Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30

Call for inputs

Publication date: 9 November 2012

Closing date for responses: 20 December 2012

Contents

Section 1

Introduction and background

1.1 Under the common European regulatory framework for electronic communications[1] Ofcom is required to carry out periodic reviews of electronic communications markets in the UK.[2] Various fixed line access markets were last reviewed as follows:

- The Wholesale Local Access (WLA) market, last review published in October 2010 covering the period November 2010 to October 2014[3] and a further examination of the WLA market to satisfy ourselves that there had not been a material change since our market power determination in relation to that market published as part of the most recent LLU/WLR charge control review in March 2012;[4]

- The Wholesale Fixed Analogue Exchange Line (WFAEL) market, last review published in December 2010 covering the period January 2011 to December 2014[5] and a further examination of the WFAEL market to satisfy ourselves that there had not been a material change since our market power determination in relation to that market published as part of the most recent LLU/WLR charge control review in March 2012;

- The Wholesale ISDN30 market, last review published in August 2010 covering the period September 2010 to August 2014[6] and a further examination of the ISDN30 market to satisfy ourselves that there had not been a material change since our market power determination in relation to that market published as part of the most recent ISDN30 charge control review in April 2012;[7]

- The Retail and Wholesale ISDN2 market, last review published in September 2009 covering the period October 2009 to September 2013;[8] and

---

[1] *Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services* ('Framework Directive'), as amended by Directive 2009/140/EC and Regulation 544/2009, together with the 'Specific Directives' as referred to and defined therein,
http://ec.europa.eu/information_society/policy/ecomm/doc/140framework.pdf
[2] Article 16, *Framework Directive*
http://ec.europa.eu/information_society/policy/ecomm/doc/140framework.pdf
[3] *Review of the wholesale local access market*, 7 October 2010
http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_*statement*.pdf
[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
[5]: *Review of the wholesale fixed analogue exchange lines markets*, 20 December 2010
http://stakeholders.ofcom.org.uk/binaries/consultations/review-wholesale-fixed-exchange/statement/statement.pdf
[6] *Review of retail and wholesale ISDN30 markets*, 20 August 2010
http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30/statement/statement.pdf
[7] *Wholesale ISDN30 charge control,* 12 April 2012
http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/statement/ISDN30_final_statement.pdf
[8] *Review of the fixed narrowband services wholesale markets, 15 September 2009*
http://stakeholders.ofcom.org.uk/binaries/consultations/wnmr_statement_consultation/summary/main.pdf

- Various additional markets in Hull – residential fixed narrowband analogue access, business fixed narrowband analogue access and retail ISDN30, last reviews published in September 2009 covering the period October 2009 to September 2013[9] and August 2010 covering the period September 2010 to August 2014.[10]

1.2 The WLA market covers the connection from the local exchange/access node to the end user. This connection is needed to support fixed line services such as voice calls and broadband internet access. The other markets covered by these reviews concern the provision of active services – they take the access connection and add electronics to make it a useable service. The WFAEL market concerns the provision of wholesale analogue voice services (the product offered by BT in this market is called wholesale line rental (WLR)). The ISDN2 and ISDN30 markets cover the provision of a wholesale digital telephone line service that bundles either two or up to 30 channels over a common bearer circuit.

1.3 We are now commencing a series of separate concurrent market reviews (collectively referred to as our Fixed Access Market Reviews) to examine competitive conditions in these fixed access markets which will cover the period from April 2014 to March 2017.

1.4 These reviews will:

- identify the relevant products and services and the appropriate geographic areas within which those products and services should be considered so as to define the relevant economic markets for our analysis;

- examine each of those markets in order to determine whether each market is prospectively competitive and whether any undertaking has significant market power (SMP); and

- consider, if we determine that one or more operators has SMP in the relevant market(s), whether it is appropriate to impose (or maintain) regulatory remedies on those operators.

1.5 Although some of the markets under review directly concern services at the wholesale level, decisions taken here will ultimately affect the prices, choice and availability of critically important services in the retail market, such as current generation broadband and traditional voice services.

1.6 The emergence of next generation access (NGA) and super-fast broadband is important to these reviews as consumers may move away from the existing networks and onto these new networks. However, we are conscious that investment and take-up of these new networks and services is still at an early stage. We will therefore be looking to structure any interventions for NGA to promote new investments whilst at the same time maintaining competitive choice for consumers so that they can move to these new networks/services when they are ready.

---

[9] *Review of the fixed narrowband services wholesale markets, 15 September 2009* http://stakeholders.ofcom.org.uk/binaries/consultations/wnmr_statement_consultation/summary/main.pdf

[10] *Review of retail and wholesale ISDN30 markets*, 20 August 2010 http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30/statement/statement.pdf

Proposed approach for these reviews

1.7 We have undertaken significant analysis of these markets on a number of separate occasions and, in some cases, fairly recently. Since we last reviewed these markets, the common European regulatory framework for electronic communications was amended to require market reviews ordinarily to be undertaken every three years. In light of this, we intend to adopt an approach which will involve us taking our previous analysis as a starting point for these reviews and to concentrate our subsequent analysis on developments in the markets and areas of particular stakeholder concern.

1.8 We are therefore seeking stakeholders' views, together with evidence, on the key issues that relate to the scope of these reviews in the areas of; market definition, SMP findings and remedies. We are particularly interested in where stakeholders think we should change our position, which will allow us to conduct a more focused review. This will inform the extent to which significant further analysis is needed in light of market developments. Where the available evidence indicates that there have been no significant developments, we would expect to refresh our previous analysis, in particular by updating the key evidence relied on in our last review. Conversely, where evidence suggests more material developments, we would expect to conduct a more detailed analysis. Stakeholders are therefore asked to provide reasons to support their views.[11]

1.9 Should our initial analysis of the WLA and WFAEL markets indicate that charge controls remedies on Wholesale Line Rental (WLR) and Local Loop Unbundling (LLU) are likely to be appropriate for the period after the expiry of the current charge controls on 1 April 2014, we will review these as part of those market reviews. This CFI therefore covers questions relating to charge control remedies.

1.10 All of the views expressed in this document are preliminary and to be tested against market evidence. For example, where we seek your views on the approach to be taken to particular remedies, this should not be seen as prejudicing any SMP assessment. Before coming to any decisions about the regulation that will apply after March 2014 we will be setting out detailed proposals in a consultation document; we expect to publish this in May 2013.

1.11 The Call for Inputs (CFI) will run in parallel with information requests under section 135 of the Communications Act 2003 (the Act), which we plan to issue later this month and which we will rely on to gather information for the purposes of these reviews.

1.12 We seek responses to this CFI by **5pm 20 December 2012**. Responses should be in writing (either through our website or via email or post – see Annex 1).

Policy objectives and scope of reviews

1.13 In carrying out market reviews, Ofcom must give effect to the European and national legal and regulatory framework for electronic communications markets, in particular,

[11] Where appropriate, stakeholders should feel free to cross refer to responses provided to the Narrowband market review call for inputs published on 7 May 2012.

the policy objectives and regulatory principles in Article 8 of the Framework Directive which are reflected in our legal duties set out in Sections 3 and 4 of the Act which includes our principal duty in carrying out our functions:

- 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.

1.14 In formulating our approach to market definition and SMP we will take due account of the European Commission's Recommendation on relevant product and service markets (the Recommendation)[12] and SMP Guidelines.[13]

1.15 We have found the corresponding retail markets to be competitive in the past with the exception of the following:

- ISDN2 in the UK excluding the Hull Area;
- residential fixed narrowband analogue access in the Hull Area;
- business fixed narrowband analogue access in the Hull Area;
- ISDN2 in the Hull Area; and
- ISDN30 in the Hull Area.

1.16 When carrying out analysis of relevant markets under the common European regulatory framework we are required to take into account the markets identified in the Recommendation. For markets listed in the Recommendation, a national regulatory authority may choose not to carry out a market analysis procedure if it determines that the three criteria set out in that Recommendation are not satisfied for the particular market. These three criteria are:

- the presence of high and non-transitory barriers to entry;
- a market structure which does not tend towards effective competition within the relevant time horizon; and
- the insufficiency of competition law alone to adequately address the market failure(s) concerned.

1.17 The markets listed in the Recommendation include access to the public telephone network at a fixed location for residential and non-residential customers at the retail

---

[12] *Commission Recommendation of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (2007/879/EC), OJ L344, 28.12.2007, p.65*, http://eur-lex.europa.eu/LexUriServ/site/en/oj/2007/l_344/l_34420071228en00650069.pdf

[13] *Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services (2002/C 165/03)*, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2002:165:0006:0031:EN:PDF

level. Our current view is that the three criteria test is not satisfied for the corresponding retail access markets for which we have previously not found SMP.[14]

1.18 For other retail markets falling within the scope of our market reviews, we do not intend to review those retail markets where we have previously found there not to be SMP (although we may investigate the competitive conditions in these retail markets for the purposes of assessing the impact of the existing wholesale remedies).

Related work

1.19 We are also issuing today a Call for Inputs in respect of our review of wholesale broadband access (WBA).[15] This is a market downstream of WLA which concerns the provision of wholesale broadband products that use inputs from the WLA market to construct a broadband service.

1.20 As these two reviews are closely connected, the responses to this Call for Inputs may be used as an input to our WBA market review and these fixed access market reviews may also draw on the responses to the WBA Call for Inputs, where appropriate.

1.21 Finally, Ofcom is in the process of reviewing the wholesale narrowband services market,[16] which is closely related to the WFAEL market. Whereas the WFAEL market concerns fixed voice access products, the narrowband market covers the services used to provide calls over that access product. The analysis in that market review will be a relevant input into any proposals we make for the regulation of the WFAEL market.

The findings of the last market reviews

1.22 The following table summarises the current market/SMP assessment and the current remedies in place.

[14] The corresponding retail access markets which we previously identified but in respect of which we did not find SMP are, for the UK excluding the Hull area: the residential fixed narrowband analogue access market, the business fixed narrowband analogue access market, and the retail ISDN30 market. The first two of these were covered in the 2009 Retail Narrowband Statement (see Table 8.1) http://stakeholders.ofcom.org.uk/binaries/consultations/retail_markets/statement/statement.pdf The retail ISDN30 market was covered in the 2010 ISDN30 Statement (see paragraph 4.3), http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30/statement/statement.pdf

[15] http://stakeholders.ofcom.org.uk/consultations/review-wholesale-broadband/

[16] http://stakeholders.ofcom.org.uk/consultations/narrowband-market-review/

Table 1.1: Summary of current market/SMP assessment and remedies

Market	Is there SMP?	Current remedies / obligations imposed
WLA	BT has SMP in UK excluding Hull Area; KCOM has SMP in Hull Area	**BT:** • Local Loop Unbundling (LLU), including charge control • Virtual Unbundled Local Access (VULA), including a strict non-discrimination obligation. • Sub Loop Unbundling (SLU) • Physical Infrastructure Access (PIA) • General remedies **KCOM**: general remedies
WFAEL	BT has SMP in UK excluding Hull Area KCOM has SMP in Hull Area	**BT**: Wholesale Line Rental (WLR) including charge control **KCOM**: general remedies
Wholesale ISDN30	BT has SMP in UK excluding Hull Area KCOM has SMP in Hull Area	**BT**: charge control, general remedies **KCOM**: general remedies
Wholesale ISDN2	BT has SMP in UK excluding Hull Area KCOM has SMP in Hull Area	**BT**: general remedies **KCOM**: general remedies
Retail ISDN2	BT has SMP in UK excluding Hull Area KCOM has SMP in Hull Area	**BT:** wholesale remedies considered adequate **KCOM**: No undue discrimination obligation and price publication
Various other retail markets in the Hull Area	KCOM has SMP in retail access, retail ISDN 30	**KCOM**: No undue discrimination obligation and price publication

Section 2

Market definition and market power assessment

2.1 This section sets out our conclusions on market definition and on the relevant SMP assessment from the last time the each of the markets relevant to this CFI were reviewed. In light of the approach outlined above, we are seeking views from stakeholders as to whether they think there has been a change in the competitive conditions in the market during the period since this review[17] which would suggest that the definition of the relevant market and/or the assessment of SMP may have changed and, if so, the reasons for these changes.

WLA

2.2 The WLA market concerns fixed telecommunications access infrastructure - the connection from the local exchange/access node to the end user. This connection is needed to support fixed line services such as voice calls and broadband internet access.

Market definition

2.3 The findings of our previous review are set out in the 2010 WLA Statement. We subsequently concluded in the 2012 LLU/WLR Charge Control Statement that we were satisfied that there had been no material change in the WLA market since our prior market power determination in relation to that market.

2.4 We conducted our market definition assessment by assuming the absence of SMP remedies at the level of the market being reviewed.[18] In particular, we did not assume that Local Loop Unbundling (LLU), Virtual Unbundled Local Access (VULA) or Sub-Loop Unbundling (SLU) remedies were present.

