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

Consultation on the proposed markets, market power determinations and remedies

Consultation

Publication date: 3 July 2013

Closing Date for Responses: 25 September 2013

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Section 1

Executive summary

Introduction

1.1 This consultation document sets out the preliminary conclusions of our review of fixed access markets in the United Kingdom. We assess the state of competition in these markets and, where we find that any of these markets is not effectively competitive as a result of any communication provider ('CP') having significant market power ('SMP') in those markets, we propose regulatory obligations to address the competition concerns we have identified arising out of that SMP. This may include, for example, requirements to provide services[1] and, in some cases, controls on the prices charged for such services. In each case, we explain the approach we have adopted, the analysis that has been undertaken and our proposals.

1.2 We intend to finish our review in time for any new rules, including, if appropriate, any new charge control remedies, to take effect when the current set of charge controls expire in April 2014.

Background

1.3 The Fixed Access Market Reviews ('FAMR') consider whether and to what extent regulation is needed for the period 1 April 2014 to 31 March 2017 in the following markets in the United Kingdom ('UK'):

- Wholesale Fixed Analogue Exchange Lines ('WFAEL');
- ISDN30;
- ISDN2;
- additional retail markets in the Hull Area only - residential fixed narrowband analogue access, business fixed analogue access; and
- Wholesale Local Access ('WLA')

1.4 We published a Call for Inputs ('the 2012 FAMR Call for Inputs') on 9 November 2012 and received responses from 22 stakeholders, ranging from individuals and local councils, to communication providers.

1.5 Our provisional conclusions set out in this consultation have been based on the information we routinely collect on these markets while carrying out our duties, stakeholder responses to the 2012 FAMR Call for Inputs, discussions with industry stakeholders and information supplied by CPs in response to multiple information requests (made using our statutory information gathering powers), covering network and financial data, along with relevant publicly available information (including material from investor presentations and analysts' reports).

[1] Our consultation proposals for the form of Local Loop Unbundling and Wholesale Line Rental charge control remedies will be published separately shortly after this document.

1.6 As part of this review, we have been undertaking analysis of quality of service ('QoS') issues related to the provision of regulated access services. This has been prompted by evidence of a decline in QoS provision and concerns expressed by industry stakeholders and end users of these services. We present as part of this consultation relevant research, analysis, conclusions on these issues and, where appropriate, proposals for remedies to address these issues as they relate to the fixed access markets.

1.7 We are also, at the same time as carrying out this review, carrying out a review of the Wholesale Broadband Access Market. The consultation for this review will be published shortly after this one, and references to this consultation are made where appropriate.

Proposed conclusions

Market definition and SMP assessment

1.8 For the reasons set out in this document, for the majority of the markets under review we propose to identify the same markets and make the same the market power determinations as were made in the most recent set of reviews for these markets.

WFAEL

1.9 We propose defining the following markets:

- Wholesale fixed analogue exchange lines in the UK excluding the Hull Area; and
- Wholesale fixed analogue exchange lines in the Hull Area.

1.10 This definition includes fixed analogue exchange lines provided over alternative fixed networks (e.g. cable and local loop unbundling ('LLU')) as well as narrowband analogue exchange line services provided over a NGA network using an analogue terminal adaptor (e.g. fibre-to-the premise ('FTTP')). It excludes exchange lines provided over mobile and over-the-top broadband services (although we take into account the growing constraint from these alternative technologies in our SMP assessment).

1.11 While we recognise growing competitive constraints on WFAEL, not least the increasing use of metallic path facility ('MPF'), BT's share is likely to remain above 50% and LLU CPs will continue to rely on WFAEL in some areas. We therefore consider BT continues to have SMP in the wholesale fixed analogue exchange lines market in the UK excluding the Hull Area. We also propose to find that KCOM has SMP in the wholesale fixed analogue exchange lines market in the Hull Area given it has a 100% market share and given the presence of material barriers to entry.

ISDN30

1.12 ISDN30 is an access service supporting up to 30 narrowband 64kbit/s channels and is used most commonly to provide multiple telephone lines to larger business sites.

1.13 We propose defining the following markets:

- Wholesale ISDN30 exchange line services in the UK excluding the Hull Area; and

- Wholesale ISDN30 exchange line services in the Hull Area.

1.14 We propose to find that BT has SMP at the wholesale level in the UK excluding the Hull Area, and KCOM has SMP at the wholesale level in the Hull Area. The proposed findings of SMP are based on high market share, high barriers to entry and a lack of countervailing buyer power.

ISDN2

1.15 ISDN2 is a narrowband access service designed to cater for smaller business sites with single line ISDN2 services providing 2 channels (each 64kbit/s). We propose defining the following markets:

- Wholesale ISDN2 exchange line services in the UK excluding the Hull Area;
- Wholesale ISDN2 exchange line services in the Hull Area; and
- Retail ISDN2 exchange line services in the UK excluding the Hull Area.

1.16 We propose finding BT has SMP at the wholesale level, but no SMP at the retail level in the UK excluding the Hull Area, and KCOM to have SMP at the wholesale level in the Hull Area. In both cases the finding of SMP is based on a high market share, high barriers to entry and a lack of countervailing buyer power.

1.17 On balance we found no SMP at the retail level in the UK excluding the Hull Area due to BT's declining market share over time and modest barriers to entry and expansion once the wholesale remedies are in place.

Other retail markets in the Hull Area

1.18 Previous reviews have identified the following markets:

- Retail fixed analogue exchange lines in the Hull Area;
- Retail ISDN2 exchange line services in the Hull Area; and
- Retail ISDN30 exchange line services in the Hull Area.

1.19 We find that there have been no developments since these markets were last reviewed in 2009 that would have a material effect how these markets are defined.

1.20 However, having applied the three criteria test[2] in accordance with the European Commission's Recommendation on relevant product and service markets in which *ex ante* regulation may be warranted ('the 2007 EC Recommendation')[3], we consider that competition law would now be sufficient to address any competition concerns

[2] The test sets out those conditions which must be met to warrant the imposition of *ex ante* regulation in markets not listed in the EC Recommendation: the presence of high and non-transitory barriers to entry (of a structural, legal or regulatory nature); a market structure which does not tend towards effective competition within the relevant time horizon (examining the state of competition behind the barriers to entry; and the insufficiency of competition law alone to adequately address the market failure(s) concerned.

[3] EC, *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), www.ec.europa.eu/information_society/policy/ecomm/doc/library/proposals/rec_markets_en.pdf.

identified in each market. Therefore, in light of this, we consider that it is not appropriate to identify and analyse these retail markets in the Hull Area.

WLA

1.21 WLA refers to the fixed connection from the local exchange/access node to the end user. That connection is an input into a variety of retail services – narrowband telephony, broadband (both standard and superfast), ISDN2, and ISDN30.

1.22 We propose defining the following markets, based on the proposed findings of substitutability between different forms of broadband (including cable within the market, but excluding mobile):

- the supply of loop-based, cable-based and fibre-based wholesale local access at a fixed location in the UK excluding the Hull Area; and

- the supply of loop-based, cable-based and fibre-based wholesale local access at a fixed location in the Hull Area.

1.23 We propose that BT and KCOM have SMP in the UK excluding the Hull Area and the Hull Area respectively, reflecting their high and stable market shares and the large barriers to entry at this level.

Remedies

1.24 We first detail the general remedies we are proposing for all markets where we have provisionally identified SMP, before detailing the specific access remedies we are proposing for each market.

General remedies

1.25 We propose in general to maintain the current set of general remedies[4] imposed in the markets in which we are proposing in this consultation to find SMP in the UK excluding the Hull Area and the Hull Area respectively. Our analysis indicates that these remedies continue to be appropriate, though in some areas they may need to be modified or extended. We also propose the imposition of certain additional remedies to address quality of service issues.

1.26 The more substantive changes, and our reasons for them, are set out in summary below.

Quality of service

1.27 We have proposed additional obligations on BT to address concerns as to whether there are appropriate incentives on BT to maintain quality of service delivery with respect to the provision of access services. Specifically we are proposing to:

[4] General remedies are remedies not specific to any particular product or service, but which provide general obligations which apply to most, if not all, products and services with the aim of promoting competition, and include: a requirement to provide network access on reasonable request; request for new network access; no undue discrimination; Equivalence of Inputs, requirement to publish a Reference Offer; requirement to notify charges, terms and conditions; requirement to notify technical information; quality of service obligations; cost accounting; and accounting separation.

- specify the minimum set of services against which BT is required to offer SLA/SLGs;
- require BT to provide specified KPIs for WLA, WFAEL, ISDN2 and ISDN30; and
- require BT to meet minimum standards for specified services in WLA and WFAEL market.

1.28 In addition, we set out our expectation for the process of negotiating new, or modifications to, SLA/SLGs

Basis of charges

1.29 Unlike in previous reviews, we are not proposing to impose Basis of charges across all products. Instead, we propose a Basis of charges obligation be imposed only on the following products:

- Sub-Loop Unbundling ('SLU');
- Physical Infrastructure Access ('PIA');
- Time Related Charges ('TRCs');
- Special Fault Investigations ('SFIs'); and
- electricity charges.

Equivalence of Inputs ('EOI')

1.30 We propose an EOI obligation on BT to provide network access on an EOI basis. We propose that this obligation will apply to the provision by BT of network access which it is providing on an EOI basis as at the date the proposed SMP condition comes into force.

Price notification

1.31 We intend to retain 90 days notice for existing wholesale products for WLA and WFAEL but propose to reduce notice periods for ISDN2 down to 28 days – the same as ISDN30. We also propose 28 days notice for price reductions (including special offers) for WLA products.

Statement of Requirements ('SoR')

1.32 We are proposing to include a requirement that Openreach's SoR guidelines meet the principle that the reasons for rejecting SoRs are clear and transparent. We also provide guidance on how any confidentiality concerns arising out of this requirement might be addressed, including the use of the Office of the Telecommunications Adjudicator and independent consultants.

WLA – NGA remedies

Virtual Unbundled Local Access ('VULA')

1.33 VULA provides CPs with access to BT's NGA network through a virtual connection giving them a defined link to their customers, with substantial control over that link. We propose that BT should continue to provide VULA services to all CPs on reasonable request.

VULA characteristics

1.34 We consider that the current characteristics remain appropriate for the next market review period, and that BT's VULA product has either met the characteristics or that progress is being made to do so without requiring further action from Ofcom.

VULA pricing

General approach to VULA pricing

1.35 We do not propose to regulate the price of VULA, thus allowing BT to retain pricing flexibility on NGA pricing. In particular, we consider that competitive constraints exist which are likely to reduce the risk of unregulated VULA pricing (such as the pricing of CGA services and Virgin's services). Further, there remains uncertainty about future demand for NGA services and the profile by which NGA investment should be recovered. As such, determining the level of charges remains difficult and carries a risk of setting inappropriate price levels that would particularly harm incentives for efficient investment (either expanding the network or improving technology) and BT's ability to experiment with pricing to encourage fibre take up.

