Care service. This does not prevent the charges for the services covered by this Condition from being increased or decreased, but requires equivalence between the respective services.

WLR specific provisions

8.20 As explained in detail in section 4 of this consultation, we are also proposing to require Openreach should be required to provide a price discount on the charges for WLR Conversion and SMPF New Provide when CPs request these services to be provided simultaneously. We propose that this is implemented by reducing the price for WLR Conversion and this is implemented in Condition 7C.2(d).

The rules that we propose to determine compliance with any future charge controls

Openreach is allowed to carry over differences in the average charge for the next charge control year

8.21 For charge controlled services, we are proposing that Openreach will be able to carry over any price reductions it makes in excess of the requirements of the charge control for that year. That is, if Openreach's average price change for these single charge categories and baskets in a Prior Relevant Year is lower than required by the associated CPI-X constraint, the maximum allowed price change in a Relevant Year will be higher than it would otherwise be. Conversely, if its average charge is higher than the required level in the Prior Relevant Year, the maximum allowed price change will be lower than it would otherwise be in the Relevant Year.

8.22 We propose to change the way this is presented in the charge control equations, and have included a Prior Year Adjustment Ratio to make this adjustment. These changes are designed to make the formulae more mechanical and easy to monitor compliance against. The calculation of the Prior Year Adjustment Ratio is in Conditions 7A.7 and 7C.5. The ratio is equal to one for the First Relevant Year, so that there is no there is no prior year adjustment.

8.23 It should also be noted that proposed Conditions 7A.12 and 7C.8 provide for the case where, in the last year of the controls, if Openreach is likely to fail to secure that the change in price of a controlled service (the Percentage Change) does not exceed the relevant X (the Controlling Percentage), then Ofcom can direct that Openreach should make an appropriate adjustment to its charges.

We have set out the information we propose that Openreach be required to supply to Ofcom

8.24 We have set out in Conditions 7A.11 and 7C.7 the information that we propose that Openreach will be required to supply to us in order for us to be able to monitor its compliance with the control. Consistent with the obligations in place in the existing charge controls, this information will be required to be supplied by Openreach on an annual basis, by no later than the 30 June after the end of the relevant financial year (three months after 31 March). It should be noted that although the proposed period of the control ends on 31 March 2017, these Conditions would themselves 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 in an earlier charge control year).

Legal tests

8.25 In the FAMR Consultation we have considered whether the imposition of a charge control for LLU and WLR services would be consistent with the relevant tests in the Act.[360] In that document we are consulting on the view that it would be. In the following we set why we consider that the specific form of the charge controls that we are proposing for LLU and WLR services meets the relevant tests and how, in formulating the proposals set out in this consultation we have complied with our relevant statutory duties. Given the substantial overlap in our reasoning, for the purpose of explaining why we consider the legal tests to be met, we have set out our position on the charge controls for LLU services and the charge controls for WLR services together below.

8.26 To give regulatory effect to the proposals set out in this document we propose two SMP conditions under section 87(9) of the Act: Condition 7A (for LLU) and Condition 7C (for WLR). The text of these proposed conditions is set out in schedule 1 to the statutory notifications published under sections 48A of the Act in Annex 17.

8.27 We are satisfied that our proposals meet our duties and the legal tests set out in the Act. Our reasons are set out below.

Proposed Condition 7A (LLU) and Condition 7C (WLR)

8.28 The new proposed SMP conditions 7A (LLU) and 7C (WLR) require BT to ensure that its charges for the LLU and WLR rental services and associated ancillary services do not increase by more than CPI minus/plus a value of 'X' that varies according to each relevant basket and individually controlled service.

8.29 Ofcom's reasons for proposing this particular form of control and the values for 'X' are set out in full in this consultation. It is proposed that the first year of the control for all charge controlled services will begin on 1 April 2014, following the expiry of the existing charge controls for LLU and WLR rental services. It is proposed that the controls will last for a period of three years, ending on 31 March 2017.

Our duties and policy objectives

8.30 We discuss our duties and objectives specific to the LLU and WLR charge controls in detail in Sections 3 and 4 of this consultation. Our opinion of the likely impact of implementing the proposals (as discussed throughout this consultation) is that the performance of our general and specific duties under section 3 and 4 of the Act is secured or furthered by our proposal to adopt the charge controls.

8.31 In particular, we consider that the proposed charge controls for LLU and WLR services will ensure that charges for wholesale services are set at a level that will enable CPs (other than Openreach) to compete in the provision of downstream services. The existing charge controls for LLU and WLR services have promoted competition in this way to the clear benefit of consumers in respect of choice, price and quality of service and value for money.

[360] See from paragraph 12.51 and paragraph 14.40 in the FAMR Consultation.