2.5 Demand for WLA services is derived from demand in downstream retail and wholesale markets. In the 2010 WLA Statement we referred to our position in other reviews in relation to the following products:

- WFAEL, ISDN2 and ISDN30. Each of these products is discussed below. Note that for each of these products mobile access is considered to be in a separate market. In the case of WFAEL, residential and business access are considered to be in the same wholesale market (ISDN2 and ISDN30 are business products);
- Asymmetric broadband access. Our market definition included copper loop-, cable- and optical fibre-based access but excluded mobile, fixed wireless and satellite access; and
- Retail leased lines.

[17] References to “this review” relate to the overall project covering the separate market reviews as detailed in Section 1.
[18] This is sometimes referred to as the ‘modified Greenfield approach’.

2.6 Our views on the WLA market reflected the position in these downstream markets. For the WLA market we concluded that:[19]

- Copper loop-, cable- and optical fibre-based local access at a fixed location are in the same market;
- Mobile, fixed wireless and satellite access lie in separate markets;
- Connections for business and residential users are in the same market; and
- There are two separate geographic markets: the UK excluding the Hull Area, and the Hull Area.

SMP assessment

2.7 The 2010 WLA Statement concluded that BT has SMP in the UK excluding the Hull Area, given its high market share and the limited potential for new entry.

2.8 In addition, we concluded that KCOM has SMP in the Hull Area. It had a market share of 100% and there appeared to be little appetite for competitors to enter the market.

Questions

2.1 Have there been any significant changes since the last market review, or do you see any developments in the next three years, that would alter the existing WLA market definitions or SMP assessments? If so, please provide reasons to support your views.

WFAEL

2.9 In previous reviews, we distinguished between access to a network and the services that can be delivered over that network. In order for a final consumer to be able to make and receive fixed voice calls, they first need to purchase network access in the form of an active fixed line.

2.10 Analogue exchange lines are the most common type of access provided to residential and small business premises in the UK and are delivered in the following ways:

- BT and KCOM provide analogue exchange lines via their copper access networks. These networks are also used to deliver broadband services.
- In areas where Virgin Media has deployed its cable network, Virgin Media delivers analogue exchange lines using this network. This service is delivered using a copper based access network which shares the same duct as the hybrid fibre/coaxial network used to deliver Virgin Media's cable TV and broadband services; and

[19] Paragraphs 3.4-3.18 and 3.48, *Review of the wholesale local access market*, 7 October 2010 http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_*statement*.pdf

- In areas where LLU is in use, operators take over BT's copper loops and can provide analogue exchange lines directly to consumers.

Market definition

2.11 The findings of our previous review are set out in the 2010 WFAEL Statement. We subsequently concluded in the 2012 LLU/WLR Charge Control Statement that we were satisfied that there had been no material change in the WFAEL market since our prior market power determination in relation to that market.

2.12 As demand for WFAEL (a wholesale service) is derived from demand at the retail level, we first considered the retail market. Our position on retail market definition was as follows:

- Mobile and fixed access are in separate markets;
- Fixed access and fixed calls are in separate markets;
- Digital and analogue access are in separate markets;
- Alternative forms of network infrastructure that are used to provide fixed analogue exchange lines are in the same market;
- Residential and business access services are in separate markets; and
- There are two separate geographic markets: the UK excluding the Hull Area, and the Hull Area.

2.13 The wholesale market definition largely reflected the position at the retail level. The key difference was that the analogue exchange line services used to supply retail services to residential and business customers lie in the same wholesale market.

2.14 We did not expect NGA or Voice Over IP (VOIP) to affect the market definition.

SMP assessment

2.15 We found that BT has SMP in the UK excluding the Hull Area with a high market share in 2009/10.

2.16 While LLU had reduced entry barriers, provision of WFAEL still required substantial investment and BT enjoyed significant economies of scale and scope. We did not consider that remedies in the WLA market would remove BT's SMP in the WFAEL market. BT's prices appeared to be determined significantly by the controls imposed on it rather than by market forces, consistent with a finding of SMP.

2.17 In relation to KCOM's position in the supply of WFAEL in the Hull Area, we observed in 2010 that KCOM was the only wholesale provider. Other SMP criteria (such as barriers to entry) were likely to be similar to those in the remainder of the UK. [20]

[20] Section 4 *Review of the wholesale fixed analogue exchange lines markets,* 20 December 2010 http://stakeholders.ofcom.org.uk/binaries/consultations/review-wholesale-fixed-exchange/statement/statement.pdf

Questions

2.2 Have there been any significant changes since the last market review, or do you see any developments in the next three years, that would alter the existing WFAEL market definitions or SMP assessments? If so, please provide reasons to support your views, or where relevant please cross-refer to material submitted during the current narrowband market review.

Wholesale ISDN30 exchange lines

2.18 ISDN30 (also known as Primary Rate ISDN) provides up to 30 digital channels with a bandwidth of 64kb/s each and a control channel of 64kb/s.

2.19 ISDN30 is used exclusively by businesses to support a wide range of digital services. It is most commonly used to support connection of private branch exchanges (PBXs) for the supply of telephony services to larger business premises.

Market definition

2.20 The findings of our previous review are set out in the 2010 ISDN30 Statement and subsequently we concluded in the 2012 ISDN30 Charge Control Statement that we were satisfied that there had been no material change in the ISDN30 market since our prior market power determination in relation to that market.

2.21 As demand for wholesale ISDN30 exchange lines is derived from demand at the retail level, we first considered the retail market. Our position on retail market definition was as follows:

- Analogue access, ISDN2 and ISDN30 each lie in separate markets;
- Leased lines are not a direct substitute for ISDN30;
- IP-based services (SIP Trunking in particular) are in a separate market; and
- There are two separate geographic markets: the UK excluding the Hull Area, and the Hull Area.

2.22 When considering the wholesale market for ISDN30 we determined that there were no direct demand-side constraints on wholesale ISDN30 exchange lines, while supply-side substitution was neither feasible nor likely. At the wholesale level there remained two separate geographic markets: the UK excluding the Hull Area, and the Hull Area.

SMP assessment

2.23 In the 2010 ISDN30 Statement we determined that BT holds SMP in the supply of wholesale ISDN30 exchange services in the UK excluding the Hull Area. In support of this finding we noted that:

- Openreach's market share was high;
- Competition did not appear to be very aggressive;
- Demand and supply-side substitution was limited;
- Openreach's reported profitability was significantly in excess of its cost of capital. We believed that this was prima facie evidence that wholesale charges for ISDN30 might be above the competitive level; and
- There was little incentive for other CPs to offer services at the wholesale level to third parties.

2.24 In the 2010 ISDN30 Statement we determined that KCOM holds SMP in the supply of wholesale ISDN30 exchange services in the Hull Area. It had a market share of almost 100%. There also appeared to be little appetite to enter the market, possibly due to high barriers to entry.

Questions

2.3 Have there been any significant changes since the last market review, or do you see any developments in the next three years, that mean would alter the existing ISDN30 market definitions or SMP assessments? If so, please provide reasons to support your views.

Retail and Wholesale ISDN2 access

2.25 ISDN2 (also known as Basic Rate ISDN) uses copper access lines to provide two digital channels with a bandwidth of 64kbps each and a control channel of 16kbps on a single exchange line. ISDN2 is predominantly a business product which supports a wide range of services, including basic telephony with additional features to those available on analogue lines.

Market definition

2.26 The findings of our previous review are set out in the 2009 Retail Narrowband Statement.

2.27 As demand for wholesale ISDN2 exchange lines is derived from demand at the retail level, we first considered the retail market. Our position on retail market definition was as follows:

- Analogue access, ISDN30 and ISDN2 each lie in separate markets;
- Leased lines are not a direct substitute for ISDN2;
- Broadband services are in a separate market; and

- There are two separate geographic markets: the UK excluding the Hull Area, and the Hull Area.

2.28 Our views on the wholesale ISDN2 market reflected the position at the retail level.

SMP assessment

2.29 In the 2009 Retail Narrowband Statement we determined that BT had SMP in the supply of retail ISDN2 access in the UK excluding the Hull Area due to:

- The absence of significant competitors and apparent barriers to expansion;
- BT's high market share combined with apparently increasing retail margins; and
- Lack of evidence of increased competitive intensity.

2.30 In addition we considered that KCOM had SMP in the retail ISDN2 access market in the Hull Area due to the lack of competitors and KCOM's high market share.

2.31 In relation to the position in the wholesale market for ISDN2 access we found that BT had SMP in the UK excluding the Hull Area, where its market share was almost 100%.

2.32 We concluded that KCOM had SMP in the supply of wholesale ISDN2 exchange lines as it had a 100% market share.

Questions

2.4 Have there been any significant changes since the last market review, or do you see any developments in the next three years, that would alter the existing ISDN2 market definitions or SMP assessments? If so, please provide reasons to support your views.

Other retail markets in the Hull Area

2.33 In addition to the markets discussed above, we also found that KCOM has SMP in the following retail markets:

- Residential fixed narrowband analogue access in the Hull Area;
- Business fixed narrowband analogue access in the Hull Area; and
- Retail ISDN30 access in the Hull Area.

2.34 The evidence supporting our definition of the two fixed narrowband analogue access markets is set out in the 2009 Retail Narrowband Consultation. These retail markets are downstream of the WFAEL market – see the description of the key aspects of the retail market definition in paragraph 2.12 above. We summarise market definition in relation to ISDN30 in paragraph 2.21 above.

2.35 We concluded that KCOM had SMP given the absence of significant competitors and the limited threat of entry.

Questions

2.5 Have there been any significant changes since the last market review, or do you see any developments in the next three years, that would alter the existing market definitions or SMP assessments for these other retail markets in the Hull area? If so, please provide reasons to support your views.

Section 3

Remedies: introduction

3.1 This section covers SMP remedies, summarised in Table 3.1 below, that do not involve specific access products (e.g. LLU) and which it might be appropriate to impose in the markets relevant to this CFI where we find SMP (referred to throughout this CFI as general remedies). The following sections, 4 to 8, cover the remedies involving specific access products which might also be appropriate if we find SMP in the relevant markets. We are seeking views on how effective the current remedies that are in place have been in leading to more effective competition and whether there have been any significant changes in the competitive conditions since the last reviews that would suggest that such remedies may no longer be appropriate or proportionate.

3.2 At the time of the last reviews, a number of general remedies were imposed where the communications provider was found to have SMP. The following table sets out which operator was subject to each requirement in the relevant markets.

Table 3.1: Summary of current general remedies

Requirement	WLA	WFAEL	Wholesale ISDN30	Wholesale ISDN2
Provide network access on reasonable request	BT, KCOM	BT, KCOM	BT, KCOM	BT,KCOM
No undue discrimination	BT (excluding VULA), KCOM	BT, KCOM	BT, KCOM	BT, KCOM
Basis of charges – cost orientation	BT,* KCOM	BT, KCOM		BT, KCOM
Publish a reference offer	BT, KCOM	BT,KCOM	BT, KCOM	BT, KCOM
Notify changes to charges, terms and	BT, KCOM	BT, KCOM	BT, KCOM	BT, KCOM

conditions				
Notify technical information	BT, KCOM	BT, KCOM	BT, KCOM	BT, KCOM
Transparency as to quality of service	BT	BT	BT	BT
New network access	BT, KCOM	BT, KCOM	BT	BT
Cost accounting	BT	BT, KCOM	BT	BT, KCOM
Accounting separation	BT	BT, KCOM	BT	BT, KCOM

Questions

3.1 Have there been any significant changes since the last market review that mean we should alter our approach to general remedies assuming that such remedies continue to be required? If so, please provide reasons to support your views

Basis of charges – cost orientation

3.3 As set out above, we imposed a basis of charges obligation in each of the WLA (excluding VULA), WFAEL and ISDN2 markets that requires that prices in the those markets must be related to the costs of providing those services. In light of our experience, we have been considering separately:

- when it is appropriate to impose a cost orientation obligation; and
- where such an obligation is appropriate, to what extent it is appropriate to impose such an obligation alongside other pricing remedies such as a charge control.

3.4 As a result, in sections 4 to 8 below, we are seeking views on the extent to which it is appropriate to impose a basis of charges obligation in those markets, and in particular:

- if we do impose a charge control, whether a cost orientation obligation should accompany it; and
- if we do not impose a charge control but still consider that some kind of price regulation is needed, what approach we should take; for instance whether we

should use a cost orientation obligation (and in what form), or another type of regulation such as a safeguard cap.