VULA switching

1.36 While our general approach to VULA pricing, as described above, is to provide BT with pricing flexibility, we consider that it is appropriate to distinguish switching costs from the general pricing approach as the costs of switching are particularly important for retail competition (this is particularly important in light of BT Retail's high share of VULA connections).

1.37 Stakeholders have raised concerns regarding the £50 charge for VULA to VULA migrations, which we consider to be high when benchmarked against similar services/activities (such as WLR Transfer and IPStream migrations – both around £10). As such we propose to introduce a charge control for the VULA to VULA migration charge which sets the price in the range of £10 to £15.

1.38 Some stakeholders also raised concerns about the 12 month wholesale minimum contract term for VULA, for both new connections and migrations. In comparison, most Openreach rental products have a one month minimum term. For migrations only, we think it is likely to ultimately be in consumers' interests to restrict the minimum term for migrations at the wholesale level to one month following a migration, as it may facilitate switching and promote retail competition for VULA services

VULA margins

1.39 Stakeholders raised concerns about BT maintaining an inappropriate margin between its wholesale VULA prices and its retail superfast broadband prices (the VULA margin). Accordingly, in this review we set out our proposals regarding the *ex ante* regulation of the VULA margin. In doing so, we note that, separately, Ofcom has opened an *ex post* Competition Act 1998 investigation in response to a complaint from TalkTalk alleging that BT has been engaging in a margin squeeze with respect to the VULA margin.

1.40 In this review, we first propose that it is appropriate to intervene to promote competition in relation to superfast broadband by requiring BT to set a VULA margin under our *ex ante* powers and not to rely solely on *ex post* competition law. This is based on our assessment of the importance of superfast broadband in the future and of effective retail competition in its supply.

1.41 Second, we propose that our intervention be specifically designed to address the potential concern that BT sets a VULA margin that does not allow an operator that has slightly higher costs than BT (or some other slight commercial drawback relative to BT) to profitably *match* BT's retail superfast broadband prices. We propose it is not appropriate to intervene to address the concern that BT sets a VULA margin that does not allow such an operator to profitably *significantly undercut* BT's retail superfast broadband prices.

1.42 Third, we propose to supplement the proposed obligation on BT to supply VULA on fair and reasonable terms, conditions and charges with guidance on how we are likely to undertake our assessment when testing whether the VULA margin complied with that obligation. This includes that, when assessing the appropriateness of the VULA margin, an adjusted equally efficient operator test would best describe the approach we are likely to adopt in practice, in order to address the potential concern detailed in the paragraph above. We also describe in detail the characteristics of such an operator, including its existing subscriber base, its telephony and broadband products, its copper access technology, the audio-visual services it supplies and its customer lifetimes.

SLU

1.43 SLU allows OCPs to deploy their own NGA network between the exchange and (usually) the cabinet, using BT's lines from the cabinet to the end user. We propose to maintain the obligation on BT to offer SLU across the UK excluding the Hull Area to all CPs on reasonable request. This will provide CPs with a complementary alternative to VULA to offer superfast services by deploying their own NGA networks, or to exploit areas where NGA has not been deployed (e.g. final 10%).

1.44 With respect to pricing, we propose a Basis of charges obligation to address the risk of excessive prices. The relevant condition will set out that prices should be set to reflect the price differentials for the corresponding LLU services (given that they draw on the same costs).

PIA

1.45 PIA provides other CPs with access to BT's network infrastructure (e.g. ducts and poles) to enable other CPs to deploy their own NGA networks. We propose to maintain an obligation on BT to offer PIA across the UK excluding the Hull Area to

CPs on reasonable request, for the deployment of access networks. This will provide other CPs with a complementary alternative to VULA for offering superfast services by deploying their own NGA networks or to exploit areas where NGA has not been deployed (e.g. the final 10%).

1.46 With respect to pricing, we propose a Basis of charges obligation to address the risk of excessive prices.

WLA – CGA remedies

1.47 LLU enables other CPs to take control of BT's physical telephone lines so that they can provide services direct to consumers. This has been a successful remedy in promoting competition and investment. Take up is high and, despite competition from NGA-based services, is likely to remain so over the next review period. We therefore propose to continue to oblige BT to offer an LLU product and ancillary services to all CPs on reasonable request.

1.48 To address the risk of excessive pricing, we propose a charge control for LLU rentals and certain other ancillary services, including migrations and new provides, and removing the current Basis of charges obligation for these services. However, we propose a Basis of charges obligation on TRCs and SFIs, which require charges to be set on a reasonable forward looking fully allocated cost basis.

1.49 We also propose a Basis of charges obligation on electricity charges, which will require charges to be set on the basis of wholesale electricity charges plus an appropriate mark-up to reflect the costs related to the wholesale purchase of electricity and the setting of electricity charges.

WFAEL

1.50 WLR allows OCPs to compete with BT's downstream businesses. The remedy has been, and continues to remain, a key support of effective competition in the provision of fixed narrowband services at the retail level, and, therefore, we propose to maintain an obligation on BT to provide WLR to all CPs on reasonable request.

1.51 To address the risk of excessive pricing, we propose a charge control for WLR rentals, transfers and new provides and propose to remove the current Basis of charges obligation. We however propose to adopt a Basis of charges obligation for time related charges, which will require prices to be set on a reasonable forward looking fully allocated cost basis.

ISDN30

1.52 We propose to maintain the obligation on BT to provide wholesale ISDN30 to allow other CPs to compete with BT in the provision of downstream services. To address the risk of excessive pricing, we also propose to maintain charge controls on wholesale ISDN30 services based on the current level of charges.

ISDN2

1.53 We propose to maintain the obligation on BT to provide wholesale ISDN2 to allow other CPs to compete with BT in the provision of downstream services. To address the risk of excessive pricing, we propose to reduce the ISDN2 transfer charge to £10, introduce charge controls for ISDN2 rentals, transfers and connections, and remove the current Basis of charges obligation.

Consultation and next steps

1.54 We invite comments from interested parties on the proposals in this document. The consultation period runs for 12 weeks and the deadline for responses is 25 September 2013. We aim to publish our conclusions in the first quarter of 2014.

1.55 As noted above, we also intend to publish in the next few weeks the LLU and WLR Charge Control consultation detailing our charge control proposals forming part of this review. The consultation periods for these two consultations will overlap, giving stakeholders the opportunity to review the complete package of remedies before responding to the consultations.

Section 2

Introduction

2.1 In this section we set out the scope of the consultation, the regulation currently in place, the process we have adopted in defining the markets in these reviews and the legal framework relating to the market review process.[5]

Scope of this consultation

2.2 Under the European common regulatory framework for electronic communications[6] ('CRF'), Ofcom is required to carry out periodic reviews of electronic communications markets in the UK. This consultation considers the level of competition and, consequently, the regulation that should apply for the period 1 April 2014 to 31 March 2017 in the following fixed access markets:

- Wholesale local access ('WLA') – the connection from the local exchange/access node to the end user. It is needed to support fixed line services such as voice calls and broadband internet access;

- Fixed analogue exchange lines – analogue exchange lines provide a narrowband connection (typically 64kbits/channel) from a customer's premises to a local aggregation point (e.g. local exchange) in the access network. These lines provide consumers with the capability to consume narrowband services in the form of voice calls, facsimile and dial-up internet access;

- ISDN2 exchange lines – a digital telephone lines service that provides up to 2 lines over a common digital bearer circuit. These lines support a wide range of services including basic telephony with features additional to those available on analogue exchange lines and data services; and

- ISDN30 exchange lines – as for ISDN2, but with the provision of up to 30 lines.

2.3 Although forming part of our overall review of the fixed access markets, we have separately reviewed the LLU and WLR charge control remedies. We are also, at the same time as carrying out this review, carrying out a review of the Wholesale Broadband Access Market. Consultations for both of these will be published shortly after this one, and references to both are made where appropriate.

Findings of the last market reviews

2.4 Table 2.1 summarises the last market and significant market power ('SMP') assessments and current remedies in place:

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[5] Further detail on the legal framework is set out in Annex 7.
[6] The Common Regulatory Framework comprises the Framework Directive (Directive 2002/21/EC), the Authorisation Directive (Directive 2002/20/EC), the Access Directive (Directive 2002/19/EC), the Universal Service Directive (Directive 2002/22/EC) and the Directive on privacy and electronic communications (Directive 2002/58/EC), as amended by the Better Regulation Directive (Directive 2009/140/EC), www.ec.europa.eu/information_society/policy/ecomm/doc/140framework.pdf.

Table 2.1: Summary of current market/SMP assessment and remedies

Market	Was there SMP?	Remedies/obligations imposed
WLA[7]	BT has SMP in UK excluding the Hull Area; KCOM has SMP in Hull Area	**BT:** • Local Loop Unbundling (LLU), including charge control • Virtual Unbundled Local Access (VULA) • Sub Loop Unbundling (SLU) • Physical Infrastructure Access (PIA) • General remedies **KCOM**: General remedies
WFAEL[8]	BT has SMP in UK excluding the Hull Area KCOM has SMP in Hull Area	**BT**: • Wholesale Line Rental (WLR) including charge control • General remedies **KCOM**: General remedies

[7] Ofcom, *Review of the wholesale local access market*, 7 October 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf.The LLU/WLR charge control review in March 2012 included a no material change assessment (Ofcom, *Charge control review for LLU and WLR services*, 7 March 2012 www.stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf).

[8] Ofcom, *Review of the wholesale fixed analogue exchange lines markets*, 20 December 2010 www.stakeholders.ofcom.org.uk/binaries/consultations/review-wholesale-fixed-exchange/statement/statement.pdf. The 2012 LLU WLR Charge Control Statement included a no material change assessment.

Market	Was there SMP?	Remedies/obligations imposed
Wholesale ISDN30[9]	BT has SMP in UK excluding the Hull Area KCOM has SMP in Hull Area	**BT**: • Wholesale Line Rental (WLR) including charge control • General remedies **KCOM**: General remedies
Wholesale ISDN2[10]	BT has SMP in UK excluding the Hull Area KCOM has SMP in the Hull Area	**BT**: General remedies **KCOM**: General remedies
Retail ISDN2[11]	BT has SMP in UK excluding the Hull Area KCOM has SMP in the Hull Area	**BT**: Wholesale remedies considered adequate **KCOM**: No undue discrimination obligation and price publication
Various other retail markets in the Hull Area[12]	KCOM has SMP in retail fixed analogue exchange lines, retail ISDN30	**KCOM**: No undue discrimination obligation and price publication

[9] Ofcom, *Review of retail and wholesale ISDN30 markets*, 20 August 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30/statement/statement.pdf. The ISDN30 charge control review in April 2012 included a no material change assessment (Ofcom, *Wholesale ISDN30 charge control,* 12 April 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/statement/ISDN30_final_statement.pdf).
[10] Ofcom, *Review of the fixed narrowband services wholesale markets,* 15 September 2009, www.stakeholders.ofcom.org.uk/binaries/consultations/wnmr_statement_consultation/summary/main.pdf.
[11] Ibid.
[12] Ofcom, *Review of the fixed narrowband services wholesale markets,* 15 September 2009, www.stakeholders.ofcom.org.uk/binaries/consultations/wnmr_statement_consultation/summary/main.pdf*;* and the Ofcom, *Review of retail and wholesale ISDN30 markets*, 20 August 2010 www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30/statement/statement.pdf.