8.32 We have had particular regard to the requirement to promote competition and to secure efficient and sustainable competition for the benefit of consumers, which are relevant to both sections 3 and 4 of the Act. We have placed particular emphasis on the promotion of competition, which we consider is likely to be the most effective way of furthering citizen and consumer interests in the relevant markets.

8.33 In making our proposals, we have also sought the least intrusive regulatory measures to achieve our policy objectives.

Powers under sections 87 and 88 of the Act

8.34 Section 87(1) of the Act provides that, where Ofcom has made a determination that a person (here, BT) has SMP in an identified services market (here (i) the supply of copper loop-based, cable-based and fibre-based wholesale local access at a fixed location in the UK excluding the Hull Area; and (ii) wholesale fixed analogue exchange line services in the United Kingdom excluding the Hull Area), Ofcom shall set such SMP conditions authorised by that section as Ofcom considers appropriate to apply to that dominant provider in respect of the relevant network or relevant facilities and apply those conditions to that person.

8.35 Section 87(9) of the Act authorises the setting of SMP services conditions to impose on the dominant provider:

- such price controls as Ofcom may direct in relation to matters connected with the provision of network access to the relevant network, or with the availability of the relevant facilities;
- such rules as Ofcom may make in relation to those matters about the recovery of costs and cost orientation;
- such rules as they may make for those purposes about the use of cost accounting systems; and
- obligations to adjust prices in accordance with such directions given by Ofcom as they may consider appropriate.

8.36 Section 88 of the Act states that Ofcom should not set an SMP condition falling within section 87(9) except where it appears 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 public electronic communications services.

8.37 In setting a charge control, section 88 also requires that we must take account of the extent of the investment in the matters to which the condition relates of the person to whom the condition is to apply.

8.38 In our opinion, the proposed Conditions 7A and 7C satisfy section 88 of the Act.

8.39 In the FAMR Consultation we are consulting on our view that, absent the charge controls, there is a real risk of adverse effects arising from price distortion by Openreach as it might fix and maintain some or all of its prices for LLU and WLR services at an excessively high level and/or price in such a way as to create a margin squeeze in downstream markets.[361]

8.40 We also consider that the proposed charge control conditions for LLU and WLR are appropriate for the purposes of promoting efficiency and sustainable competition and conferring the greatest possible benefits on the users of public electronic communications services.

Promoting efficiency

8.41 We consider that the proposed conditions for LLU and WLR services are appropriate for the purpose of promoting efficiency, since in the absence of competitive pressures, we believe that BT would have limited incentives to seek to reduce its costs of providing LLU and WLR services.

8.42 As explained in Section 3, by setting a CPI-X form of charge control Openreach is encouraged to increase its productive efficiency. This will be achieved by allowing BT 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 BT incentives to make those efficiency savings. In the longer run, these cost savings could be passed to consumers through reductions in prices, either as a result of competition or through subsequent charge controls. In our view, this form of price regulation is also preferable to a rate of return type of control.

8.43 In addition:

- By bringing prices more in line with costs, the proposed charge controls will increase allocative efficiency;[362] and

- The proposed charge controls have been set to allow BT to earn a reasonable rate of return (the cost of capital) if it is efficient. When forecasting Openreach's forward looking costs for LLU and WLR services, we are consulting on the assumption that BT will have underlying efficiency gains in the range of 4-6%.[363] This is the approach that Ofcom has applied over charge control periods to encourage efficient investment.

Promoting sustainable competition and conferring the greatest possible benefits on end-users

8.44 We also consider that the proposed conditions for LLU and WLR services are appropriate to ensure sustainable competition and to confer the greatest possible benefits on users of public electronic communication services.

8.45 Our view is that preventing excessive pricing via a CPI-X form of charge control will promote sustainable competition, which we consider is likely to be the most effective

[361]See paragraphs 12.40-12.41.
[362]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. See section 4.
[363]See Annex 7.

way of benefiting end-users of public electronic communications services. Identifying the appropriate services to be subject to charge controls and the level of those controls, will enable greater choice of services for end-users in terms of choice, price, quality of service and value for money.

8.46 Although part of our proposed charge control applies to baskets of services, we have included 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 end-users.

Investment matters

8.47 When proposing the charge controls for LLU and WLR services we have also taken into account the need to ensure that Openreach has the incentives to invest and innovate where it is efficient to do so. We have done this in the following three respects:

- first, in modelling BT's forecast costs, we have built in a reasonable rate of return on investment;
- second, we have used a CPI-X form of charge control, which encourages and rewards investment in new, more efficient technologies; and
- third, we have adopted the anchor pricing approach, which incentivises investment in innovative and more efficient technology.