Requirement to notify charges, terms and conditions

3.5 The following notification periods are currently required in the WLA, WFAEL, ISDN2 and ISDN30 markets:

- 90 days for existing WLA services (i.e. LLU, VULA, PIA and SLU), and 28 days for new WLA services.
- 90 days for WLR rental, 28 days for all other regulated ancillary WLR services;
- 90 days for ISDN2 rental, 28 days for all other regulated ancillary ISDN services; and
- 28 days for all wholesale ISDN30 services;

3.6 In the 2010 WLA Statement, we said that 90 days would be appropriate for all existing WLA services to allow sufficient time for downstream providers to make necessary changes to their wholesale or retail products and services. We said that 28 days was sufficient given the lesser administrative impact of changes to charges for new products and services.[21]

3.7 As set out in the 2010 WLA Statement, BT requested that we align the notification periods of LLU and WLR ancillary services by reducing the period for LLU ancillary services to 28 days. However, we concluded in that statement that the justification for differing notification periods for ISDN2 and WLR rentals, and their respective other services, did not apply to LLU because of the latter's larger investment requirements and position upstream of ISDN2 and WLR services. [22]

3.8 In coming to our conclusions on WLR and ISDN2 in the 2009 Wholesale Narrowband Statement, we said that 90 days notice was appropriate for the rental services, but 28 days for other services would provide BT with flexibility to trial and promote other ancillary services which were new (e.g. WLR connection).[23]

3.9 We also considered the suitability of asymmetric notification periods (i.e. a shorter notice period for price reductions than for price increases) for ISDN2 and WLR services in the 2009 fixed narrowband market review. However, we decided against this approach because we considered that, in some circumstances, reducing rates in short timeframes may lead to some concerns amongst stakeholders and potential

[21] Paragraph 5.120, *Review of the wholesale local access market*, 7 October 2010 http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_*statement*.pdf
[22] Paragraph 6.49, *Review of the wholesale local access market*, 7 October 2010 http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_*statement*.pdf
[23] Paragraph 11.100, *Review of the fixed narrowband services wholesale markets*, 15 September 2009 http://stakeholders.ofcom.org.uk/binaries/consultations/wnmr_statement_consultation/summary/main.pdf

competition issues.[24] We raised the issue of asymmetric periods again in the recent business connectivity market review (BCMR) consultation, where we suggested the possibility of changing the notice period for price reductions to 28 days, while keeping the notice period for price rises at 90 days.[25]

3.10 In the 2009 wholesale fixed narrowband market consultation,[26] we considered that a notice requirement of 28 days was appropriate for ISDN30 services to allow BT a greater degree of pricing flexibility, particularly around offers and promotions, and we maintained this position in the 2010 ISDN30 Statement.

3.11 We welcome views from stakeholders on the appropriate approach to notification periods for LLU, WLR, wholesale ISDN30, and wholesale ISDN2 if we continue to find SMP.

Questions

3.2 Where there is SMP, what do you consider to be an appropriate notice period for changes to charge, terms and conditions for the services covered by this review, assuming that such a remedy is required? Please provide reasons to support your views.

[24] Paragraph 11.99, *Review of the fixed narrowband services wholesale markets*, 15 September 2009 http://stakeholders.ofcom.org.uk/binaries/consultations/wnmr_statement_consultation/summary/main.pdf

[25] Section 8, *Business connectivity market review,* 18 June 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/business-connectivity/summary/sections815.pdf

[26] Paragraph 11.61, *Review of the fixed narrowband services wholesale markets,* 19 March 2009, http://stakeholders.ofcom.org.uk/binaries/consultations/review_wholesale/summary/fnwm.pdf

Section 4

Remedies: Wholesale Local Access

4.1 In our 2010 WLA Statement, we imposed a set of specific access remedies on BT which we considered were an appropriate combination of remedies to address the competition issues arising from BT's SMP. We applied the following remedies:

- General remedies as set out in Section 3 above;[27] and specific product remedies that we required BT to offer included:
    - Local Loop Unbundling (LLU), allowing other CPs to physically take over (or share) BT's existing copper lines between the local telephone exchanges and the customer premises.[28]
    - Virtual Unbundled Local Access (VULA), where BT has deployed its NGA network, providing a virtual connection (rather than a physical line) that gives other CPs a connection between the local access node (analogous to the local exchange) and the customer premises.[29]
    - Physical Infrastructure Access (PIA), allowing other CPs access to BTs duct and poles to deploy their own network.[30] This network could be fibre to the premise (FTTP) or fibre to the cabinet (FTTC, in which case this would likely be used in combination with SLU below).
    - Sub Loop Unbundling (SLU), allowing other CPs to physically take over (or share) BT's existing copper lines between the cabinet and the customer premises, to enable them to deploy FTTC.[31]

4.2 In the 2010 WLA Statement we set out how we considered that this combination of remedies would meet the two objectives of promoting competition and investment over the review period, during which we expected the vast majority of services provided over BT's access network would remain copper based, but also that BT (and potentially others) would be deploying NGA network alongside the CGA network.[32] Accordingly, we:

- Maintained LLU as we considered it an effective remedy which would enable CPs to continue to compete with BT in CGA; and

---

[27] For VULA, we applied a strict interpretation of the no undue discrimination obligation to reflect its importance for competition in NGA.
[28] Section 6, *Review of the wholesale local access market*, 7 October 2010, http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_*statement*.pdf
[29] Section 8, *Review of the wholesale local access market*, 7 October 2010, http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_*statement*.pdf
[30] Section 7, *Review of the wholesale local access market*, 7 October 2010, http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_*statement*.pdf
[31] Section 6, *Review of the wholesale local access market*, 7 October 2010, http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_*statement*.pdf
[32] Section 9, *Review of the wholesale local access market*, 7 October 2010, http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_*statement*.pdf

- Introduced the VULA and PIA remedies and maintained SLU as NGA-related access products in order to support both competition and investment. We expected VULA would be the primary focus of competition where BT had deployed its NGA network, with PIA and SLU supporting both investment and competition (with CGA) where BT had not yet or was not planning to deploy NGA.

4.3 We are seeking views from stakeholders on the remedies described above and how they have worked in combination to achieve the objectives of both supporting competition and investment.

Questions

4.1 What are your views on how well the current set of remedies for WLA has worked in combination to promote efficient and sustainable competition and what impact has this had on investment in WLA services? Please provide reasons to support your views.

Developments since the last market review and identification of likely key issues

LLU

4.4 In justifying an LLU remedy in the 2010 WLA statement (i.e. Metallic Path Facilities (MPF) and Shared Metallic Path Facilities (SMPF) services) we explained that demand for LLU was likely to remain material and that these services would continue to play an important role during the forward look of the review. In addition, we set a charge control for LLU, to prevent BT from pricing excessively. We also required BT to provide certain ancillary services which are reasonably necessary to support these services.

4.5 We later decided (in April 2012 as part of the 2012 LLU/WLR Charge Control Statement) that we were satisfied that there had been no material change in the WLA market since our prior market power determination in relation to that market and accordingly imposed a charge control on LLU services for BT.

4.6 Provided we find that an LLU remedy, and the imposition of a charge control on that LLU remedy, remains appropriate, in the absence of material market developments in relations to LLU we would expect to continue with our current approach to LLU regulation but would welcome stakeholders' views in this respect.

Questions

4.2 Have there been any significant changes since the last market review that mean we should alter our approach to regulating the current BT LLU remedies (including Ancillary services) assuming that such a remedy continues to be required? If so, please provide reasons to support your views.

VULA

4.7 In the 2010 WLA Statement, we considered that VULA would provide access to the NGA network in a way that is similar to how LLU provides access on the CGA network (although it would be a virtual connection rather than a physical line). We

applied a strict non-discrimination obligation and set out a series of key characteristics.

4.8 VULA has seen reasonable take-up over the period, with around 950,000 premises connected to BT's Generic Ethernet Access (GEA) product as at the end of September 2012. [33] We note that the vast majority of these connections (more than 875,000) are BT retail customers. In total, BT's fibre deployment has now passed over 12 million premises.

4.9 We seek views generally on the VULA remedy and how it has been implemented by BT. Below we also set out in further detail a number of issues in relation to VULA.

Questions

4.3 Have there been any significant changes since the last market review that mean we should alter our approach to regulating VULA, assuming that such a remedy continues to be required? If so, please provide reasons to support your views.

4.4 How important is the next three year period in the take-up of VULA? Please provide reasons to support your views.

Key characteristics

4.10 In the 2010 WLA Statement, we set out a specific set of key characteristics for VULA (which BT is implementing through its GEA product). These include local interconnection, service agnostic access, uncontended access with CP control of that access, and CP control of customer premise equipment (CPE).[34] The latter could cover the possibility of a wires-only presentation and self-install, and we understand that BT is actively working with CPs on these two areas. Separately we note that there have been industry discussions on the characteristics of VULA/GEA for business use.

4.11 We seek the views of stakeholders on whether they consider the key characteristics to remain appropriate and how they have been implemented. We also seek views on related issues such as the characteristics of VULA for business use and the Fibre Voice Access (FVA) product in terms of implications for how the VULA remedy should be designed.

Questions

4.5 What are your views on the key characteristics of VULA, how they have been implemented by BT and other related issues (such as VULA for business and FVA)? Please provide reasons to support your views.

[33] BT Group, Results for the Second Quarter and Half Year to 30 September 2012, 1 November2012, available at: http://www.btplc.com/News/ResultsPDF/q212_release.pdf

[34] Paragraphs 8.39-8.89, *Review of the wholesale local access market*, 7 October 2010, http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_*statement*.pdf

Pricing of VULA

4.12 We did not impose ex ante price regulation on VULA in light of the significant uncertainty over costs and revenues for NGA services and because of the perceived constraint from the pricing of existing CGA services.

4.13 In the 2010 WLA Statement, we considered both the core VULA access charges (e.g. installation and monthly access charge) as well as the range of ancillary services. We recognised concerns raised by some stakeholders in respect of the pricing of ancillary services, most specifically in relation to the pricing of migrations and noted that we would be concerned where ancillary services were consumed by other CPs but not BT's own downstream divisions, and, in particular, if the pricing of migrations resulted in unnecessarily high switching costs between operators or artificially favoured BT's downstream operations.[35]

4.14 We are interested in views on the general pricing approach to VULA as well as on any specific charges, such as ancillary services.

Questions

4.6 Does our general pricing approach to the pricing regulation of VULA remain appropriate, assuming that such a remedy continues to be required? If not, why? Please provide reasons to support your views.

4.7 What are your views on BT's pricing of VULA ancillary services, in relation to migration charges and any ancillary services not consumed by BT? Please provide reasons to support your views.

Fibre access margin squeeze

4.15 In setting out our approach to the regulation of VULA, we identified in the 2010 WLA Statement a risk that the VULA remedy could be undermined if BT were to set an inappropriate differential between its wholesale price for VULA and the price of its downstream products (such as BT Infinity). We considered that an appropriate and proportionate way to prevent such behaviour was the requirement that BT provide VULA and any ancillary services on fair and reasonable terms (Condition FAA11.2 of the SMP Conditions).

4.16 In the event of any complaints about a possible margin squeeze, we noted that we would likely consider whether the differential between retail and wholesale prices was above the current long-run incremental cost of the downstream activities of a reasonably efficient operator, including an allowance for subscriber acquisition costs.[36]

4.17 We would welcome comments on the effectiveness of the safeguards against a margin squeeze by BT in relation to VULA and whether we should consider this further in our review of the WLA market.

---

[35] Paragraphs 8.143-8.147, *Review of the wholesale local access market*, 7 October 2010 http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf

[36] Paragraphs 8.125-8.136. *Review of the wholesale local access market*, 7 October 2010 http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf

Questions

4.8 Have the existing ex ante safeguards against margin squeeze in relation to VULA been effective? If not, what would be an alternative approach? Please provide reasons to support your views.

4.9 What should be the purpose of any ex ante margin squeeze safeguards in relation to VULA (for example, actively promoting expansion by non-BT retailers or simply protecting reasonably efficient retailers) where such safeguards are required? Please provide reasons to support your views.

PIA

4.18 We considered that PIA could be attractive to companies wishing to address market opportunities in advance of BT and in locations which may be in receipt of public funding support. However, there has been very limited usage of PIA, either in areas where BT has deployed fibre or when it does not have commercial plans to do so. The question therefore remains as to whether the remedy should be kept or removed.

4.19 We do though recognise that the remedy has only been in place for a short period of time and that it could potentially be used more in the future as the costs and demand for NGA become more certain. Should PIA remain an appropriate remedy as part of the set of NGA remedies, we are open to evidence that there are changes to the existing PIA remedy that could unlock NGA investment that is not currently possible.

Questions

4.10 Should PIA be retained as part of the set of NGA remedies assuming that such remedies continues to be required? Please provide reasons to support your views.

4.11 What changes might be made to the PIA product that could increase NGA investment by other CPs? Please provide reasons supporting your views, and in particular any specific business plans which could be made viable by such change.

Other NGA remedies

SLU

4.20 In the 2010 WLA Statement, in relation to SLU we considered that the current requirements on BT are sufficient to allow further development of SLU products and processes and that CPs retain the ability to request network access and are able commercially to negotiate with BT for new specifications for SLU products or services. We noted at the time that SLU was currently only used in limited situations and this remains the case with a largely local deployment by a small number of CPs.