Regulatory framework

2.5 The CRF has its basis in five EU Communications Directives, each of which has been implemented into UK law by, in the majority of cases, the Communications Act 2003 ('the CA03'). These impose a number of obligations on relevant national regulatory authorities ('NRAs'), such as Ofcom, one of which is to carry out a market review. The CA03 also sets out Ofcom's duties, such as our principal duty which is to further the interests of citizens in relation to communications matters and the interest of consumers in relevant markets, where appropriate by promoting competition.

2.6 We set out the market review process, and the regulatory framework, in more detail in Annex 6, but the following summarises what the market review process involves.

The market review process

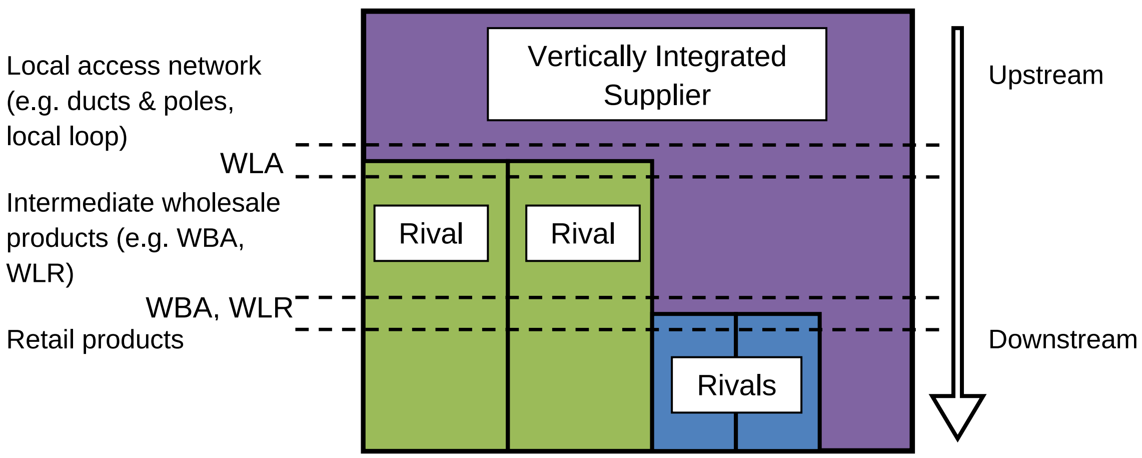
2.7 In this document we assess the extent of competition in order to determine whether or not regulatory intervention is appropriate. The review is carried out in three stages:

- we first identify and define 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;
- we then assess whether the markets are effectively competitive, which involves assessing whether any operator has SMP in any of the relevant markets; and
- finally, we assess the appropriate remedies which should be imposed where there has been a finding of SMP, based on the nature of the competition problem identified in the relevant markets.

Overall approach – the preference for intervening upstream

2.8 Figure 2.1 illustrates how regulation at the different levels of the market can, when there would otherwise be a single vertically integrated supplier, produce a downstream competitive market.

Figure 2.1: Illustrative example of impact of regulating local access and intermediate wholesale products



2.9 Where possible, our approach has historically been to intervene upstream in order to facilitate competitive downstream markets. To illustrate this, consider the situation where a single supplier of fixed telecoms services owns and operates the entire network (i.e. all ducts and poles, fibre and copper cables, and electronic equipment). Without regulatory intervention, it is likely that this supplier would both run the network and supply all the services to retail consumers – it would be a vertically integrated company monopolising all levels in the value chain, from the duct and pole infrastructure through to the retail services.

2.10 In this case, products and services are only bought and sold at the downstream, retail level. If we were to analyse the retail level, we would likely find that the supplier holds a position of SMP and it would therefore be necessary to determine what appropriate remedies should be imposed on the supplier.

2.11 Such a remedy could be, for example, to set retail price controls which would protect consumers from adverse pricing effects (such as excessively high prices) even though all retail products and services would still be provided by the single supplier. However, while retail price controls can protect consumers, they do not put any pressure on the dominant supplier to improve service quality and innovate, as would be the case where it faces competition from other suppliers providing retail products and services.

2.12 The fact that this supplier monopolises the whole value chain does not, however, necessarily have to be the case. This situation may be the result of the dominant supplier maintaining control over certain parts of the value chain that are difficult to replicate, most notably its local access network. As a result, other providers are unable to enter other parts of the value chain which could potentially support competition.

2.13 As such, an alternative remedy might be to require the dominant supplier to provide ‘wholesale’ access to certain elements in the value chain in order to allow other providers to use these elements to compete downstream. For example, we currently require BT to provide various WLA services such as LLU (for copper-based CGA services) and VULA (for fibre-based NGA services) on regulated terms. This allows other CPs to use BT’s access network to provide competing voice and broadband services in the downstream markets (including retail).

2.14 However, there are certain circumstances where competition based on the WLA remedies is not effective, such as in more rural areas where LLU is not viable and is therefore not effective, or when supplying less profitable services, such as voice only. As a result, it is necessary for us to also intervene further downstream, for example by requiring access at an intermediate level (e.g. to pre-made/aggregated wholesale products such as wholesale broadband access (‘WBA’) or WLR.

2.15 As such, our approach to these reviews, consistent with the approach in the EC regulatory framework (and our approach in previous reviews), can be summarised as follows. Having provisionally identified that, absent regulation, SMP exists at the retail level, we look to propose access remedies at an upstream level to facilitate greater competition. We do this at the most upstream level that we believe will result in effective and sustainable competition – this level is the WLA market. We then look to see if these upstream access remedies have indeed resulted in effective and sustainable competition. Where they have, we do not need to regulate further. However, where they have not, we need to consider further regulation downstream of the WLA level. Specifically, this consultation considers the wholesale provision of

ISDN2, ISDN30 and analogue exchange lines, while the 2013 Wholesale Broadband Access consultation considers WBA.[13] This is the standard approach we have followed in the past and which other NRAs generally follow.

2.16 It should be noted that while we define a number of markets at different levels in the supply chain, the 'markets' that we observe today at the wholesale level exist as a result of our previous regulatory interventions. It is likely that without the existing SMP regulations in the markets, we would expect BT and Virgin Media Limited ('Virgin') to be the only two communications providers supplying fixed line services in the UK, with BT effectively the monopoly supplier to half of the country.

Relevant documents

2.17 We are required to take account of various European Union instruments when carrying out our analysis and assessment of markets, SMP and remedies in a market review.

2.18 In particular, we are obliged to define relevant markets "appropriate to national circumstances in accordance with the principles of competition law."[14] In so doing, we are also obliged to take "utmost account" of the European Commission's ('EC') Recommendation on relevant product and service markets[15] (the '2007 EC Recommendation') and EC SMP Guidelines.[16]

2.19 On remedies, we are required to take utmost account of Recommendations issued by the EC under Article 19(1) of the Framework Directive, including the EC's NGA Recommendation on regulated access to next generation networks (the NGA recommendation).[17] We are similarly obliged to take utmost account of opinions and common positions adopted by the Body of European Regulators for Electronic Communications ('BEREC'), including the Common Position on best practice in remedies in the WLA market ('the BEREC Common Position').[18] For the purposes of these reviews, we have also had regard to the EC's draft recommendation on non-

[13] We also consider various other wholesale narrowband markets (e.g. wholesale fixed call origination) in the 2013 Narrowband Consultation (Ofcom, *Review of the fixed narrowband services markets,* 5 February 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/nmr-2013/summary/NMR_Consultation.pdf).

[14] See Article 15(3) of the Framework Directive (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, www.ec.europa.eu/information_society/policy/ecomm/doc/140framework.pdf).

[15] EC, *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)*, www.eur-lex.europa.eu/LexUriServ/site/en/oj/2007/l_344/l_34420071228en00650069.pdf.

[16] EC, *Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services (2002/C165/03)*, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2002:165:0006:0031:EN:PDF.

[17] EC, *Commission recommendation of 20 September 2010 on regulated access to Next Generation Access Networks (NGA) (2010/572/EU), OJ L251/35*, 20 September 2010, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:251:0035:0048:EN:PDF.

[18] BoR (12) 127, BEREC, *BEREC common position on best practice in remedies on the market for wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location imposed as a consequence of a position of significant market power in the relevant market*, 8 December 2012, *www*.berec.europa.eu/files/document_register_store/2012/12/20121208163628_BoR_(12)_127__BEREC__COMMON_POSITION_ON_BEST_PRACTICE_IN_REMEDIES_ON_THE_MARKET_FOR_WHOLESALE.pdf.

discrimination and costing ('the Draft EC Recommendation'), published in December 2012 and which is likely to come into effect in advance of our final statement.[19]

2.20 In general, in the relevant sections in this consultation we note, in general terms where we are consistent with the EC and BEREC (with some exceptions where we are more specific where the context requires), and only comment in detail where we propose to depart from the recommendations, opinions and common practices set out by those bodies.

The 2007 EC Recommendation and its application to this review

2.21 The 2007 EC Recommendation sets out product and service markets which, at European level, the EC has identified as being susceptible to *ex ante* regulation. These markets are identified on the basis of the cumulative application of three criteria:

- 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) identified.

2.22 The requirement to define relevant markets appropriate to national circumstances means we are free to identify relevant markets in the UK as susceptible to regulation other than those in the 2007 EC Recommendation. However, where we do so, the 2007 EC Recommendation requires that for each relevant market we must show that the cumulative criteria are satisfied.

2.23 The markets in this review that are not listed in the 2007 EC Recommendation are:

- wholesale and retail fixed analogue exchange lines;
- ISDN30; and
- ISDN2.

2.24 In the relevant sections below in this consultation document, we set out our assessment of each of the cumulative criteria for each of the relevant markets we propose to identify which are not listed in the 2007 EC Recommendation.

The EC SMP Guidelines and their application to this review

2.25 The EC SMP Guidelines include guidance on market definition, assessment of SMP and SMP designation. Oftel produced additional guidelines on the criteria to assess effective competition based on the SMP Guidelines ('Oftel SMP Guidelines').[20] In the

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

[20] Oftel, *Oftel's market review guidelines: criteria for the assessment of significant market power*, 5 August 2002, www.ofcom.org.uk/static/archive/oftel/publications/about_oftel/2002/smpg0802.htm.

relevant sections in this consultation document, we set out how we have taken both the EC SMP and Oftel SMP Guidelines into account in reaching our proposals.