8.48 We consider that our proposed charge controls for LLU and WLR services strike a good balance between potential risk and reward. As the charge controls are set for a fixed duration, BT can benefit under the controls if it manages to increase market share or if outturn costs are lower than anticipated when the charge controls were set.

We have considered the test in Section 47 of the Act

8.49 In addition to the requirements in Sections 87(9) and 88 discussed above, Ofcom must be satisfied that any SMP Condition satisfies the test in section 47(2) of the Act, namely that it is:

- 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 it is intended to achieve; and
- in relation to what it is intended to achieve, transparent.

8.50 For the following reasons we are satisfied that this test is met in relation to proposed Conditions 7A and 7C.

Objective justification

8.51 We have set out our view for consultation in the FAMR Consultation that BT has SMP in the access markets covered by Conditions 7A and 7C. In the absence of any charge control, this would allow BT to set charges unilaterally and set prices above

the competitive level. This would have adverse impacts on both the ability of companies to compete in the downstream provision of services and on consumer choice and value for money. Our view is that BT is unlikely to be incentivised to reduce its costs or set prices at the competitive level. The proposed charge controls have been structured to address these risks while allowing Openreach to recover its costs, including a reasonable return on investment. Additionally, we have reviewed each service within the markets so that we have introduced an appropriate level of control for individual services where appropriate.

8.52 The structure of the proposed controls is such that BT has an incentive to continue to seek efficiency gains and benefit from efficiencies achieved that are in excess of those anticipated in the review.

8.53 The proposed controls are also objectively justifiable in that the benefits of CPI-X price controls are widely acknowledged as an effective mechanism to reduce prices in a situation where competition does not act to do so.

Undue discrimination

8.54 We are satisfied that the proposed charge controls for LLU and WLR services will not discriminate unduly against a particular person or particular persons because any CP, including BT itself, will be able to access the services at the charge levels set by the condition. The proposed charges are set to ensure a fair return and price level for all customer groups.

8.55 Ofcom considers that the proposed charge controls do not discriminate unduly against BT as it is the only CP to hold SMP in these markets (for the UK excluding the Hull Area) and the proposed controls seek to address that market position, including BT's ability and incentive to set excessive charges for services falling within the controls.

Proportionality

8.56 We are satisfied that the proposed charge controls for LLU and WLR services are proportionate because BT's obligations apply to the minimum set of charges required for the delivery of services within the markets that we have provisionally identified BT as having SMP. The charge controls that we have proposed in this consultation are focussed on ensuring that there are reasonable prices for those access services, which are critical to the development of a competitive market.

8.57 Under the proposed charge controls BT will be, however, allowed to recover a reasonable return on investment. BT will also have incentives to continue to invest and develop its access network. Moreover, the maximum charges Openreach is allowed to set over the period of the control has been formulated using information on BT's costs and a consideration of how these costs will change over time.

8.58 We therefore consider that the proposed charge controls for LLU and WLR services are:

- appropriate to achieve the aim of addressing BT's ability and incentive to charge excessive prices for the services covered by the charge controls;
- necessary, in that they do not, in our view, impose controls on the prices that Openreach may charge that go beyond what is required to achieve the aim of

addressing Openreach's ability and incentive to charge excessive prices for these services; and

- such that they do not, in our view, produce adverse effects that are disproportionate to the aim pursued.

Transparency

8.59 We consider that the proposed charge controls are transparent in relation to what they are intended to achieve. The aims and effects of the proposed charge controls are clear and they have been drafted so as to secure maximum transparency. We are consulting fully on the proposed charge controls and our reasoning in this document. Additionally, as described in Section 6 we have published alongside this document a version of our volume forecasts model and will be publishing shortly a version of our cost model and RAV model, suitably redacted to address BT's legitimate concerns regarding confidential information.

8.60 The text of the proposed conditions has been published in Annex 17 and the operation of those conditions is aided by our explanations in this document. Our final statement will set out our analysis of responses to this consultation and the basis for any final decision that we take.

We have considered sections 3 and 4 of the Act

8.61 We also consider that the proposed charge control conditions for LLU and WLR services are consistent with our duties under sections 3 and 4 of the Act.

8.62 For the reasons set out above, we consider that the charge controls proposed in this consultation will, in particular, further the interests of citizens and of consumers in relevant markets by the promotion of competition in line with section 3 of the Act. In particular, the proposed charge controls seek to ensure the availability throughout the UK of a wide range of electronic communications services. In proposing the charge controls, we have had regard to the desirability of promoting competition in relevant markets, the desirability of encouraging investment and innovation in relevant markets and the desirability of encouraging the availability and use of high speed data transfer services throughout the United Kingdom.

8.63 Further, we consider that, in line with section 4 of the Act, the proposed charge controls 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.