4.21 Provided we find that it remains appropriate to impose an SLU remedy, we would expect to continue with the current approach to SLU, unless there is evidence that issues, such as vectoring, present a significant threat to the effectiveness of the SLU remedy over the review period.

4.22 We are interested in understanding from stakeholders whether they consider technological changes have affected or will affect SLU over the period of the review (positively or negatively) and whether there is any need to modify the requirements around SLU.

Questions

4.12 Have there been any significant changes since the last market review that mean we should alter our approach to regulating SLU, for example, in response to technological change, assuming that such a remedy continues to be required? If so, please provide reasons supporting your views.

Other remedies

4.23 In the 2010 WLA Statement, we did not consider it appropriate to apply a wavelength unbundling obligation due to the then current immaturity of the standards and associated products for wavelength unbundling.[37] We have not seen evidence that this situation has materially changed since 2010 and we also note the small amount of FTTP (GPON) currently being planned or deployed in the UK. We therefore seek views on whether this position remains appropriate and if not, what form of remedy should be imposed and the likely effectiveness of that remedy in addressing competition issues.

4.24 We are also interested in whether any other specific access product remedies we have previously considered but not imposed (e.g. dark fibre[38]) or potential new access product remedies (e.g. remedies based on fibre to the distribution point (FTTDP)), are likely to become appropriate in addressing competition issues over the review period, assuming such issues are identified.

4.25 Finally, and more generally, we are interested in whether there have been any technological changes in the market that may affect current or future WLA remedies, whether in a positive of negative way.

Questions

4.13 Have there been any significant changes since the last market review that mean we should alter our position on wavelength unbundling? If you think wavelength unbundling is appropriate, what form of remedy should be imposed ((including the payment or funding mechanism, i.e. who pays for it, how this would be calculated and when the investment would occur), and what would be the likely effectiveness of such a remedy in addressing competition issues? Please provide reasons to support your views.

4.14 Are there any other specific access product remedies that might help address any SMP that may be found in the WLA market? Please provide reasons to support your views.

---

[37] Paragraph 6.62, *Review of the wholesale local access market*, 7 October 2010, http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf

[38] Paragraph 9.69, *Review of the wholesale local access market*, 7 October 2010, http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf

4.15 Are there any other technological changes that may impact on current or future remedies in the WLA market? Please provide reasons to support your views.

Basis of charges

4.26 As explained above, we are seeking views on the extent to which it is appropriate to impose a basis of charges obligation in the WLA market, and in particular:

- if we do impose any charge controls, whether a cost orientation obligation should accompany them; and
- if we do not impose a charge control but still consider that some kind of price regulation is needed, what approach we should take; for instance whether we should use a cost orientation obligation (and in what form), or another type of regulation such as a safeguard cap.

Questions

4.16 Do you think we should continue to accompany any charge controls imposed in the WLA market with a cost orientation obligation? If not, what approach would be better suited instead? Please provide reasons to support your views

4.17 If we do not impose a charge control, do you think that a cost orientation obligation is appropriate on products in the WLA market where we nevertheless believe that some form of price regulation is appropriate? And what form should this obligation take? If not, what approach should we use in such cases? Please provide reasons to support your views.

Section 5

Remedies: Wholesale Fixed Analogue Exchange Lines

5.1 WLR is used by CPs to support competition in the WFAEL market. It provides retail customers (both residential and business) with exchange lines and, in turn, access to other narrowband telephony services (for example telephone calls, facsimile and dial-up internet access).

5.2 In the 2010 WFAEL Statement, we applied general remedies as set out in Section 3 above and continued with the obligation on BT to provide WLR, given material demand for the product and the important role we expected it to continue to play. Further to this, we decided to set a charge control for WLR, to prevent BT from pricing excessively and to facilitate downstream competition. We also required BT to provide certain ancillary services which are reasonably necessary to support WLR.

5.3 In April 2012 (as part of the 2012 LLU/WLR Charge Control Statement), we concluded that we were satisfied that there had been no material change in the WFAEL market since our prior market power determination in relation to that market. and accordingly imposed a charge control on WLR services for BT.

5.4 Provided we find that an WLR remedy, and the imposition of a charge control on that WLR remedy, remains appropriate, in the absence of material market developments in relation to WLR, we are minded to continue with our current approach to regulating WLR but would welcome stakeholder views in this respect.

Questions

5.1 Have there been any significant changes since the last market review that might impact on our approach to regulating the current WLR remedies (including for Ancillary services), assuming that such a remedy continues to be required? If so, please provide reasons to support your views.

Basis of charges

5.5 As explained above, we are seeking views on the extent to which it is appropriate to impose a cost orientation obligation in the WFAEL market, and in particular:

- if we do impose a charge control, whether a cost orientation obligation should accompany it; and
- if we do not impose a charge control but still consider that some kind of price regulation is needed, what approach we should take; for instance whether we should use a cost orientation obligation (and in what form), or another type of regulation such as a safeguard cap.

Questions

5.2 Do you think we should continue to accompany any charge controls imposed in the WFAEL market with a cost orientation obligation? If not, what approach would be better suited instead? Please provide reasons to support your views

5.3 If we do not impose a charge control, do you think that a cost orientation obligation is appropriate on products in the WFAEL market where we nevertheless believe that some form of price regulation is appropriate? And what form should this obligation take? If not, what approach should we use in such cases? Please provide reasons to support your views.

Section 6

Approach to any Local Loop Unbundling and Wholesale Line Rental charge controls

Introduction

6.1 The current LLU and WLR charge controls were set by the 2012 LLU/WLR Statement and expire on 1 April 2014.[39, 40] We are, therefore, as part of our reviews of the WLA and WFAEL markets reviewing how we might approach the setting of any LLU and WLR charge controls, should we conclude in these reviews that such remedies are required.[41]

6.2 We are aware that the European Commission (EC) is considering how best to provide guidance (most likely in the form of a recommendation) to National Regulatory Authorities on costing methodologies for wholesale access services. While the precise form of any proposals remains to be seen, we will take appropriate account of the EC guidance in this area.

6.3 In this section, we first briefly outline the approach taken in setting the current LLU and WLR charge controls. We then discuss technology choice and its potential implications for cost modelling. Next we consider the recovery of common costs. Finally, following on from this, we set out our initial view on the appropriate approach to modelling, should charge control remedies be appropriate from April 2014.

6.4 The remainder of this section is somewhat longer than other parts of this CFI which seek your views on remedies. The reason for this is that the setting of charge controls in these markets has been the subject of intense regulatory review (including appeals) in recent years and the process of cost modelling in support of charge control setting is a resource intensive exercise, both for us and affected CPs. We therefore, consider it appropriate to provide more detail in this CFI on our possible future approach.

Our approach to the 2012 LLU/WLR charge controls

6.5 For ease of reference, the current charge controls set in the 2012 LLU/WLR Statement are as follows:

---

[39] *Charge control review for LLU and WLR services*, 7 March 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf

[40] BT has appealed certain aspects of the 2012 LLU/WLR Statement and Sky and TalkTalk Group have appealed jointly other aspects of it. The Competition Appeals Tribunal (CAT) separately referred matters under both appeals to the Competition Commission (CC) for determination, in each case by 29 March 2013. Under the CC's administrative timetable, provisional determinations for both appeals are expected to be issued in January 2013.

[41] In the event that the fixed access markets review finds that any other charge control remedies are required (e.g. on ISDN services) we will review any such charge controls at the same time.

Table 6.1: LLU Charge Controls

Basket/service	Charge control for 2012/13 (£cap / combined RPI + X)	Charge control for 2013/14
MPF rental	£87.41	RPI-5.9%
SMPF rental	£11.92	RPI-15.9%
MPF Single Migration	£33.54	RPI-11.3%
MPF New Provide	£51.16	RPI-14.2%
SMPF Single Migration	£33.54	RPI-11.3%
SMPF Provide	£33.54	RPI-11.3%
MPF ancillary services basket	-3.6%	RPI-9%
SMPF ancillary services basket	-7.6%	RPI-13%
Co-mingling ancillary services basket	1.8%	RPI-3.6%

Table 6.2: WLR Charge Controls

Basket/service	Charge control for 2012/13	Charge control for 2013/14
WLR Rental	£98.81	RPI-7.3 %
WLR Transfer	£3.29	RPI-0%
WLR New Connection	£50.44	RPI-9.8 %

6.6 The levels of these charges were set using a suite of models originally developed by Openreach, and subsequently adapted by Ofcom, for the purposes of the 2009 Openreach Financial Framework Review.[42]

6.7 The cost modelling was performed in two stages, as follows:

- First, operating costs and capital expenditure were forecast at the level of Openreach as a whole (in a Cost Forecast or "CF" model). These were calculated using an activity based costing model, based on historically observed activity levels and costs together with estimates of future levels of demand.

- Second, these forecast costs were allocated (in a Cost Allocation or "CA" model) to cost components[43] which were then allocated to services based on usage factors to derive unit cost estimates.

[42] *A New Pricing Framework for Openreach: Developing new charge controls for wholesale line rental, unbundled local loops and related services*, Consultation, 30 May 2008. http://stakeholders.ofcom.org.uk/binaries/consultations/openreach/summary/openreachcondoc.pdf; and
A New Pricing Framework for Openreach, Second Consultation, 5 December 2008. http://stakeholders.ofcom.org.uk/binaries/consultations/openreachframework/summary/off.pdf

[43] Similar to the cost components set out in the BT Regulatory Financial Statements.

6.8 The CA model drew on a calculation of the forecast asset values and depreciation, for copper and duct, provided by a separate model. This model (the "RAV model") forecasts the future value of BT's copper and duct access network. For the purpose of setting some prices, Ofcom uses the Regulatory Asset Value (RAV) methodology for these assets which differs from BT's current cost accounting (CCA) valuation methodology.[44]

6.9 In our CF and CA models we ensured that costs relating to the deployment of NGA were not included in the costs for the CGA services (i.e. MPF, SMPF and WLR). Cost categories that related exclusively to NGA, in particular NGA equipments costs, were excluded from the CF and CA models. Common costs were allocated across all services including NGA.

6.10 We also carried out cross checks to ensure that the CF and CA model unit cost outputs did not rise as a result of NGA deployment, consistent with the anchor product pricing approach described below. At the time, we found that the outputs from the CF and CA models were lower than those that would result from a hypothetical continuation of a copper-only access network. We were therefore satisfied that the resulting charges did not violate one of the key principles underpinning anchor pricing, namely that customers of existing services are not made worse off compared to the (hypothetical) situation in which a copper-only network was used to provide fixed voice and broadband services.

Technology choice

6.11 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. This is sometimes described as the modern equivalent asset (MEA) approach to pricing.

6.12 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 which we refer to as 'anchor pricing'.[45]

6.13 The anchor pricing approach means that charges may not immediately reflect the costs of a new technology but, for a time, may be based on the costs of the existing technology. This 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.

[44] Essentially the RAV methodology values pre-1997 copper and duct assets at historic cost accounting (HCA) valuation indexed for inflation, post-1997 copper assets at CCA and post-1997 duct assets at modified CCA (capital expenditure indexed by inflation).

[45] For a more detailed explanation of when we consider it appropriate to move away from the MEA approach see from paragraph 4.54 in *Leased Lines Charge Control Consultation: Proposals for a new charge control framework for certain leased lines services,* 5 July 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/llcc-2012/summary/LLCC_2012.pdf.

6.14 In our view, the framework appropriate to determining the choice of modelled technology is as follows: [46]

- Can we identify the relevant MEA for delivering the services in question?
- Can we calculate robust cost estimates for the services based on the MEA?
- Would the use of the MEA approach allow an efficient operator to recover its costs?
- Does the MEA approach give appropriate migration signals to consumers?

6.15 In the present context, the potential access technologies comprise access for the provision of voice and broadband services. In principle, the potential technologies might comprise, copper access, fibre access (whether fully, e.g. FTTP, or partial, e.g. FTTC), cable technologies, mobile access (using cellular radio access networks (RANs)), fixed wireless access (FWA) or satellite services.

6.16 In the 2010 WLA statement, we concluded that the relevant market comprised only copper, cable and fibre access and so excluded the various forms of radio or satellite access noted above.[47] Where services provided over these alternative technologies are not considered sufficiently strong substitutes for the services provided over copper, cable and fibre access, we do not propose to consider them further in how we might approach the question of the MEA for regulatory pricing of WLR and LLU.

6.17 Before considering the extent to which fibre alternatives (FTTP or FTTC) might be considered the MEA for copper access technology, it is important to recognise that a significant part of the asset base for any of these networks relates to the duct assets. In recent fixed access and leased lines charge controls we have set charge controls on the basis of a RAV approach, rather than a full CCA and MEA approach. The reasoning for our RAV approach was set out in detail in the 2012 LLU/WLR Statement.[48]

6.18 Where duct (valued consistently with our RAV approach) is common between services provided over copper and/or fibre our approach to the recovery of these assets is set out in the section below on common cost recovery.