The NGA Recommendation and the Draft EC Recommendation

2.26 The NGA Recommendation aims to foster the development of the single market by enhancing legal certainty and promoting investment, competition and innovation in the market for broadband services, in particular the transition to next generation access networks. It does so by setting out a common approach for promoting the consistent implementation of remedies with regard to such networks.

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

2.28 In relation to both of these documents, we note that we must take utmost account of any recommendation ultimately made, but that in light of particular factors it may be appropriate to depart for any such reason.

BEREC Common Position

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

2.30 We have analysed the objectives identified in the BEREC Common Position and the related competition issues with reference to our market analysis. We have ensured that our proposed remedies are consistent with the best practice remedies identified in the BEREC Common Position, but, to the extent that any of our proposals are not consistent with the BEREC Common Position, we have set out our reasons.

Forward look

2.31 Market reviews look ahead to how competitive conditions may change in future. For this review, we have taken a forward look of three years, reflecting the characteristics of the retail and wholesale markets and the factors likely to influence their competitive development. The forward look period also reflects the requirement in the EC Directives that ordinarily market reviews should be conducted within three years of the previous review.

2.32 This does not preclude us from reviewing any of the markets earlier, but absent unforeseen developments we anticipate that we would time the next market review to conclude three years after the completion of the current review. We therefore propose that the remedies we propose in this consultation will apply for a period of three years.

Impact assessment and Equality impact assessment framework

Impact assessment

2.33 The analysis presented in this document constitutes an impact assessment as defined in section 7 of the CA03.

2.34 Impact assessments provide a valuable way of assessing different options for regulation and showing why the preferred option was chosen. They form part of best practice policy-making. This is reflected in section 7 of the CA03, which sets out that we have to carry out impact assessments where our proposals would be likely to have a significant effect on businesses or the general public, or when there is a major change in Ofcom's activities. However, as a matter of policy Ofcom is committed to carrying out impact assessments in relation to the great majority of our policy decisions. For further information about our approach to impact assessments, see our guidelines, "Better policy-making: Ofcom's approach to impact assessment."[21]

Equality impact assessment ('EIA')

2.35 Annex 8 sets out our EIA for this market review. Ofcom is required by statute to assess the potential impact of all our functions, policies, projects and practices on race, disability and gender equality. EIAs also assist us in making sure that we are meeting our principle duty of furthering the interests of citizens and consumers regardless of their background or identity.

2.36 It is not apparent to us that the outcome of our review is likely to have any particular impact on race, disability and gender equality. Specifically, we do not envisage the impact of any outcome to be to the detriment of any group of society. Nor are we envisaging any need to carry out separate EIAs in relation to race or gender equality or equality schemes under the Northern Ireland and Disability Equality Schemes.

Consultation period

2.37 We intend to consult for a period of 12 weeks, with a deadline for responses of 25 September 2013.

2.38 We propose that charge controls form part of the appropriate remedies which should be imposed in some of the relevant markets. We will shortly be publishing a separate consultation in which we set out in greater detail our reasons for this proposal, including the nature, form and duration of the proposed charge controls (the 2013 LLU WLR Charge Control Consultation).

2.39 The FAMR and 2013 LLU WLR Charge Control consultations will overlap. However, we consider this is appropriate given that, from a legal and procedural perspective, the 2013 LLU WLR Charge Control Consultation is actually one part of the market review – i.e. it forms part of our assessment of the appropriate remedies which should be imposed, where there has been a finding of SMP, based on the nature of the competition problem identified in the relevant markets.

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[21] Ofcom, *Better policy making: Ofcom's approach to impact assessment*, 21 July 2005, www.stakeholders.ofcom.org.uk/binaries/consultations/ia_guidelines/summary/condoc.pdf.

2.40 Importantly, the current charge controls applying to BT expire at the end of March 2014. Since we propose that charge controls remain part of the appropriate remedies to address the competition problems we have identified, then, assuming our market review confirms our proposals in this respect, from a legal perspective it is necessary for us to have concluded the market review for any new charge controls to come into force.

Document structure

2.41 The document structure follows the structure of our analysis. For market definition, we look at the downstream markets in order to inform upstream market definition. Thus, we first look at WFAEL, followed by ISDN30, ISDN2 and retail markets in the Hull Area, before addressing WLA, the most upstream market.

2.42 In the case of remedies, as noted in paragraphs 2.12-2.20, our approach to remedies is to intervene at the highest upstream level first, before looking at whether further regulation is necessary downstream (i.e. where regulation upstream has not resulted in effective competition). Thus, the remedies section first considers remedies in the WLA market, before going on to address WFAEL, ISDN30 and ISDN2.

2.43 The consultation document is therefore set out in the following way:

- Sections 3 to 7 cover market definition and assessment of SMP for each of the markets under review;
- Section 8 covers our approach to remedies;
- Section 9 covers our approach to the QoS issues under review;
- Section 10 covers general remedies applicable to each of the markets under review;
- Sections 11 to 13 cover assessment of specific remedies for the WLA market;
- Section 14 covers assessment of specific remedies for the WFAEL market; and
- Section 15 covers assessment of specific remedies for the ISDN30 and ISDN2 markets.

2.44 Finally, the annexes are as follows:

- Annex 1 – Responding to this consultation;
- Annex 2 – Ofcom's consultation principles;
- Annex 3 – Consultation response cover sheet;
- Annex 4 – Consultation questions;
- Annex 5 – Sources of evidence;
- Annex 6 – General analytical approach to market definition and SMP assessment;

- Annex 7 – Regulatory framework;
- Annex 8 – Equalities Impact Assessment;
- Annex 9 – Quality of Service: current performance, impact of poor delivery and establishing a reasonable level of performance;
- Annex 10 – Quality of Service: analysis of recent performance;
- Annex 11 – Draft legal instruments; and
- Annex 12 – Glossary.

Section 3

Market definition and SMP analysis: WFAEL

Introduction

3.1 In this section we consider market definition and market power analysis in relation to Wholesale Fixed Analogue Exchange Line ('WFAEL') services. The reasoning for carrying out a market definition and market power assessment, including our general approach to doing so, is set out in Annex 6. In approaching our assessment of market definition for the WFAEL market, we have taken utmost account of the guidance on market definition in the EC SMP Guidelines.

3.2 Wholesale fixed analogue exchange lines are intermediate products that are sold to CPs to enable them to provide a telephone connection (typically a single 64 kbit/s channel) from a customer's premises to a local aggregation point (e.g. local exchange) in the access network. This connection provides consumers with the capability to consume other telephony services in the form of telephone calls (and historically facsimile and dial-up internet access). The demand for wholesale analogue exchange lines is therefore derived from demand by retail consumers for fixed narrowband analogue access.

3.3 We propose to define the relevant product market as the market for the provision of wholesale fixed analogue exchange lines using copper access, cable access, MPF LLU or FTTP deployments offering a narrowband voice service using an analogue terminal adaptor ('ATA')[22].

3.4 We are also proposing to conclude that there are two separate WFAEL markets in the UK distinguished by geographic area and that there is an SMP operator in each. In particular, we propose that:

- BT has SMP in the wholesale fixed analogue exchange lines market in the UK excluding the Hull Area; and
- KCOM has SMP in the wholesale fixed analogue exchange lines market in the Hull Area.

3.5 We recently published a consultation on our proposals for wholesale call origination as part of our 2013 Narrowband Market Review.[23] There are close links between the markets for wholesale call origination and for WFAEL – at the retail level any customer making a fixed voice call will also need a fixed analogue exchange line. We therefore draw on our analysis of wholesale call origination where relevant for our assessment of market definition and SMP in WFAEL, taking into account stakeholder responses to the 2013 Narrowband Consultation. Because of the need to take these responses and market developments into account in our assessment of WFAEL, we set out a more detailed approach in this section.

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[22] We also refer to this market in this section as the wholesale fixed analogue exchange lines market (or WFAEL market) for short.
[23] Ofcom, *Review of the fixed narrowband services markets - consultation*, 5 February 2013 www.stakeholders.ofcom.org.uk/binaries/consultations/nmr-2013/summary/NMR_Consultation.pdf.

Summary

3.6 We include WFAELs provided over alternative fixed networks, such as MPF LLU and cable, in our relevant market on the basis that retail customers continue to consider analogue exchange lines provided over these networks to be largely interchangeable. However, we exclude both mobile access and voice over internet protocol (‘VoIP’) over broadband access despite the increasing usage of each since the last review. In the case of mobile, this is because the majority of users continue to value access to both fixed and mobile services for reasons that are largely unrelated to price and are likely to continue to do so throughout this review period. With regard to VoIP, switching by residential users is limited by the fact these users typically only have one fixed line and the economics of network deployment are such that, once a fixed broadband line is in place, the incremental costs of adding narrowband voice access are very low. As a result, it is not clear these users would be able to switch to a broadband-only offer to avoid an increase in the price of analogue access. In the case of business customers, we recognise the greater potential for switching to VoIP resulting from the fact that many of these users have multiple fixed lines. However, we consider the move to VoIP in the business segment is likely to be a longer-term trend and to be driven (at least partially) by factors other than the price of WFAELs.

3.7 With respect to geographic markets, we recognise there are some local variations in competition driven by the partial coverage of MPF LLU and cable. We also recognise that local variations in competition have driven us to define separate geographic markets in other related markets, for example WBA. However, we consider there are key differences between these markets and the market for WFAELs which mean that local markets are not appropriate in the current context. In particular, there is a material group of users for whom MPF LLU is not suitable for voice access and who therefore have limited alternatives to BT’s WLR – notably voice-only customers and some customers purchasing voice and broadband separately (including many business users). These users are spread across the country, with the result that we consider competitive conditions across the UK excluding the Hull Area to be sufficiently homogenous to define a single market. We also consider it possible that the anticipated move to fibre-based broadband could limit further deployment of MPF LLU, which may in turn limit any further increases in variation in competitive conditions across the UK.

3.8 Within this market, we recognise there has been a significant increase in the competitive constraint on BT since the last review as a result of increased usage of MPF LLU. Notwithstanding this, we find that BT continues to hold a very high market share – above the level at which dominance is typically presumed. Although we expect some further decline in BT’s share over the course of this review period, we also consider there are factors likely to limit the extent of this decline. In particular, we consider there is likely to remain a material group of users for whom MPF LLU is not suitable – those in non-MPF/cable areas, voice-only customers and some customers purchasing voice and broadband separately (including many business users). As a result, it is our judgement that BT continues to hold SMP in the market for WFAELs in the UK outside the Hull Area and is likely to do so throughout this review period.

Market definition

Introduction

3.9 In this section, we consider the market definition for WFAELs by broadly adopting the methodological approach described in Annex 6. This involves first defining the relevant product market and then, given this finding, considering the issue of geographic market definition.

3.10 In conducting our analysis, we have regard to the fact that the relevant market for WFAELs appears to be relatively well-established. It was assessed in detail in both the 2009 Narrowband Statement and the 2010 WFAEL Statement, where we reached the same definition on both occasions. The market for WFAELs was then considered again in our 2012 LLU WLR Charge Control Statement, where we concluded there had been no material change that would cause us to revise this definition. Responses to the 2012 FAMR Call for Inputs (set out in more detail in paragraphs 3.17-3.19) indicate that stakeholders generally agree the market definition set out in these documents continues to remain appropriate. As a result, we do not consider it necessary to begin our market definition exercise from first principles. Instead, we take as our starting point the relevant markets we defined in the 2010 WFAEL Statement (and in relation to which we determined in the 2012 LLU WLR Charge Control Statement that there had been no material change since Ofcom's previous market power determinations) and assess whether there have been any material changes since this time that would cause us to revise this definition. We therefore begin our analysis of product market definition by summarising our conclusions in the 2010 WFAEL Statement.

Product market

Product market definition in the 2010 WFAEL Statement

3.11 In the 2010 WFAEL Statement we defined the relevant product market as the market for the supply of wholesale fixed analogue exchange lines. This definition included fixed analogue exchange lines provided over alternative fixed networks (including cable and MPF LLU) as well as narrowband analogue exchange line services provided over a NGA network using an ATA adaptor (e.g. BT's FTTP). This definition also included wholesale services used to supply both residential and business customers with analogue exchange lines. It excluded digital exchange lines (ISDN2 and ISDN30) and access provided over mobile and broadband networks.

3.12 In reaching this product market definition, we first considered the relevant markets for analogue exchange lines at the retail level, noting that demand at the wholesale level is derived from retail level demand. We concluded that mobile access was not a sufficiently strong constraint on fixed analogue access to be included in the same relevant market. This was because the majority of consumers continued to purchase both fixed and mobile access and, while we expected to see some increase in the proportion of mobile-only households within the review period, we considered the case for many business and residential users to retain fixed access was likely to remain strong. We excluded ISDN2 and ISDN30 from the retail market on the basis that differences in price and technical characteristics meant they were unlikely to present an effective demand- or supply-side substitute to analogue exchange lines.

3.13 We included analogue exchange lines provided over alternative fixed networks on the grounds that consumers viewed different types of fixed narrowband analogue access as substitutable for one another, regardless of the underlying technology used. We defined separate product markets for business and residential users of analogue exchange lines at the retail level, although we considered the two to be closely linked. We recognised that BT had revised and simplified its business tariffs, closing the differential between business and residential pricing and making comparisons between the two types of package easier to make. However, we considered that supply-side substitution was limited by the costs associated with marketing multiple services, noting that business and residential services were targeted at different segments by different types of CP.

3.14 In assessing the relevant wholesale market, we considered both indirect and direct constraints from potential alternatives. We found that the indirect constraint from mobile was not sufficiently strong to include it in the same wholesale market because customer switching between the two was likely to be limited in response to relative price changes at the retail level. We did not consider mobile and fixed access to be direct substitutes at the wholesale level as a result of their limited substitutability at the retail level. We considered the direct constraint from alternative fixed networks was also likely to be limited because LLU operators using MPF did not wholesale to third parties and we considered it unlikely that there would be entry based on investment in new infrastructure. However, we considered that the indirect constraint from alternative fixed networks was sufficiently strong to include wholesale fixed analogue exchange lines over these networks in the same market. This was because we considered that an increase in the wholesale price was likely to be passed on in full to the retail level and our consumer survey suggested that a significant proportion of customers would switch provider in response to a small but significant price change.

3.15 We also considered the potential for direct substitution between business and residential services at the wholesale level. We found the key differentiating factor was the level of service and wrap provided alongside the access product, and therefore considered the direct constraint between analogue exchange lines for business and residential use was sufficiently strong at the wholesale level to define a single market encompassing both.

3.16 In considering how future developments might affect these definitions, we noted that NGA network deployments were unlikely to affect our market definition within the period of the review as the planned upgrades were intended to support higher speed broadband services and did not affect narrowband services. However, we recognised that narrowband analogue exchange line services could be provided over an NGA network using an ATA adaptor, and included these services within our market definition on the grounds that the service presented to the end user would be broadly the same. We also excluded broadband access and calls (e.g. VoIP) on the grounds that, while VoIP usage was likely to increase, nearly all customers purchasing broadband access also purchased narrowband access, and the economics of providing a broadband-only product were such that take-up of these offers was likely to remain very low.

2012 FAMR Call for Inputs and responses

3.17 In the 2012 FAMR Call for Inputs, we summarised the conclusions we had reached in the 2010 WFAEL Statement and asked stakeholders whether there had been any significant changes since the last market review, or whether there were any expected developments in the next three years, that would alter the 2010 WFAEL market definitions or SMP assessments.[24]

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[24] Paragraphs 1.1 and 2.9-2.17, Ofcom, *Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 – Call for Inputs*, 9 November 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/summary/condoc.pdf.

3.18 The majority of the respondents to 2012 FAMR Call for Inputs agreed with the market as defined in the 2010 WFAEL Statement with, in their view, no major changes in the market that would warrant changing our conclusions.

3.19 In particular, BT said that it did not see a strong case to fundamentally redefine the existing WFAEL market definitions at this point.[25] Virgin considered that there had been few changes since the last market review which would affect the market definition.[26] TalkTalk[27] and EE also said that they broadly agreed with Ofcom's existing market definition. However,[✄] noted that, since the last market review, BT had established fibre-only areas in the UK, and in those areas BT has SMP at the wholesale level in offering a voice over fibre service. It said that, as the existing WFAEL market definitions do not encompass voice access services delivered over fibre, it is important that Ofcom takes this into account in its analysis. The FCS did not comment specifically on the WFAEL market but argued that changes in technology and the emerging products based on these new platforms are leading to a significant blurring of previously accepted market definitions for all wholesale markets covered by this review. We describe and respond to these comments in more detail in Section 7.[28] Finally, Tesco said that consumers are using fixed voice products less and that this provided evidence of demand for broadband without a voice line.[29]

Market background

3.20 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:

- in the UK excluding the Hull Area, BT provides analogue exchange lines via its copper access network. This network is also used to deliver broadband services and has nearly 100% coverage of the UK excluding the Hull Area (the exception being a small number of new build premises which are supplied with access to narrowband voice services using FTTP –see below);

- in the Hull Area, KCOM provides analogue exchange lines via its copper access network. As with BT, the KCOM network is also used to deliver broadband services;

- in areas where Virgin has deployed its cable network, Virgin delivers analogue exchange lines using this network by selling directly to end users. This service is delivered via a connection between a customer's premises and a street cabinet using a Siamese cable, which contains a coaxial cable and a twisted copper pair – the coaxial cable is used to support TV and broadband whereas the twisted copper pair is used to support standard telephony. Virgin then uses fibre rings to

[25] P.6, *BT response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BT.pdf.
[26] Pp.5-6, *Virgin response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Virgin_Media.pdf.
[27] P.5, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.
[28] P.3, *the FCS response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/fcs.pdf.
[29] P.5, *Tesco response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Tesco_Broadband.pdf.

connect the street cabinets to the 'head-end' hub site. Virgin's cable network is available to approximately 44% of UK premises;[30] and

- in areas where MPF LLU is in use, other CPs take over BT's copper loops and can provide analogue exchange lines directly to consumers who are prepared to purchase voice and broadband access together (i.e. a dual play offer). Over 93% of premises in the UK are connected to an exchange that has been unbundled and MPF lines now account for approximately 70% of all external LLU lines (i.e. those used by CPs other than BT).[31]

3.21 In some limited instances (notably new build developments), BT has built out its network to the customer's premises using FTTP deployments without copper lines. As in our approach to market definition in the last WFAEL review, we include these services within our candidate market where they involve a narrowband voice service using an ATA. This is because while the underlying technology would be different to the copper network, the service presented to the end user would be broadly the same.

Direct constraints

3.22 A direct constraint arises when the wholesale price is constrained by the possibility of direct switching to a potential alternative at the wholesale level. For example, if CPs were able to use VoIP over a broadband connection instead of fixed voice services over an analogue line, then broadband access may provide a direct constraint on the wholesale price of WFAELs. We now consider here whether broadband access could provide such a constraint.

VoIP and broadband access

3.23 In theory, it is possible for CPs to provide their retail customers with voice services over a broadband line instead of a fixed narrowband line by making use of VoIP technology. Indeed, a number of CPs do already offer voice calls over broadband in this way. Usage of VoIP has increased significantly since the last review, suggesting that VoIP calls may present an alternative to fixed voice calls for some customers. Nonetheless, we consider the potential for CPs to switch from providing narrowband access to offering to VoIP calls over broadband to be relatively limited in the period covered by this review.

3.24 Fixed broadband access requires a fixed local access connection in the same way that fixed analogue exchange lines do. Indeed, for both BT's and Virgin's networks, broadband and analogue voice calls share the same physical network. Therefore, while it is possible to make calls over broadband access using VoIP, it does not remove the need to have a fixed connection. As residential customers typically have only one fixed analogue line, it is therefore unlikely to be economic for a CP to provide VoIP over broadband access without also providing narrowband access,

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[30] Ofcom, *Communications Market Report 2012* 18 July 2012, www.stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/CMR_UK_2012.pdf.
[31] This is further discussed in the geographic market definition section of the forthcoming 2013 WBA Consultation. Ofcom, *Communications Market Report 2012* 18 July 2012, www.stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/CMR_UK_2012.pdf..

regardless of whether they use their own infrastructure or make use of a wholesale input.[32]

3.25 We recognise the situation may be different where CPs are supplying users (typically from the business sector) with multiple fixed lines. Only one line is required to support a broadband connection, and so a CP in this situation could remove all additional lines and supply voice services using VoIP over the broadband connection. We also recognise that some business users receive VoIP services over an alternative form of IP-based access that does not require a fixed analogue line (e.g. Session Initiation Protocol ('SIP') trunking over leased lines). However, it is unclear the extent to which a CP would be able to switch customers to these alternatives without their agreement and the need for end user equipment. As a result, we consider the potential for this substitution in relation to indirect demand constraints.

Indirect demand constraints from competition at the retail level

3.26 Indirect demand constraints arise when an increase in price at the wholesale level is passed on, at least in part, to the retail price and induces switching to alternatives as a result. Indirect demand constraints may often be more important than direct demand constraints in constraining wholesale prices in telecom markets. We therefore consider below whether retail customers would switch away from fixed narrowband access in response to an increase in the price of WFAELs to use potential alternatives. The alternatives we consider are:

- mobile access;
- VoIP and broadband access; and
- digital access (ISDN2 and ISDN30).