6.19 In respect of the wires and electronics used to provide fixed access services, it might be considered that FTTP is the MEA – for example, FTTP has been used for certain "greenfield" deployments such as Ebbsfleet in Kent. If FTTP were demonstrably

---

[46] These were the four factors considered in the *Leased Lines Charge Control, Proposals for a new charge control framework for certain leased lines services*, Consultation, 5 July 2012 http://stakeholders.ofcom.org.uk/binaries/consultations/llcc-2012/summary/LLCC_2012.pdf and the Network Charge Control, see: *Narrowband Market Review, Consultation on possible approaches to cost modelling for the Network Charge Control for the period 2013-1016*, Consultation, 28 September 2012, Ofcom. http://stakeholders.ofcom.org.uk/binaries/consultations/narrow-band-market-review/summary/condoc.pdf.

[47] See paragraphs 3.44-3.48, *Review of the wholesale local access market*, 7 October 2010 http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_*statement*.pdf

[48] Section 3 (paragraph 3.59 et seq.) and Annex 1, *Charge control review for LLU and WLR services*, 7 March 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf

lower cost for a nationwide deployment of fixed access, then it might be a strong candidate for being considered as the MEA (see the first two limbs of our framework above). However, we consider that at present cost information for such a nationwide deployment of FTTP is highly uncertain.

6.20 If FTTP were higher cost than the customer-to-exchange copper connection that it replaces, but also offers higher functionality, then it could potentially be the MEA, but this assessment would require us to robustly estimate the value of the additional functionality. This is because the value of the additional functionality would need to be subtracted from the replacement cost of FTTP network to give an appropriate replacement cost value for CGA services. Again, we consider that this is exercise is likely to be complex and uncertain. If too much value is attached to the additional functionality provided by FTTP (over and above the current copper network) this will result in prices for CGA services being set at too low a level. This could undermine take-up and investment incentives for FTTP and therefore might ultimately be to the detriment of consumers.

6.21 Therefore, our current view is that it would not be appropriate to use FTTP as the MEA for setting prices for existing services (such as MPF, SMPF and WLR). We consider 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.

6.22 We therefore propose to adopt an anchor pricing approach in which regulated charges for CGA services (i.e. MPF, SMPF and WLR) are set as if there were no deployment and take-up of NGA services.

Recovering common costs

6.23 There are significant economies of scope in the local access network. Therefore, any cost model for charge setting needs to determine how best to recover common costs, especially how much should be recovered from CGA services and, by implication, how much from NGA services.

6.24 Currently the large majority of common costs in the access network are recovered through charges for MPF and WLR. In contrast, common costs associated with duct and copper are not recovered from SMPF, which is an ‘overlay’ product that can only be bought in combination with WLR - which already includes duct and copper costs.

6.25 For this review, the common cost recovery issue could become more significant. This is because GEA over FTTC and GEA over FTTP volumes might grow significantly in the period to 2016/17 (the forward look period for our fixed access market reviews).

6.26 In considering how to recover common costs, we could distinguish three groups of services on Openreach’s network:

- voice only services;
- current generation broadband services; and
- superfast broadband services.

6.27 In theory, to maximise static economic efficiency while also recovering common costs, we could recover proportionally more common costs from services that have relatively inelastic demand (i.e. not very responsive to increasing prices). Such an approach is often described as Ramsey pricing.

6.28 In practice, we will not have the robust information needed to undertake a full Ramsey pricing approach. However, an important factor that would affect whether a Ramsey pricing approach was appropriate is how strongly consumers considered the different combinations of services as substitutes and how strong the different inputs are as substitutes in the provision of a given service. In particular, the more consumers consider the retail services as substitutes, and the more the inputs are seen by competing CPs as substitutes (e.g. WLR + SMPF, MPF, WLR + GEA over FTTC, etc.), the more appropriate it is for the common cost recovery per fixed line to be the same or similar.[49]

6.29 Indeed, we applied similar analysis to the differential in charges between MPF vs. WLR/WLR + SMPF in the 2012 WLR/LLU Statement.[50] Because these services were alternative wholesale inputs for the same voice and current generation broadband services, we considered them to be close substitutes. This implied, for example, that the difference in charges between MPF and WLR + SMPF should be equal to the difference in long run incremental cost (LRIC). While we actually set the charges in the 2012 WLR/LLU Statement on the basis of CCA fully allocated costs (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. Although the charge differential was wider than the LRIC differential, we concluded that there was not a strong case for a further reduction in the charge differential which had already been falling over time.[51] This was due to the potential to undermine expectations as to the stability of the regulatory framework. However, we signalled that, longer term, we expected to continue to reduce the charge differentials to the differences in LRIC.[52]

6.30 Therefore, our initial view is that an approach which involves the same, or at least very similar, common cost recovery from each of the of the access services in question is likely to be appropriate (e.g. MPF, WLR and GEA over FTTP).

6.31 Moreover, for the reasons explained above, we propose to adopt an anchor pricing approach implemented on the basis of all lines being modelled as entirely copper-based (even though a subset will be FTTP or FTTC). An anchor pricing model which treats all lines provided by the modelled operator as copper provides a straightforward means by which to ensure the same common cost allocation per line,

---

[49] For example, in the *Review of the wholesale local access market*, 7 October 2010 (paragraphs 3.37- 3.39), we concluded that for the period of that review, fibre-based local access was in the same market as lower-speed broadband access.
http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf
[50] Section 7, *Charge control review for LLU and WLR services*, 7 March 2012,
http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf
[51] For example, 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
[52] 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.

irrespective of whether in the real world some of the lines would be copper, some would be fibre and some would be part copper and part fibre.

6.32 Finally, given that SMPF and GEA over FTTC are both currently overlay services (that is they can only be bought in combination with WLR or MPF) our initial view is that the charges for these services should not recover any significant common costs. Should these overlay services be made available on a standalone basis at some time in the future, in particular GEA over FTTC, our initial view is that the common costs being recovered via the WLR or MPF charge should be transferred to this new standalone service. Our aim would be for there to be the same amount of common costs recovered per line – i.e. from each of MPF, WLR and GEA over FTTP (and GEA over FTTC should this be made available on a standalone basis).

Modelling methodology for the next charge control

6.33 The CF and CA modelling exercise used to set the current charge controls could in principle be adopted (and suitably adapted) to allow us to set any necessary charge controls in line with the principles described above. At the times that this modelling approach was previously adopted, it was used due to certain advantages associated with the fact that this modelling exercise was based on Openreach's internal forecasting models. In particular:

- 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, 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.

6.34 However, we consider that developments since these decisions were made mean that these advantages are less compelling and need to be considered alongside some potential drawbacks of using this approach for the purposes of any price controls for 2014-2017. For example, in light of our intention to model costs as if there was no deployment and take up of NGA services, the extent to which Openreach's own forecasts (which will reflect such deployment) can inform our own is reduced.

6.35 Moreover, while the modelling approach taken to set the current charge controls has advantages we now have concerns about its continued practicality:

- 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, meaning that a substantial reworking would be required;
- it could involve a substantial exercise to reconcile the inputs with BT's Regulatory Financial Statements (RFS); and

- the highly granular nature of the current models may result in disproportionate effort being directed towards large numbers of individual cost parameters and data points.

6.36 Stakeholders have also expressed certain concerns with the current modelling approach. Since the CF and CA models rely on highly disaggregated and commercially sensitive inputs from Openreach, when approaching disclosure of the 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 to be appropriate for ensuring effective consultation, stakeholders have nonetheless expressed concerns regarding disclosure in previous reviews.

6.37 Taking these together, on balance we consider that an alternative approach to charge control modelling, more consistent with our approach to several other charge controls, is likely to be more appropriate and proportionate for the period from April 2014.

6.38 Our current preference is to build a model based around information from BT's RFS. In building the cost model we would follow our standard analytical framework. In short, we would:

- identify from the RFS the network components relevant to the services which we propose to control (and consider if others needed 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 (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 network components in question (initial values for these could be taken from BT's LRIC and/or from other recent Ofcom cost models using the same or similar network components – e.g. the leased lines charge control);

- 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 a weighted average cost of capital (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, if differentials in key rental charges are significantly divergent from the likely LRIC differentials.

6.39 The key benefits of this approach are:

- we (as well as CPs) are experienced in this approach and it would be consistent with the approach we used in the Leased Lines Charge Control,53 the Wholesale Broadband Access Charge Control54 and the last Network Charge Control;55
- it is 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; and
- we would expect to be able to disclose more of the modelling than was the case for the CF and CA models.

6.40 However, it should be noted that this approach does not give rise to some of the advantages set out above associated with an approach based on Openreach's internal forecasting models.

6.1 Do you think that an approach to the pricing of wholesale access services based on an ongoing copper network is appropriate? Please give reasons for your answer.

6.2 In an ongoing copper network cost model, would it be appropriate to assume the same common cost allocation per line, across all lines, whether in practice the lines were copper-based, fibre-based or a hybrid of the two? Please give reasons for your answer.

6.3 Should we 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 (along the lines described in this section)? Please give reasons for your answer.

6.4 If you consider a different modelling approach is more appropriate, please set out what this would be and why.

Approach to charge controls for ancillary services

6.41 The current charge controls and forecast revenue for the ancillary services baskets are set out in the table below. The MPF and SMPF baskets include the products and services in relation to MPF jumper removals and transfers. The Co-mingling basket

[53] *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

[54] *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

[55] *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

covers products and services related to the cost of locating CP's equipment within BT Exchanges, including tie cables, power and ventilation charges.

Table 6.3: LLU Charge Controls for ancillary services and estimated revenues for 2013/14

Basket/service	Charge control for 2013/14	Estimated revenue in basket for 2013/14 £m[56]
MPF ancillary services basket	RPI-9%	c.5
SMPF ancillary services basket	RPI-13%	c.37
Co-mingling ancillary services basket	RPI-3.6%	c.69

6.42 Our initial view is that in the event that a charge control is required on ancillary services, we should not change the overall structure of the baskets for ancillary services.

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

6.44 We have considered what other options might be possible for the ancillary services, if we were to move away from updating the CF and CA models to set charges. Given the difficulties with modelling the baskets in a granular way, we consider that there are two main options:

- The first option, which would align with the AVE/CVE modelling approach described earlier, would be to use that model to build our basket costs, based on the categories in BT's Regulatory Financial Statements. However, it is may be difficult to obtain sufficiently robust data at the necessary level of disaggregation to permit meaningful cost analysis and granular cost analysis could be particularly difficult and time consuming given that volumes for ancillary services are likely to be more volatile than those for the main services.

- The second option would be to apply a Retail Price Index (RPI)-X control to the baskets where the value of X would be based on forecast cost efficiency used in the broader charge control. Therefore, we would not carry out detailed cost modelling as we would for the main connection and rental charges. Given that even the largest ancillary services basket constitutes around 12% of MPF and

[56] 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*, 31 March 2011.

SMPF revenues[57], and that obtaining the required granular cost information may not be practical, we consider that a high-level efficiency target in an RPI-X cap could be a proportionate approach that avoids generating cost estimates the accuracy and stability of which may be highly spurious.

6.5 Do you see any reason to change the overall structure and design of the current baskets of ancillary services? Please give reasons for your answer.

6.6 Do you consider that X in RPI-X for the ancillary service baskets should be
a) based on our forecast efficiency target for the provision of these WLA services? or
b) based on an explicit model of basket costs, even if at an aggregated level?
Please give reasons for your answer.

6.7 If you consider a different basis is more appropriate please set out what this approach would be and why.

Review of weighted average cost of capital

6.45 In setting charge controls for BT's copper access network business we have, since 2005, applied a WACC specific to that part of BT's business. In other words, we have disaggregated the BT WACC in two parts, one for the copper access business (which we have referred to as the 'Openreach WACC'), and one for the "rest of BT".[58]

6.46 The WACC underpinning the current set of copper access charge controls is 8.8% pre-tax nominal.[59] In the 2012 LLU/WLR Statement, we signalled that we would undertake a full review of our WACC methodology later in 2012.[60]

6.47 We now propose to review our methodology, and re-evaluate the parameters which make up the WACC for BT Group, Openreach and the rest of BT, as part of this market review. We consider that doing this as part of this review, instead of doing it as a standalone project, is a more efficient use of our resources and it avoids interested stakeholders duplicating submissions or engagement with us. We consider that it also better frames the impact of any changes in our approach or parameter estimates, and allows us to address issues around risk and cost modelling in a more holistic way.

6.48 Our proposed WACC methodology and estimates of the individual parameters will be consulted upon at the same time as any charge control proposals.