3.27 We recognise that the strength of indirect demand constraint could vary between residential and business services, as well as between other types of retail customer, and accordingly take this into account in our assessment.

Indirect demand constraint – competition based on mobile

Residential consumers

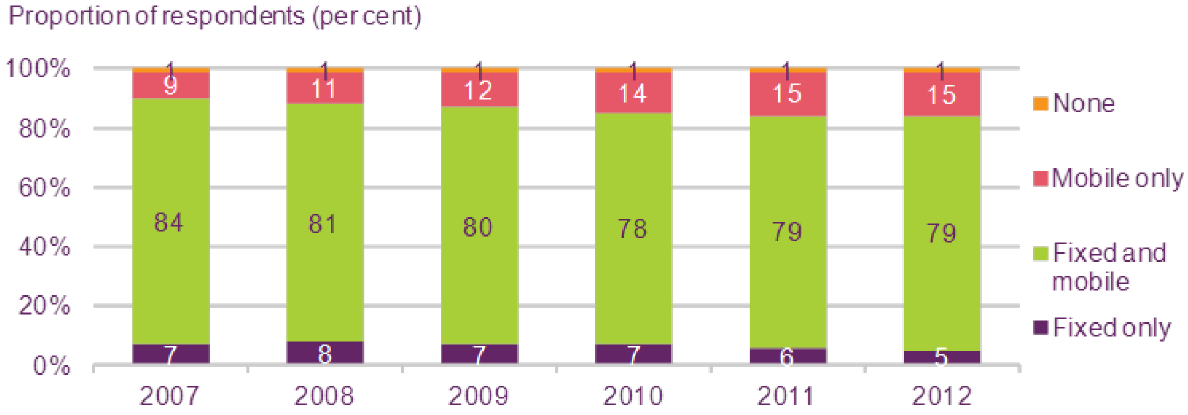
3.28 While we are aware that many customers now view mobile calls as a substitute for fixed[33], the evidence we have seen both from the consumer survey we conducted for

[32] We recognise that some CPs, notably Virgin, do offer a broadband-only product. However, reflecting the economics of network deployment described here, these offers are typically priced at only a small discount relative to dual play offers combining broadband with narrowband access (as discussed in paragraphs 3.43-3.44).
[33] In this respect, we note that in 2011 mobile calls accounted for more than half of all voice call minutes for the first time with 52% of calls being mobile originated. At the same time there has been continued convergence in average prices, with the result that the average cost of fixed and mobile voice calls was very similar in 2011 (8.5ppm for mobile and 8.3ppm for fixed) – see P.303 of Ofcom, *Communication Market Review 2012*, 18 July 2012, www.stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/CMR_UK_2012.pdf. These trends suggest that many consumers are likely to consider mobile a substitute for fixed voice, at least for some calls. The consumer survey we conducted for the 2013 Narrowband Consultation suggested this is indeed the case, with nearly half of all respondents saying they make calls from a mobile that could have been made from a landline (46%) and a similar proportion agreeing with the statement "I have a landline but generally use mobile" (47%). See P.24, Jigsaw Research, *Report for the 2013 Narrowband Market Review*, January 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/nmr-2013/annexes/JR-report.pdf .

the 2013 Narrowband Consultation and actual consumer behaviour suggests that residential consumers retain a high degree of attachment to their fixed line.

3.29 In relation to actual consumer behaviour, we note that households with both mobiles and fixed lines continue to be most common, accounting for nearly 80% of UK homes in 2012, and that the proportion of mobile only households has been broadly constant at around 15% for the last three years. This suggests that consumers continue to value access to both fixed and mobile services, i.e. that most consumers regard the two products as serving different needs rather than being close substitutes.

Figure 3.1: Household penetration of fixed and mobile telephony



Source: Ofcom, The Communications Market Report 2012 Note: data as at Q1 of each year

3.30 Table 3.1 illustrates monthly line rental prices for the major CPs, which in 2012 were between £12.25/month and £14.60/month. The table shows that prices increased for these CPs by between 5% and 10% during this period. It is interesting to note that, rather than demand falling in response to these price increases, the number of residential fixed voice lines has actually increased from 23.6m in Q1 2011 to 24.0m in Q1 2012, while the number of mobile-only households remained constant. We recognise that during the same time there has been an increasing move towards providing bundles of free inclusive minutes with line rental, suggesting that average call prices may have fallen for heavy landline users. We also recognise there may have been simultaneous changes in the price of mobile access (or other factors affecting its relative desirability) which may have affected customer decisions regarding access choice. Nonetheless we consider this evidence is consistent with residential customers being relatively insensitive to the price of fixed narrowband access.

Table 3.1: Line rental prices for major CPs[34]

	Q1 2011	Q1 2012	11/12 variation	Q1 2013	12/13 variation
BT	£13.90	£14.60	+5%	£15.45	+6%
Virgin	£12.99	£14.04	+8%	£14.99	+7%
TalkTalk	£12.60	£13.80	+10%	£14.95	+8%
Sky	£11.25	£12.25	+9%	£14.50	+18%

Source: Credit Suisse analysis market report, 8 December 2011 and CPs websites

[34] Some CPs now offer a significant discount on the monthly line rental charge for upfront payment in advance, which is not reflected here. In particular, BT offers a discount of £129/year, Virgin £120/year and TalkTalk £114/year on the figures shown in this table.

3.31 The findings from our consumer survey were also consistent with a low degree of price sensitivity, with most respondents (72%) indicating they would never give up their landline.[35] Among these respondents, the most popular reasons for this attitude were:

- the quality of landline calls or reliability of connection (39%);[36]
- the need for a fixed line to support a fixed broadband connection (31%);
- habit (31%);[37] and
- the price of landline calls (27%).[38]

3.32 Moreover, we consider it more relevant that, when asked how they would respond to a 10% increase in the price of their monthly landline bill (i.e. across the package of access and calls), only 10% responded that they would give up their fixed line. The vast majority of respondents indicated that they would not be prepared to give up fixed access in response to a price increase of this magnitude. This is consistent with actual recent behaviour, as described above.

3.33 We do not consider that the factors cited by residential consumers for their continued attachment to landlines are likely to be affected by an increase in the price of fixed voice access, nor are they likely to change during the course of the period covered by this review. Indeed, we consider that the need for a fixed line to support a fixed broadband connection is likely to mean that the majority of residential consumers will remain very unlikely to become mobile-only in this review period.

3.34 Although broadband internet is available over both fixed and mobile networks, very few consumers appear to consider mobile broadband a substitute for fixed broadband. In particular, we note that while uptake of internet on a mobile phone and mobile broadband[39] have both continued to grow, they are almost always used alongside (rather than in place of) fixed broadband access. Only 3% of UK adults rely solely on their mobile phone for home internet access[40], and only 5% of households rely solely on mobile broadband.[41] Instead, most households rely solely on a fixed broadband connection (84% of those with broadband[42]). Although uptake has been increasing and a move to 4G will increase the speeds available, following the latest round of spectrum auctions, we consider that this is unlikely to significantly affect the demand for broadband via fixed line access within the time horizon of this review because it is unclear when these services will be available to – and adopted by – a significant proportion of UK customers. Even if this were to occur within the period of this review, the expected continued deployment of superfast broadband means it is

[35] P.23, Jigsaw Research, *Report for the 2013 Narrowband Market Review*, January 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/nmr-2013/annexes/JR-report.pdf.
[36] This group comprises 29% who cited reliability of connection and 10% who cited the quality of line/calls.
[37] In particular, 31% of these respondents cited the fact they had "always had a landline".
[38] This group comprises 12% who cited the price of calls, 11% the price of calls to landlines and 4% the price of international calls.
[39] Mobile broadband means access via a mobile network using a USB stick or dongle, or built-in 3G connectivity in a laptop, netbook or tablet PC with a data card, but excludes access from mobile handsets.
[40] P.4, Ofcom, *Communications Market Report*, July 2012, www.stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/UK_5.pdf.
[41] P.26, Ofcom, *Communications Market Report*, July, 2012, www.stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/UK_5.pdf.
[42] Pp.303-304, Ofcom, *Communications Market Report*, July 2012, www.stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/UK_5.pdf.

not clear that the material difference in broadband speeds between fixed and mobile would significantly narrow.

3.35 As a result, while we recognise that mobile calls represent an increasingly close substitute for fixed calls for many residential consumers, we consider that mobile access is not a sufficiently strong substitute to fixed narrowband access for the vast majority of these consumers, nor do we believe it will be during the forward-looking period covered by this review.

Business customers

3.36 In contrast to the residential sector, the number of fixed voice lines has been falling in the business sector – from 9.6m in Q1 2011 to 8.8m in Q4 2012 – which may reflect in part further substitution to mobile. However, it is also likely to reflect substitution to other alternatives such as VoIP, and potentially other factors (e.g. there may have been a decrease in the number of businesses during the recession). We note that we are not aware of any significant medium-term trend towards businesses becoming mobile-only (in contrast to VoIP and broadband access, which we discuss subsequently). Moreover, the maximum rate of fixed-mobile substitution implied by this reduction (even if all of the reduction in public switched telephone network ('PSTN') lines were due to switching to mobile) would still be small – less than 4% per year.

3.37 We recognise the potential for businesses to switch additional PSTN lines to mobile in response to a relative change in the price of fixed and mobile access, which they could do while still retaining a single PSTN line to support broadband access. However, our consumer research for the 2013 Narrowband Consultation found that very few business users would be prepared to give up their fixed line – 88% of respondents said they would never do so.[43] Similarly, when faced with a hypothetical increase in the price of their monthly bill, only 6% of respondents indicated they would give up their fixed line. As we noted in the 2013 Narrowband Consultation, there are non-price considerations that are likely to limit the extent of switching to mobile access by business customers. For example, respondents to our survey suggested that mobile calls cannot replicate the quality of customer service, or air of professionalism and reputability, which a fixed landline confers upon their business. Furthermore, we understand that many businesses take fixed lines for reasons of security and resilience – such customers are unlikely to be prepared to switch to mobile solutions given potential issues of coverage and network availability.

3.38 As a result, we consider mobile access is unlikely to be a realistic alternative to fixed line access for any material number of business users in this review period.

3.39 Taken together, we consider the potential for switching to mobile access at the retail level across both the residential and business segments is likely to be limited throughout the period covered by this review.

Indirect constraint - VoIP and broadband/IP-based access

3.40 Although VoIP calls are a potential substitute for fixed voice calls rather than fixed voice access, they are made over a broadband line rather than a narrowband analogue line. This section therefore considers whether broadband access may

[43] The figures in this paragraph are taken from Jigsaw Research, *Report for the 2013 Narrowband Market Review*, January 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/nmr-2012/annexes/JR-report.pdf.

provide an alternative to fixed line access for a sufficient number of customers to constrain the price of analogue exchange lines.