---

[57] 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*, 31 March 2011. Includes Internal and External revenues.
[58] *Ofcom's approach to risk in the assessment of the cost of capital*, 18 August 2005, http://stakeholders.ofcom.org.uk/binaries/consultations/cost_capital2/statement/final.pdf
[59] Paragraph A8.7 and Figure A8.2, *Charge control review for LLU and WLR services*, 7 March 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf.
[60] Paragraph A8.50, *Charge control review for LLU and WLR services*, 7 March 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf.

Section 7

Remedies: Wholesale ISDN30

7.1 In the 2010 ISDN30 Statement we imposed general remedies as set out in Section 3 above and an obligation on BT to provide ISDN30. We considered that a charge control was the most appropriate form of pricing remedy to address the competition concern that wholesale charges for ISDN30 were above the competitive level. In doing so we recognised that, while ISDN30 is a declining market, new technology services (i.e. IP telephony services) did not provide a sufficient competitive constraint on ISDN30 services.

7.2 We decided in the 2012 ISDN30 Charge Control Statement that we were satisfied that there had been no material change in the ISDN30 market since our prior market power determination in relation to that market and accordingly imposed a charge control on wholesale ISDN30 services for BT.

Developments since the last market review and identification of likely key issues

7.3 The 2012 ISDN30 charge control was designed to protect consumers, but also to ensure that the incentives for businesses to migrate to IP-based alternatives would be driven by the underlying characteristics of the products, rather than by high ISDN30 prices. The charge control has resulted in lower wholesale ISDN30 prices.

7.4 If we were to consider that an ISDN30 charge control remedy remained appropriate, we would be interested in views on how that should be set. In particular, whether it should be set through a detailed cost modelling exercise, or whether it would be appropriate to set it at the current level (but perhaps with RPI indexation), as by 2013/14 charges would have been adjusted down to be in line with costs (as stated in the 2012 ISDN30 Charge Control Statement).

7.5 Also, as explained above, we are seeking views on the extent to which it might be appropriate to impose a cost orientation obligation in the ISDN30 market, and in particular:

- if we do impose a charge control, whether a cost orientation obligation should accompany it; and
- if we do not impose a charge control but still consider that some kind of price regulation is needed, what approach we should take; for instance whether we should use a cost orientation obligation (and in what form), or another type of regulation such as a safeguard cap.

Questions

7.1 Have there been any significant changes since the last market review that mean we should alter our approach to regulating ISDN30 where we find SMP for BT? If so, please provide reasons to support your views.

7.2 Which, if any, price control remedy do you believe would be appropriate for ISDN30 where we find SMP for BT? Please provide evidence to support your views.

7.3 Do you think we should continue to accompany any charge controls imposed in the wholesale ISDN30 market with a cost orientation obligation? And what form should this take? If not, what approach would be better suited instead? Please provide reasons to support your views

7.4 If we do not impose a charge control, do you think that a cost orientation obligation is appropriate on products in the wholesale ISDN30 market where we nevertheless believe that some form of price regulation is appropriate? If not, what approach should we use in such cases? Please provide reasons to support your views.

Section 8

Remedies: Retail and Wholesale ISDN2

8.1 In the 2009 Narrowband Statements we removed remaining retail regulation on BT relating to ISDN2 (requirements relating to no undue discrimination and price publication) while retaining wholesale regulation such as an obligation to provide wholesale ISDN2 and general remedies as set out in Section 3 above.

Developments since the last market review and identification of likely key issues

8.2 We note that ISDN2 is a declining market and prices for ISDN2 have remained constant for some time.

8.3 We would be interested in views from respondents on whether our current regulatory approach for ISDN2 remains appropriate. In particular, whether our current approach to pricing (i.e. cost orientation) remains an appropriate remedy in this market were we to find BT continues to have SMP. Other pricing remedies that may be appropriate to address a finding of SMP in ISDN2 include a simple cap based on the current price or reliance on other general remedies.

8.1 Have there been any significant changes since the last market review that mean we should alter our approach to regulating ISDN2? If so, please provide reasons to support your views.

8.2 Which, if any, pricing remedy do you believe would be appropriate for ISDN2 where we find SMP for BT? Please provide reasons to support your views.

8.3 If you consider that a cost orientation obligation remains appropriate for products in the wholesale ISDN2 market, what form should this obligation take? Please provide reasons to support your views.

Section 9

Remedies: Markets in the Hull Area

9.1 This section covers the remedies currently in place on KCOM to address its SMP in the relevant markets in the Hull Area. Stakeholders are asked to give their views on the appropriate remedies going forward.

WLA

9.2 In the 2010 WLA review, we decided to maintain the general remedies under which KCOM already operated; these are set out in Section 3 above.

9.3 We imposed no requirements on KCOM to provide any specific access products, such as access to its duct and pole infrastructure, as there was limited interest among CPs for such a remedy. We considered it would not have been proportionate to require KCOM to develop such products, the costs of which would need to be recovered through higher prices for KCOM's customers.

Retail Fixed Analogue Exchange Lines (RFAEL)

9.4 We concluded in the 2009 Retail Narrowband Statement that KCOM had SMP in the retail fixed analogue exchange line markets and retained the existing general remedies (no undue discrimination and price publication) on KCOM.

WFAEL

9.5 In the 2010 WFAEL Statement we imposed general remedies on KCOM as set out in Section 3 above.

ISDN30 and ISDN2

9.6 In the 2010 ISDN30 Statement, we found that KCOM had SMP in the provision of retail and wholesale ISDN30. We imposed general remedies for wholesale ISDN30 as set out in Section 3 above and for retail ISDN30 we imposed no-undue discrimination and price publication obligations.

9.7 In the 2009 Narrowband Statements we found that KCOM had SMP in the provision of retail and wholesale ISDN2 and imposed wholesale general remedies as set out in Section 3 above and retail remedies (no-undue discrimination and price publication) on KCOM's ISDN2 services.

Questions

9.1 Have there been any significant changes since the last market reviews that mean we should alter our approach to regulating the current remedies on KCOM, where we find SMP for KCOM? If so, please provide reasons to support your views.

Section 10

Openreach's quality of service

10.1 We are also interested in stakeholders' comments on Openreach's current quality of service in the delivery of access services, their experiences of Openreach's performance, the impact on their business of any quality concerns, and their suggestions as to how any such concerns might be addressed.

10.2 Currently, Openreach's quality of service is determined by contracts between Openreach and its customers which make commercial provision for certain service levels (SLAs), and which include certain service level guarantees (SLGs) which relate to the wholesale access products covered by this review (LLU, GEA, WLR and ISDN). Some stakeholders have expressed concern as to the effectiveness of these SLAs and SLGs in incentivising Openreach to deliver a good performance on a consistent basis. Openreach has also raised concerns both about how well existing arrangements encourage industry to adopt best practice operational processes which optimise resource use, and about the relationship between charge controls and service quality.

10.3 We are therefore seeking views from all stakeholders on their experience, and that of their customers, of the quality of Openreach's access services, the current incentives facing Openreach and its customers regarding service quality, and the potential implications for future regulation.

Questions

10.1 What is your experience of the quality of Openreach's access services delivery? If there are quality and timeliness concerns, how do these affect your activities/customers? Please provide reasons to support your views.

10.2 Do you consider that the current contractual SLAs including SLGs relating to Openreach's quality of service are adequate? If not, what are the current shortcomings? Please provide reasons to support your views.

10.3 If you consider that there are shortcomings in the current service quality arrangements, what aspects do you consider to be solely within Openreach's control, what aspects do you consider are impacted on by the actions Openreach's customers and what aspects do you consider are solely within Openreach's customers' control? Please provide reasons to support your views.

10.4 If you consider that there are aspects of service quality that cannot adequately be dealt with by contractual arrangements (including but not limited to SLAs and SLGs), what aspects are these and what framework do you think should apply to deal with these? Please provide reasons to support your views.

Section 11

Next Steps

11.1 Stakeholders have until **5pm 20 December 2012** to respond to this CFI. We are keen for stakeholders to fully set out their views fully on the matters set out in this paper as this will help us focus our analysis.

11.2 Over the next few weeks, we will be issuing information requests under section 135 of the Communications Act 2003 to collect the information necessary to underpin our analysis. We expect to issue these statutory requests by the end of November 2012.

11.3 Following this, we expect to publish a consultation with our policy proposals in May 2013 and to publish our final policy statement in March 2014. Before publishing the final statement, we expect to consult with the European Commission in January 2014.

Annex 1

Responding to this Call for Inputs

How to respond

A1.1 Ofcom invites written views and comments on the issues raised in this document, to be made **by 5pm on 20 December 2012**.

A1.2 Ofcom strongly prefers to receive responses using the online web form at http://stakeholders.ofcom.org.uk/consultations/fixed-access-markets/howtorespond/ as this helps us to process the responses quickly and efficiently. We would also be grateful if you could assist us by completing a response cover sheet (see Annex 3), to indicate whether or not there are confidentiality issues. This response coversheet is incorporated into the online web form questionnaire.

A1.3 For larger consultation responses - particularly those with supporting charts, tables or other data - please email: WLA2014.review@ofcom.org.uk attaching your response in Microsoft Word format, together with a consultation response coversheet.

A1.4 Responses may alternatively be posted or faxed to the address below, marked with the title of the consultation.

David du Parc Braham
Floor 4
Competition Group
Riverside House
2A Southwark Bridge Road
London SE1 9HA

Fax: 020 7981 3417

A1.5 Note that we do not need a hard copy in addition to an electronic version. Ofcom will acknowledge receipt of responses if they are submitted using the online web form but not otherwise.

A1.6 It would be helpful if your response could include direct answers to the questions asked in this document, which are listed together at Annex 4. It would also help if you can explain why you hold your views and how Ofcom's proposals would impact on you.

Further information

A1.7 If you want to discuss the issues and questions raised in this consultation, or need advice on the appropriate form of response, please contact David du Parc Braham on 020 7981 3856.

Confidentiality

A1.8 We believe it is important for everyone interested in an issue to see the views expressed by consultation respondents. We will therefore usually publish all

responses on our website, www.ofcom.org.uk, ideally on receipt. If you think your response should be kept confidential, can you please specify what part or whether all of your response should be kept confidential, and specify why. Please also place such parts in a separate annex.

A1.9 If someone asks us to keep part or all of a response confidential, we will treat this request seriously and will try to respect this. But sometimes we will need to publish all responses, including those that are marked as confidential, in order to meet legal obligations.

A1.10 Please also note that copyright and all other intellectual property in responses will be assumed to be licensed to Ofcom to use. Ofcom's approach on intellectual property rights is explained further on its website at http://www.ofcom.org.uk/about/accoun/disclaimer/

A1.11 Please note that you can register to receive free mail Updates alerting you to the publications of relevant Ofcom documents. For more details please see: http://www.ofcom.org.uk/static/subscribe/select_list.htm

Ofcom's consultation processes

A1.12 Ofcom seeks to ensure that responding to a consultation is easy as possible. For more information please see our consultation principles in Annex 2.

A1.13 If you have any comments or suggestions on how Ofcom conducts its consultations, please call our consultation helpdesk on 020 7981 3003 or e-mail us at consult@ofcom.org.uk . We would particularly welcome thoughts on how Ofcom could more effectively seek the views of those groups or individuals, such as small businesses or particular types of residential consumers, who are less likely to give their opinions through a formal consultation.

A1.14 If you would like to discuss these issues or Ofcom's consultation processes more generally you can alternatively contact Graham Howell, Secretary to the Corporation, who is Ofcom's consultation champion:

Graham Howell
Ofcom
Riverside House
2a Southwark Bridge Road
London SE1 9HA

Tel: 020 7981 3601

Email Graham.Howell@ofcom.org.uk

Annex 2

Ofcom's consultation principles

A2.1 Ofcom has published the following seven principles that it will follow for each public written consultation:

Before the consultation

A2.2 Where possible, we will hold informal talks with people and organisations before announcing a big consultation to find out whether we are thinking in the right direction. If we do not have enough time to do this, we will hold an open meeting to explain our proposals shortly after announcing the consultation.

During the consultation

A2.3 We will be clear about who we are consulting, why, on what questions and for how long.

A2.4 We will make the consultation document as short and simple as possible with a summary of no more than two pages. We will try to make it as easy as possible to give us a written response. If the consultation is complicated, we may provide a shortened Plain English Guide for smaller organisations or individuals who would otherwise not be able to spare the time to share their views.

A2.5 We will consult for up to 10 weeks depending on the potential impact of our proposals.

A2.6 A person within Ofcom will be in charge of making sure we follow our own guidelines and reach out to the largest number of people and organisations interested in the outcome of our decisions. Ofcom's 'Consultation Champion' will also be the main person to contact with views on the way we run our consultations.

A2.7 If we are not able to follow one of these principles, we will explain why.