Residential consumers

3.41 Evidence on attitudes to and usage of VoIP suggests that VoIP calls are an alternative to at least certain types of fixed voice calls for a growing number of residential consumers. However, we consider that residential switching to VoIP would be unlikely to avoid the cost of narrowband line rental given the current set of retail offers, and therefore could not be used as a response to an increase in the price of fixed line access. We noted in the last WFAEL review that only Virgin offered a broadband-only service, and this continues to be the case.[44] Table 3.2 sets out the price for Virgin's broadband-only service, along with prices for dual-play offers. This shows that although Virgin's broadband-only package is cheaper than its own dual-play offer, it is comparable to the dual-play bundles offered by the other major residential CPs.

Table 3.2: Retail prices for broadband offers from main CPs

	Broadband only offers	Dual-play offers[45]
Virgin	£22.50	£29.49 (£24.50)
AOL	£15.31[46]	£21.45
BT	-	£25.45 (£20.75)
Orange	-	£23.50
Plusnet	-	£24.49 (£20.98)
Sky	-	£24.50
TalkTalk	-	£21.45 (£16.00)

Source: Ofcom CMR 2012 and CPs' websites (May 2013)

3.42 As we noted in the 2010 WFAEL Consultation[47], we do not believe that Virgin's pricing structure is necessarily artificially distorting consumers' decisions. Rather, it is likely to broadly reflect the economics of deploying and operating a fixed access network – we consider the incremental cost of adding narrowband access (i.e. to allow the consumer to make calls) to the fixed access connection is likely to be quite low. Indeed, we consider that this is likely to be the reason why no other provider is offering broadband-only services.

3.43 In the light of the above, we do not believe that VoIP and broadband together provide a sufficiently close substitute for narrowband access for the vast majority of residential users.

Business users

3.44 Many businesses are already using VoIP for a significant proportion of voice calls[48] and it is likely that some businesses are replacing narrowband lines with IP-based

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[44] AOL also provides a broadband-only offer using LLU (SMPF). However, unlike Virgin's customers, AOL's retail customers need to purchase the fixed line from BT.
[45] Figures in brackets require pre-payment of twelve month's line rental.
[46] This also requires BT fixed line rental at £14.60 a month / £129 pre-payment for a year.
[47] Paragraph 3.74, Ofcom, *Review of the wholesale fixed analogue exchange lines markets - consultation*, 15 October 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/review-wholesale-fixed-exchange/statement/statement.pdf.
[48] For example, 53% of respondents to our Narrowband consumer survey indicated that they chose VoIP over a landline very often or sometimes, and 23% said they would be open to using VoIP more frequently. Of the

access solutions (e.g. SIP trunking). We note that the number of business fixed lines (excluding broadband) decreased for the fourth consecutive year in 2011, and the increased use of IP-based services for business telephony was one factor identified as likely to have contributed to this.[49]

3.45 There are various ways in which VoIP services may currently be used to supply business users with voice calls. For the purposes of this analysis, these can be grouped into two broad types: those providing VoIP calls over a fixed broadband connection and those offering VoIP calls over an alternative access solution (such as leased lines). We consider that VoIP services provided over a broadband connection are most likely to be taken up by the smaller businesses which typically make use of WFAELs, while the alternative IP-based access solutions are more likely to be taken up by the larger businesses typically using digital lines such as ISDN30. However, we recognise this will not always be the case.

3.46 With respect to VoIP over fixed broadband, we note that a WFAEL is necessary to support fixed broadband access. As with residential customers, this will limit the extent to which businesses can switch to this alternative to avoid an increase in the price of their fixed line rental. However, as noted above, many businesses currently take more than one narrowband line. Such users would have the option of retaining a single fixed line connection to support broadband access and cancelling all other lines in favour of VoIP calls over the broadband line.

3.47 We are aware that some CPs serving business users are trying to encourage their customers to adopt this model. We also understand that take-up has remained relatively low to date despite the fact this option offers significant cost savings over fixed narrowband access. This is because the quality of VoIP calls depends on the speed of broadband connection available and the other demands on its capacity. As most businesses rely on broadband for data services as well, many potential users are likely to be deterred from adopting this solution by lack of available bandwidth on their CGA connection. An increase in the price of fixed narrowband access is therefore unlikely to affect the speed of migration. Instead, we consider that take-up is likely to depend on the speed at which NGA is made available to a greater number of potential users.

3.48 Although we anticipate significant roll-out of BT's fibre network within the period covered by this review, it is difficult to gauge how business users will react to this when it occurs. It is possible there would be other constraints in addition to bandwidth availability that may limit switching; for example, the need to invest in additional equipment. We therefore consider it would be too speculative at this stage to consider that VoIP over broadband will constitute a realistic alternative to fixed line access for the majority of business users within the period covered by this review.

3.49 VoIP provided over other access solutions such as leased lines does not require an analogue exchange line, and so may offer an alternative to some business users wishing to avoid an increase in their fixed line rental. As set out above, we consider it would be a closer substitute for business customers using digital access solutions than those using a service based on WFAELs, but we recognise this need not always

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applications used over businesses' wide area network connections, VoIP was used by 45% of businesses in Q1 2012 and 'PSTN grade' voice services were used by 47%. See Figure 5.47, Ofcom, *Communications Market Report*, July 2012, www.stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/CMR_UK_2012.pdf.
[49] Pp.321-328, Ofcom, *Communications Market Report*, July 2012, www.stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/CMR_UK_2012.pdf.

be the case. However, we consider that the ability of customers to switch to this alternative may currently be limited by their customer premises equipment (‘CPE’). We consider that an increasing number of customers will upgrade their equipment over time, but do not consider that these investment decisions are likely to be driven by changes in the price of WFAELs. Moreover, while we expect this trend to continue during the period covered by this review, we consider it too early to be able to assess the extent to which this will offer an alternative to WFAELs within this review period. We therefore do not include this potential alternative within our market definition.

Indirect demand constraints- digital access (ISDN2 and ISDN30)

3.50 In previous reviews, including the 2010 WFAEL Statement and the 2009 Retail Narrowband Statement, we observed that ISDN2 and ISDN30 lines offered additional functionality over analogue exchange lines and commanded a price premium as a result. We consequently found that digital exchange lines were used in different ways and by different consumers from narrowband lines and that digital exchange lines did not provide an effective demand or supply-side substitute for analogue lines. We therefore concluded fixed narrowband analogue access and digital access were in separate markets.

3.51 We review the markets for wholesale ISDN30 and ISDN2 lines in Sections 4 and 5 respectively, where we set out the key developments in the retail market for ISDN lines as part of our consideration of indirect constraints. In this review of the retail markets for ISDN lines, we do not find any suggestion that the technical characteristics of these lines have changed in a way that would cause us to alter our previous conclusion that analogue and digital access are in separate markets, nor are we aware of any other market developments that would cause us to do so. We note that none of the respondents to the 2012 FAMR Call for Inputs suggested that the market for WFAELs should now be widened to include digital access. As a result, we continue to consider that ISDN2 and ISDN30 are outside of the relevant market.

Product market definition – other considerations

Business and residential customers

3.52 In the 2010 WFAEL review, we found that the retail markets for business and residential customers were both supplied by a single wholesale market.

3.53 We are not aware of any market developments that would cause us to revisit these findings. We recognise that retail CPs in the business sector are currently more reliant on BT’s WFAELs than retail CPs in the residential sector, where MPF LLU and particularly cable penetration is significantly higher (see Table 3.4, which sets out market shares in the business sector as part of our analysis of SMP). However, we do not consider this is a sufficient basis to define two separate markets. Instead, we note that BT’s wholesale services are structured so that all wholesale services are offered to CPs serving both businesses and residential customers. All wholesale services are based on a core requirement, WLR Basic, with customers then being offered differing care levels depending on their needs. While CPs supplying business customers tend to select service packages with a higher level of care and CPs supplying residential customers less, this is by no means always the case. As a result, it is not possible for BT to distinguish between CPs purchasing WLR for business use and CPs buying WLR to supply residential customers.

3.54 We therefore consider that there would be a single market for residential and business consumers at the wholesale level in the absence of regulation.

Bundled services and voice-only customers

3.55 There has been a continued increase in the number of customers purchasing bundles of broadband and voice together since the last review, with 65% of residential customers now purchasing the two together.[50] At the same time, a material proportion of residential customers (16%) continue to take fixed voice but not broadband – i.e. voice-only customers.[51] It is therefore appropriate to assess the substitution patterns for the two segments separately.

3.56 At the retail level, we consider there is likely to be limited substitution between dual play and voice-only packages in response to relative price changes in either direction.[52]

3.57 At the wholesale level, the alternatives for supplying voice-only customers with an analogue exchange line differ from the alternatives for supplying those taking bundled offers. Although MPF LLU can technically be used to support a voice only service, we consider that it is unlikely to be economic do so within the period of this review due to costs associated with migrating customers from WLR to MPF, which would be likely exceed the price differential between WLR and MPF.[53]

3.58 However, we consider it is not appropriate to segment the market in this way. This is because there is a material group of customers who are not voice-only customers but for whom a dual play offer over MPF may nonetheless not be suitable. In particular, we note that a material proportion of residential customers with a landline (18%) take a broadband line alongside a fixed voice connection but choose to purchase the two products separately, despite the (often) material cost savings offered by the dual play packages.

3.59 In addition to these 18% of residential customers, we consider it likely that a large number of business users (who in total account for 16% of the WFAEL market) purchase voice and broadband separately. This is because many business users are likely to have needs that would not be well served by the dual-play LLU offer (e.g. because they need additional fixed lines or require a service which offers greater technical support). This is reflected in the lower penetration of the LLU CPs using MPF in this segment, which we discuss in more detail in paragraphs 3.109-3.112. Here we note that, taken together, these residential and business customers could account for a relatively significant proportion of those taking fixed voice and broadband.

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[50] Bespoke cross-tabs using underlying data from Ofcom, Technology Tracker, Jan-Feb 2013. General details on this survey are available at: www.ofcom.org.uk/static/research/Wave-1-2013-data-tables.zip.
[51] Ibid.
[52] In particular, we consider that voice-only customers are very unlikely to switch to dual-play given that the majority of these customers do not have broadband because they don't want or need it (see P.342 of Ofcom, *Communications Market Report 2012*, July 2012, www.stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/CMR_UK_2012.pdf) and the price differential between voice-only and dual play bundles is significant. For example, the differential between BT's voice-only offer for residential customers "Unlimited Evening and Weekend Calls" and the corresponding dual-play offer "Unlimited Broadband" is £9/month (see www.productsandservices.bt.com/products/landline/packages).
[53] Current MPF and WLR rental prices are £84.26 and £93.27 per year, respectively. However, moving a customer from WLR to MPF implies incurring a migration charge (£30.65) and some additional equipment costs, which together exceed the rental price differential between WLR and MPF.