After the consultation

A2.8 We think it is important for everyone interested in an issue to see the views of others during a consultation. We would usually publish all the responses we have received on our website. In our statement, we will give reasons for our decisions and will give an account of how the views of those concerned helped shape those decisions.

Annex 3

Consultation response cover sheet

A3.1 In the interests of transparency and good regulatory practice, we will publish all consultation responses in full on our website, www.ofcom.org.uk.

A3.2 We have produced a coversheet for responses (see below) and would be very grateful if you could send one with your response (this is incorporated into the online web form if you respond in this way). This will speed up our processing of responses, and help to maintain confidentiality where appropriate.

A3.3 The quality of consultation can be enhanced by publishing responses before the consultation period closes. In particular, this can help those individuals and organisations with limited resources or familiarity with the issues to respond in a more informed way. Therefore Ofcom would encourage respondents to complete their coversheet in a way that allows Ofcom to publish their responses upon receipt, rather than waiting until the consultation period has ended.

A3.4 We strongly prefer to receive responses via the online web form which incorporates the coversheet. If you are responding via email, post or fax you can download an electronic copy of this coversheet in Word or RTF format from the 'Consultations' section of our website at www.ofcom.org.uk/consult/.

A3.5 Please put any parts of your response you consider should be kept confidential in a separate annex to your response and include your reasons why this part of your response should not be published. This can include information such as your personal background and experience. If you want your name, address, other contact details, or job title to remain confidential, please provide them in your cover sheet only, so that we don't have to edit your response.

Cover sheet for response to an Ofcom consultation

BASIC DETAILS

Consultation title:

To (Ofcom contact):

Name of respondent:

Representing (self or organisation/s):

Address (if not received by email):

CONFIDENTIALITY

Please tick below what part of your response you consider is confidential, giving your reasons why

Nothing ☐

Whole response ☐

Part of the response ☐

Name/contact details/job title ☐

Organisation ☐

If there is no separate annex, which parts?

If you want part of your response, your name or your organisation not to be published, can Ofcom still publish a reference to the contents of your response (including, for any confidential parts, a general summary that does not disclose the specific information or enable you to be identified)?

DECLARATION

I confirm that the correspondence supplied with this cover sheet is a formal consultation response that Ofcom can publish. However, in supplying this response, I understand that Ofcom may need to publish all responses, including those which are marked as confidential, in order to meet legal obligations. If I have sent my response by email, Ofcom can disregard any standard e-mail text about not disclosing email contents and attachments.

Ofcom seeks to publish responses on receipt. If your response is non-confidential (in whole or in part), and you would prefer us to publish your response only once the consultation has ended, please tick here. ☐

Name

Signed (if hard copy)

Annex 4

Consultation questions

A4.1 In this Call for Inputs, we have identified the following questions that we would like stakeholders to consider. These are:

Market definition and market power assessment

2.1 Have there been any significant changes since the last market review, or do you see any developments in the next three years, that would alter the existing WLA market definitions or SMP assessments? If so, please provide reasons to support your views.

2.2 Have there been any significant changes since the last market review, or do you see any developments in the next three years, that would alter the existing WFAEL market definitions or SMP assessments? If so, please provide reasons to support your views, or where relevant please cross-refer to material submitted during the current narrowband market review.

2.3 Have there been any significant changes since the last market review, or do you see any developments in the next three years, that would alter the existing ISDN30 market definitions or SMP assessments? If so, please provide reasons to support your views.

2.4 Have there been any significant changes since the last market review, or do you see any developments in the next three to four years, that would alter the existing ISDN2 market definitions or SMP assessments? If so, please provide reasons to support your views.

2.5 Have there been any significant changes since the last market review, or do you see any developments in the next three years, that would alter the existing market definitions or SMP assessments for these other retail markets in the Hull area? If so, please provide reasons to support your views.

Remedies: introduction

3.1 Have there been any significant changes since the last market review that mean we should alter our approach to general remedies assuming that such remedies continue to be required? If so, please provide reasons to support your views

3.2 Where there is SMP, what do you consider to be an appropriate notice period for changes to charge, terms and conditions for the services covered by this review, assuming that such a remedy is required? Please provide reasons to support your views.

Remedies: Wholesale local access

4.1 What are your views on how well the current set of remedies for WLA has worked in combination to promote efficient and sustainable competition and what impact has this had on investment in WLA services? Please provide reasons to support your views.

4.2 Have there been any significant changes since the last market review that mean we should alter our approach to regulating the current BT LLU remedies (including Ancillary services) assuming that such a remedy continues to be required? If so, please provide reasons to support your views.

4.3 Have there been any significant changes since the last market review that mean we should alter our approach to regulating VULA, assuming that such a remedy continues to be required? If so, please provide reasons to support your views.

4.4 How important is the next three to four year period in the take-up of VULA? Please provide reasons to support your views.

4.5 What are your views on the key characteristics of VULA, how they have been implemented by BT and other related issues (such VULA for business and FVA)? Please provide reasons to support your views.

4.6 Does our general pricing approach to the pricing regulation of VULA remain appropriate, assuming that such a remedy continues to be required? If not, why? Please provide reasons to support your views.

4.7 What are your views on BT's pricing of VULA ancillary services, in relation to migration charges and any ancillary services not consumed by BT? Please provide reasons to support your views.

4.8 Have the existing ex ante safeguards against margin squeeze in relation to VULA been effective? If not, what would be an alternative approach? Please provide reasons to support your views.

4.9 What should be the purpose of any ex ante margin squeeze safeguards in relation to VULA (for example, actively promoting expansion by non-BT retailers or simply protecting reasonably efficient retailers) where such safeguards are required ? Please provide reasons to support your views.

4.10 Should PIA be retained as part of the set of NGA remedies, assuming that such remedies continue to be required? Please provide reasons to support your views.

4.11 What changes might be made to the PIA product that could increase NGA investment by other CPs? Please provide reasons supporting your views, and in particular any specific business plans which could be made viable by such change.

4.12 Have there been any significant changes since the last market review that mean we should alter our approach to regulating SLU, for example, in response to technological change, assuming that such a remedy continues to be required? If so, please provide reasons supporting your views.

4.13 Have there been any significant changes since the last market review that mean we should alter our position on wavelength unbundling? If you think wavelength unbundling is appropriate, what form of remedy should be imposed ((including the payment or funding mechanism, i.e. who pays for it, how this would be calculated and when the investment would occur), and what would be the likely

effectiveness of such a remedy in addressing competition issues? Please provide reasons to support your views.

4.14 Are there any other specific access product remedies that might help address any SMP that may be found in the WLA market? Please provide reasons to support your views.

4.15 Are there any other technological changes that may impact on current or future remedies in the WLA market? Please provide reasons to support your views.

4.16 Do you think we should continue to accompany any charge controls imposed in the WLA market with a cost orientation obligation? If not, what approach would be better suited instead? Please provide reasons to support your views

4.17 If we do not impose a charge control, do you think that a cost orientation obligation is appropriate on products in the WLA market where we nevertheless believe that some form of price regulation is appropriate? And what form should this obligation take? If not, what approach should we use in such cases? Please provide reasons to support your views.

Remedies: Wholesale fixed analogue exchange lines

5.1 Have there been any significant changes since the last market review that might impact on our approach to regulating the current WLR remedies (including for Ancillary services), assuming that such a remedy continues to be required? If so, please provide reasons to support your views.

5.2 Do you think we should continue to accompany any charge controls imposed in the WFAEL market with a cost orientation obligation? If not, what approach would be better suited instead? Please provide reasons to support your views

5.3 If we do not impose a charge control, do you think that a cost orientation obligation is appropriate on products in the WFAEL market where we nevertheless believe that some form of price regulation is appropriate? And what form should this obligation take? If not, what approach should we use in such cases? Please provide reasons to support your views.

Approach to any local loop unbundling and wholesale line rental charge controls

6.1 Do you think that an approach to the pricing of wholesale access services based on an ongoing copper network is appropriate? Please give reasons for your answer.

6.2 In an ongoing copper network cost model, would it be appropriate to assume the same common cost allocation per line, across all lines, whether in practice the lines were copper-based, fibre-based or a hybrid of the two? Please give reasons for your answer.

6.3 Should we 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 (along the lines described in this section)? Please give reasons for your answer.

6.4 If you consider a different modelling approach is more appropriate, please set out what this would be and why.

6.5 Do you see any reason to change the overall structure and design of the current baskets of ancillary service? Please give reasons for your answer.

6.6 Do you consider that X in RPI-X for the ancillary service baskets should be:
a) based on our forecast efficiency target for the provision of these WLA services? or
b) based on an explicit model of basket costs, even if at an aggregated level? Please give reasons for your answer.

6.7 If you consider a different basis is more appropriate please set out what this approach would be and why.

Remedies: Wholesale ISDN30

7.1 Have there been any significant changes since the last market review that mean we should alter our approach to regulating ISDN30 where we find SMP for BT? If so, please provide reasons to support your views.

7.2 Which, if any, pricing remedy do you believe would be appropriate for ISDN30 where we find SMP for BT? Please provide reasons to support your views.

7.3 Do you think we should continue to accompany any charge controls imposed in the wholesale ISDN30 market with a cost orientation obligation? And what form should this take? If not, what approach would be better suited instead? Please provide reasons to support your views

7.4 If we do not impose a charge control, do you think that a cost orientation obligation is appropriate on products in the wholesale ISDN30 market where we nevertheless believe that some form of price regulation is appropriate? If not, what approach should we use in such cases? Please provide reasons to support your views.

Remedies: Retail and wholesale ISDN2

8.1 Have there been any significant changes since the last market review that mean we should alter our approach to regulating ISDN2? If so, please provide reasons to support your views.

8.2 Which, if any, pricing remedy do you believe would be appropriate for ISDN2 where we find SMP for BT? Please provide reasons to support your views.

8.3 If you consider that a cost orientation obligation remains appropriate for products in the wholesale ISDN2 market, what form should this obligation take? Please provide reasons to support your views.

Remedies: Markets in the Hull Area

9.1 Have there been any significant changes since the last market reviews that mean we should alter our approach to regulating the current remedies on KCOM, where we find SMP for KCOM? If so, please provide reasons to support your views.

Openreach's quality of service

10.1 What is your experience of the quality of Openreach's access services delivery? If there are quality and timeliness concerns, how do these affect your activities/customers? Please provide reasons to support your views.

10.2 Do you consider that the current contractual SLAs including SLGs relating to Openreach's quality of service are adequate? If not, what are the current shortcomings? Please provide reasons to support your views.

10.3 If you consider that there are shortcomings in the current service quality arrangements, what aspects do you consider to be solely within Openreach's control, what aspects do you consider are impacted on by the actions Openreach's customers and what aspects do you consider are solely within Openreach's customers' control? Please provide reasons to support your views.

10.4 If you consider that there are aspects of service quality that cannot adequately be dealt with by contractual arrangements (including but not limited to SLAs and SLGs), what aspects are these and what framework do you think should apply to deal with these? Please provide reasons to support your views.

Annex 5

Links to relevant documents

Ofcom Documents

- *Ofcom's approach to risk in the assessment of the cost of capital*, 18 August 2005http://stakeholders.ofcom.org.uk/binaries/consultations/cost_capital2/statement/final.pdf

- *Service Level Guarantees: incentivising performance*, 20 March 2008 http://stakeholders.ofcom.org.uk/binaries/consultations/slg/statement/statement.pdf

- *A new pricing framework for Openreach*, *Developing new charge controls for wholesale line rental, unbundled local loops and related services*, Consultation, 30 May 2008. http://stakeholders.ofcom.org.uk/binaries/consultations/openreach/summary/openreachcondoc.pdf

- *A New Pricing Framework for Openreach*, Second Consultation, 5 December 2008 http://stakeholders.ofcom.org.uk/binaries/consultations/openreachframework/summary/off.pdf

- *Review of the fixed narrowband services wholesale markets,* Consultation, 19 March 2009 http://stakeholders.ofcom.org.uk/binaries/consultations/review_wholesale/summary/fnwm.pdf

- *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

- *Review of the fixed narrowband services wholesale markets*, 15 September 2009 http://stakeholders.ofcom.org.uk/binaries/consultations/wnmr_statement_consultation/summary/main.pdf

- *Fixed Narrowband Retail Services Markets*, 15 September 2009 http://stakeholders.ofcom.org.uk/binaries/consultations/retail_markets/statement/statement.pdf

- *Review of retail and wholesale ISDN30 markets – consultation*, 4 May 2010 http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30/summary/isbn30.pdf

- *Review of retail and wholesale ISDN30 markets*, 20 August 2010 http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30/statement/statement.pdf

- *Review of the wholesale local access market*, 7 October 2010 http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf

- *Review of the wholesale fixed analogue exchange lines markets – consultation,* 15 October 2010
  http://stakeholders.ofcom.org.uk/binaries/consultations/review-wholesale-fixed-exchange/summary/main.pdf

- *Review of the wholesale fixed analogue exchange lines markets*, 20 December 2010
  http://stakeholders.ofcom.org.uk/binaries/consultations/review-wholesale-fixed-exchange/statement/statement.pdf

- *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

- *LLU Charge Control – Further consultation,* 23 November 2011
  http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc/summary/condoc.pdf

- *Charge control review for LLU and WLR services*, 7 March 2012
  http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf

- *Wholesale ISDN30 charge control*, 12 April 2012
  http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/statement/ISDN30_final_statement.pdf

- *Business connectivity market review***,** 18 June 2012,
  http://stakeholders.ofcom.org.uk/binaries/consultations/business-connectivity/summary/sections815.pdf

- the *Leased Lines Charge Control, Proposals for a new charge control framework for certain leased lines services*, Consultation, 5 July 2012
  http://stakeholders.ofcom.org.uk/binaries/consultations/llcc-2012/summary/LLCC_2012.pdf

- *Narrowband Market Review, Consultation on possible approaches to cost modelling for the Network Charge Control for the period 2013-1016*, Consultation, 28 September 2012
  http://stakeholders.ofcom.org.uk/binaries/consultations/narrow-band-market-review/summary/condoc.pdf

Other Documents

- Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services, as amended by Directive 2009/140/EC and Regulation 544/2009,
  http://ec.europa.eu/information_society/policy/ecomm/doc/140framework.pdf

- Commission Recommendation of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (2007/879/EC),
  http://eur-lex.europa.eu/LexUriServ/site/en/oj/2007/l_344/l_34420071228en00650069.pdf

- Directive 2002/22/EC of the European Parliament and of the Council, 7 March 2002, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2002:108:0051:0051:EN:PDF

- *Directive 2002/22/EC of the European Parliament and of the Council (as amended by Directive 2009/136/EC),* 7 March 2002, http://ec.europa.eu/information_society/policy/ecomm/doc/136univserv.pdf

- *Directive 2002/19/EC of the European Parliament and of the Council (as amended by Directive 2009/136/EC),* 7 March 2002, http://ec.europa.eu/information_society/policy/ecomm/doc/140access.pdf

- EC, Revised European Framework for Electronic Communications, 18 December 2009, http://ec.europa.eu/information_society/policy/ecomm/index_en.htm

Annex 6

Glossary

Access Network: The part of the network that connects directly to customers from the local telephone exchange

Aggregation Point (AP): a point in the network (such as a local serving exchange) connected to the access network allowing a CP to multiple end user premises

Analogue Telephony Adaptor (ATA): a device that provides a conventional analogue telephone interface to an Internet Protocol communications network.

Anchor pricing: An approach that sets the upper bound for charges of existing services by reference to the cost of providing those services using existing technology. This ensures that the introduction of new technology which is intended to provide a greater range of services does not inappropriately lead to an increase in the cost of the existing services.

Asset Volume Elasticity (AVE): The percentage increase in capital costs required for a 1% increase in volume.

Broadband: a service or connection which is capable of supporting always-on services which provide the end user with high data transfer speeds

BT: British Telecommunications plc

CAT: Competition Appeals Tribunal

Cost Allocation model: In this model, costs from the Cost Forecast model were allocated to individual services cost and asset data allocated to services to derive unit cost estimates. The Cost Allocation model also drew on a calculation of the forecast asset values and depreciation, for Copper and Duct, provided by the RAV model.

Cost Forecast model: This was an activity-based costing model, using data linked to historically observed activity levels and costs together with estimates of future level of demand. In this model we forecast operating costs and capital expenditure at an Openreach level. The output was fed into the Cost Allocation model.

CC: Competition Commission

CFI: 'Call for Inputs'

Charge control: A control which sets the maximum price that a communication provider can charge for a particular product or service. Most charge controls are imposed for a defined period.

Common costs: Costs which are shared by all the services supplied by a firm.

Communications provider (CP): a person who provides an Electronic Communications Network or provides an Electronic Communications Service.

Cost orientation: The principle that the price charged for the provision of a service should reflect the underlying costs incurred in providing that service.

Costs Volumes Elasticity (CVE): The percentage increase in operating costs for a 1% increase in volume.

Current cost accounting (CCA): An accounting convention, where assets are valued and depreciated according to their current replacement cost whilst maintaining the operating or financial capital of the business entity.

Current Generation Access (CGA): a copper-based access network that can support a maximum download speed of 24 Mbit/s.

Customer Premises Equipment (CPE): any terminal and associated equipment that is connected to an electronic communications service at customers' premises. Equipment is often provided and connected by consumers and includes for example, telephones, answering machines, and modems.

Digital: the binary coded representation of a waveform, as opposed to analogue, which is the direct representation of a waveform.

Ducts: Underground pipes which hold copper and fibre lines.

Duct Access: When service providers other than the owners of telecommunications ducts can access existing pipes to deliver connections to end customers. In practice, communications providers can pull their own cables through the existing pipes without needing to dig new trenches and lay new ducting.

EC: European Commission

End-user: The final consumer of a product or service

Fibre-to–the-Cabinet (FTTC): An access network structure in which the optical fibre extends from the exchange to a flexibility point in the BT access network known as a cabinet. The street cabinet is usually located only a few hundred metres from the subscriber's premises. The remaining part of the access network from the cabinet to the customer is usually copper wire but could use another technology, such as wireless.

Fibre-to-the-distribution-point: An access network structure in which the optical fibre network runs from the local exchange to a flexibility point (cabinet) in the building. The remaining part of the access network, from the building cabinet to the customer, is usually copper wire but could use another technology, such as wireless.

Fibre-to-the-Premises (FTTP): An access network structure in which the optical fibre network runs from the local exchange to the end user's house or business premise. The optical fibre may be point-to-point – there is one dedicated fibre connection for each home – or may use a shared infrastructure such as a GPON. Sometimes also referred to as Fibre-To-The-Home (FTTH).

Fully allocated cost (FAC): An accounting approach under which all the costs of the company are distributed between its various products and services. The fully allocated cost of a product or service may, therefore, include some common costs that are not directly attributable to the service.

Fixed wireless access (FWA): radio link to the home or the office from a cell site or base station, replacing the traditional local loop.

Generic Ethernet Access (GEA): BT's wholesale non-physical product providing CPs with access to higher speed broadband products

Gigabit Passive Optical Network (GPON): A shared fibre network architecture that can be used for NGA.

Historic cost accounting (HCA): A method of accounting under which assets and liabilities are recorded at the values at which they were first acquired.

Hull Area: the area defined as the 'Licensed Area' in the licence granted on 30 November 1987 by the Secretary of State under section 7 of the Telecommunications Act 1984 to Kingston upon Hull City Council and Kingston Communications (Hull) plc.

Integrated services digital network (ISDN): a set of communications standards for digital transmission of voice, video, data, and other network services over the traditional circuits of the PSTN.

IP telephony services: A telephony and telephony-related (e.g. unified personal communications) service relying on the Internet Protocol (IP) for the transport of voice/audio and signalling data.

ISDN2: A digital telephone line service that supports telephony and switched data services. ISDN2 provides the calling or data capacity equivalent to two analogue telephone lines

ISDN30: A digital telephone service that provides up to the equivalent of 30 analogue lines over a common digital bearer circuit. These lines provide digital voice telephony, data services and a wide range of ancillary services.

ISP: Internet Service Provider

KCOM: KCOM Group PLC, formally Kingston Communications

Local Loop: The access network connection between the customer's premises and the local serving exchange, usually comprised of two copper wires twisted together.

Local loop unbundling (LLU): A process by which a dominant provider's local loops are physically disconnected, or partially disconnected, from its network and connected to competing provider's networks. This enables operators other than the incumbent to use the local loop to provide services directly to customers.

Long Run Incremental Costs (LRIC) or pure LRIC: LRIC is defined as the long run avoidable cost of an operator carrying a particular increment of traffic. The increment in question is treated as the final traffic increment on the network.

Metallic Path Facilities (MPF): the provision of access to the copper wires from the customer premises to a BT MDF that covers the full available frequency range, including both narrowband and broadband channels, allowing a competing provider to provide the customer with both voice and/or data services over such copper wires.

Modem: abbreviation of modulate-demodulate, a device that converts a digital signal into analogue for transmission purposes. It also receives analogue transmissions and converts them back to digital.

Modern equivalent asset (MEA): An approach to setting charges that bases costs on what is believed to be the most efficient available technology that performs the same function as the old technology.

Narrowband: a service or connection that provides a maximum speed of up to 64 kbit/s per circuit (and therefore up to 128 kbit/s in the case of ISDN2). Narrowband modems generally offer a maximum rate of 56 kbit/s.

Next Generation Access (NGA): New or upgraded access networks that will allow substantial improvements in broadband speeds and quality of service compared to today's services. This can be based on a number of technologies including cable, fixed wireless and mobile.

Ofcom: The Office of Communications.

Office of the Telecommunications Adjudicator (OTA): an independent body that facilitates discussion between CPs on operational issues related to new and existing telecoms products and services.

Open ATA: a requirement that includes control over CPE for interconnecting CPs, allowing greater flexibility in the provision of downstream products and services.

Openreach: The access division of BT established by Undertakings in 2005.

Physical Access: Wholesale access products based on direct access to the physical infrastructure of the network (e.g., copper, fibre, duct), without the need to connect to electronic equipment.

Physical Infrastructure Access (PIA): a proposed obligation under which BT would be required to allow other CPs to deploy NGA networks in the physical infrastructure of its access network.

Passive Optical Network (PON): a point-to-multipoint fibre to the premises access network architecture in which unpowered optical splitters are used to enable a single optical fibre to serve multiple (typically 16-128) premises.

RAV model: This model calculates the forecast asset values and depreciation, for Copper and Duct. The model also applies a regulatory adjustment (the regulatory asset value adjustment, or RAV adjustment) previously applied by Ofcom.

Radio access network (RAN): The part of a mobile network which transfers signals between the core network and the user equipment (e.g. handsets) over the air-interface.

Regulatory asset value (RAV): The value ascribed by Ofcom to an asset or capital employed in the relevant licensed business.

Regulatory financial statements (RFS): The financial statements that BT is required by Ofcom to prepare, have audited and publish.

Reference offer (RO): provides a set of minimum conditions for an SMP operator to develop products or services for the use of other CPs.

Retail Fixed Analogue Exchange Lines (RFAEL): the provision of retail wholesale analogue voice services.

Retail price index (RPI): A measure of inflation published monthly by the Office for National Statistics. It measures the change in the cost of a basket of retail goods and services.

Service Level Agreements (SLA): form part of commercial contracts and set out a supplier's commitment to provide services to an agreed quality, e.g., within a specified period.

Service Level Guarantees (SLG): specify the level of compensation that the customer would be entitled to should the service not be provided at the quality specified in the SLA

Shared metallic path facility (SMPF)/shared access: the provision of access to the copper wires from the customer's premises to a BT MDF that allows a competing provider to provide the customer with broadband services, while the dominant provider continues to provide the customer with conventional narrowband communications.

SIP Trunking: A technology or a set of technologies relying on the Session Initiation Protocol (SIP), for the interconnection of a Private Branch eXchange (PBX) with other Telephony and telephony-related (e.g. unified personal communications) service networks.

SMP: The Significant Market Power test is set out in European Directives. It is used by National Regulatory Authorities (NRAs) such as Ofcom to identify those communications providers who must meet additional obligations under the relevant Directive.

Statement of Requirements (SOR): is a requirement that allows CPs to make a request to the SMP operator for the provision of a service. It requires the SMP operator to publish reasonable guidelines on requesting a new product, the provide information for the purpose of making a request for a new product, and design a process for dealing with requests for new products.

Sub-loop unbundling (SLU): Like local loop unbundling (LLU), except that communications providers interconnect at a point between the exchange and the end user, usually at the cabinet.

Vectoring: a performance improvement technique that reduces that effects of crosstalk on copper lines. It is based on the concept of noise cancellation via the coordination of line signals.

Virtual Unbundled Local Access (VULA)**:** it provides a connection from the nearest 'local' aggregation point to the customer premise.

Voice Over IP (VOIP): See **IP telephony services**

Wavelength unbundling: a process that allows different operators to share optical fibre by using different light wavelengths.

Weighted average cost of capital (WACC): The rate that a company is expected to pay on average to all its security holders to finance its assets.

Wholesale Broadband Access (WBA): is between the WLA market and retail market for provision of fixed telecommunications services to end users.

Wholesale Fixed Analogue Exchange Lines (WFAEL): the provision of wholesale analogue voice services using BT or KCOM's existing voice infrastructure

Wholesale Local Access (WLA): covers fixed telecommunications infrastructure, specifically the physical connection between end users' premises and a local exchange.

Wholesale Line Rental (WLR): The service offered by BT to other UK communications providers to enable them to offer retail line rental services in competition with BT's own retail services. Line rental is offered along with calls (and other service elements, such as broadband) to retail customers.