3.60 Finally, customers living in non-MPF areas will have to be supplied using BT's WLR – regardless of whether they are dual-play or not.

3.61 Segmenting the market into voice-only and voice with broadband customers would result in a material proportion of customers in the latter market who have limited or no alternatives to BT's WFAELs for an analogue exchange line, comprising those who live in non-MPF areas, residential users who purchase the two products separately (at least to some extent) and some business users. Because of this, we would be likely to reach the same view on SMP for WFAELs used to supply the dual-play segment as we would for WFAELs used to supply voice-only customers. On this basis, we consider the two segments are sufficiently homogenous in terms of competitive conditions to define a single market encompassing both.

3.62 We consider this view may be reinforced by the anticipated move towards broadband over fibre. As MPF cannot be used to provide superfast broadband, this migration to fibre may limit any further increase in deployment of MPF and the competitiveness of the dual play segment.

3.63 In light of these considerations, we continue to consider it appropriate to define a single market for WFAELs used to supply both voice-only customers and those purchasing voice and broadband.

Customers taking voice and broadband over fibre

3.64 One respondent to the 2012 FAMR Call for Inputs, [✂], argued that BT has SMP in the provision of voice access services delivered over fibre and that our market definition and SMP analysis should take this into account.

3.65 In relation to whether our market for WFAELs should include voice access over fibre, we note that FTTC is the predominant form of fibre deployment to date and currently this is provided incrementally to a narrowband voice line. We therefore do not consider it appropriate to include this form of fibre access in the market for WFAELs. However, where it is necessary for a fibre deployment to support fixed voice access, notably FTTP in conjunction with an ATA, we include this within our relevant market, as we did in the 2010 WFAEL Statement on the basis that the service presented to the end user was very similar. We are not aware of any developments that would cause us to revise this view and therefore continue to include these services within our relevant market.

3.66 We recognise that all types of fibre access may be used to support VoIP calls, and that together VoIP and broadband over fibre access may constitute a potential alternative to WFAELs. We considered this potential alternative in our analysis of the constraint from broadband access (paragraphs 3.40-3.49) and concluded it is not likely to be a sufficiently close constraint within this review period to be included in the same market. We therefore do not consider it is necessary to define a separate market for voice access services provided over fibre in this review as we consider these are captured within our market definition where relevant.

3.67 However, we do recognise that the deployment of fibre access may have potential implications for BT's market power in the provision of WFAELs for the reasons set out in paragraph 3.62. We do not consider it appropriate to reflect this potential development by defining separate markets for voice access alongside fibre at this stage, but rather take this into account in our assessment of SMP.

Alternative fixed networks

3.68 Our market definition in the 2010 WFAEL Statement included wholesale analogue exchange lines supplied over alternative fixed networks, including MPF LLU and cable on the basis that a significant proportion of respondents to the 2009 consumer survey indicated they would be willing to switch between providers using these technologies.

3.69 We consider that retail customers continue to view fixed narrowband access provided over alternative technologies to be interchangeable. As we discuss in more detail in relation to our SMP assessment, BT has seen a significant reduction in its market share of WFAELs since the 2010 review largely as a result of switching to MPF LLU. The share of WFAELs provided over cable access has remained almost constant since the last review, suggesting there has been no reduction in the extent to which retail customers consider cable access be a substitute for access over BT’s network.

3.70 As a result, we continue to consider it appropriate to include WFAELs provided over alternative fixed networks, including cable and MPF LLU, within our relevant market.

Provisional conclusion on product market

3.71 Based on the assessment above, our provisional conclusion is that fixed analogue exchange lines are not sufficiently constrained by digital, mobile or broadband access for these services to be included within the same relevant market. As a result we propose defining a product market for fixed analogue exchange lines, which includes analogue exchange lines delivered in the following ways:

- copper access;
- cable access;
- MPF LLU; and
- FTTP deployments offering a narrowband voice service using an ATA.

Geographic market definition

Geographic market definition in the 2010 WFAEL Statement

3.72 In the 2010 WFAEL Statement we defined two geographic markets:

- the UK excluding the Hull Area; and
- the Hull Area.

3.73 In reaching these geographic market definitions at the wholesale level in the 2010 WFAEL Statement, we recognised that deployments of cable and MPF LLU had occurred in discrete geographic areas. However, we considered that, at the retail level, it was appropriate to extend the geographic market boundaries to the area covered by BT’s network as a result of the common pricing constraint implied by BT’s universal service obligation. We considered it was appropriate to extend the geographic market in the same way at the wholesale level. We noted there were additional commercial drivers which would be likely to lead to uniform pricing at the wholesale level, including the costs associated with more granular pricing (so-called 'menu costs'). We also observed that we had seen uniform pricing in the retail fixed narrowband analogue access market, even where cable and MPF LLU had been deployed.

Key developments since the last review

3.74 We take as our starting point for our assessment the geographic markets defined in the 2010 WFAEL Statement and described above. We now consider whether there have been any developments in the market since this time which would make it appropriate to define more localised markets.

3.75 One key development in this respect has been the considerable increase in usage of MPF LLU, which supports the provision of analogue exchange lines to retail customers purchasing a bundle of voice and broadband. This has been achieved to a large extent through conversion of shared metallic path facility ('SMPF') lines, which do not support the provision of analogue exchange lines to any customers.

3.76 This increase in MPF usage has increased the scope for local variations in wholesale competition, at least for dual play customers, since the market was last reviewed. In MPF LLU-enabled areas, dual play customers will be able to take a fixed line package from at least one CP who does not need to purchase BT's WLR to compete at the retail level. The most competitive localities are now likely to offer a degree of choice to dual-play customers, which, at least on the surface, appears comparable with local markets we chose to deregulate in the last WBA market review. However, we note there are key differences between the use of SMPF for broadband and the use of MPF for fixed voice access which mean that the WBA approach is not appropriate in the current context. In particular, SMPF can be used to supply all retail broadband customers wherever it is present, whereas MPF cannot be used to provide all retail fixed voice customers with an analogue exchange line even where it is present.

3.77 For the reasons set out above, we consider there are a material group of customers who are difficult for retail CPs to serve without being able to access BT's WFAELs during the course of this review period, even in areas where there are multiple MPF CPs. These customers include the voice-only voice customers and (to some extent) those purchasing voice and broadband separately, who together account for approximately 35% of all residential landline users and are spread across the UK excluding the Hull Area. In addition to these residential users, we consider that CPs serving a large number of business users (accounting for 16% of the total WFAEL market) are also likely to have limited alternatives to BT's WLR. For these customer segments, competitive conditions are clearly sufficiently similar across the UK excluding the Hull Area to define a single geographic market. We also consider it possible that demand for further MPF LLU deployments may slow down as a result of the anticipated move to fibre-based broadband. If this occurs, it would limit any further increases in the variation of competitive conditions across the UK.

3.78 We recognise there is a degree of interaction between product and geographic market definition in this context. In particular, we are aware that if were we to define separate markets for voice-only and dual play customers then there may be a case for defining different geographic markets for each. For voice-only customers, we would be likely to define a single market for the UK excluding the Hull Area on the basis of similar competitive conditions throughout. For customers taking both voice and broadband, we recognise there would be a case for defining more localised geographic markets based on the number of MPF LLU CPs present in an area.

3.79 However, we are not convinced this would be appropriate for this market review. As set out above, there is a material group of customers taking both voice and broadband in MPF LLU-enabled areas who may be reliant on CPs with limited alternatives to BT's WLR. The existence of these customers means that competitive conditions even for customers taking voice and broadband are likely to be more homogenous across geographic areas than if all customers were able to take dual play over MPF.

3.80 Taken together, we consider that these factors result in sufficiently homogenous conditions to support a single geographic market for WFAELs in the UK excluding the Hull Area for the period covered in this market review.

3.81 We also propose that there is a separate (but single) market within the Hull Area. Since there is no cable or MPF LLU footprint in this area, there are no geographic variations in competitive conditions that justify defining more localised markets. As a result, we believe that the Hull Area is captured by a single geographic market.

Provisional conclusion on wholesale geographic market definition

3.82 In light of the above, we propose two geographic areas:

- the UK excluding the Hull Area; and
- the Hull Area.

Three criteria test for WFAEL

3.83 The WFAEL market is not listed in the 2007 EC Recommendation as a market in which *ex ante* regulation may be warranted.[54] Therefore, taking utmost account of the 2007 EC Recommendation, we have applied the three-criteria test to the WFAEL market in order to assess whether *ex ante* regulation is appropriate.

3.84 In relation to the proposed WFAEL market for the UK excluding the Hull Area we consider that the three criteria set out in the 2007 EC Recommendation are met:

- **the presence of high and non-transitory barriers to entry**: we consider that significant barriers to entry remain. This is discussed in more detail in our section on barriers to entry and expansion in our analysis of SMP (paragraphs 3.134-3.137);
- **a market structure which does not tend towards effective competition within the relevant time horizon**: our provisional conclusion is that our proposed market does not display a tendency towards competition. As we discuss in more detail below, BT has maintained a very high market share over time and is currently pricing at the cap imposed by the charge control. This is discussed in more detail in the section on market shares (paragraphs 3.100-3.116) and prices and profitability (paragraphs 3.140 and 3.141) in our SMP assessment; and

[54] EC, *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),* www.ec.europa.eu/information_society/policy/ecomm/doc/library/proposals/rec_markets_en.pdf

- **the insufficiency of competition law alone to adequately address the market failure(s) concerned**: we consider that competition law would not be sufficient to address concerns in this market. As we explain below, we do not believe this market will tend towards competition within the relevant time horizon and therefore *ex ante* regulation is necessary to promote effective competition (particularly downstream).

3.85 Similarly, we consider that, in relation to the proposed WFAEL market for the Hull Area, that the three criteria test is met:

- **the presence of high and non-transitory barriers to entry**: as discussed below, we consider that significant barriers to entry remain;

- **a market structure which does not tend towards effective competition within the relevant time horizon**: as we discuss in more detail below, we provisionally conclude that our proposed market does not display a tendency towards competition. KCOM has a 100% share of the relevant market, barriers to entry and expansion remain substantial and there is no effective countervailing buyer power; and

- **the insufficiency of competition law alone to adequately address the market failure(s) concerned**: we consider that competition law would not be sufficient to address concerns in this market. As we explain below, we do not believe this market will tend towards competition within the relevant time horizon and therefore *ex ante* regulation is necessary to promote effective competition (particularly downstream).

3.86 We therefore are of the view that our proposed market definitions satisfy the criteria set out in 2007 EC Recommendation and that it is appropriate to analyse these markets to determine whether any provider holds SMP.

Provisional conclusions on market definition

3.87 In light of the analysis set out above and having applied the three criteria test, we propose to identify the following markets for the purposes of making a market power determination:

- a market for wholesale fixed analogue exchange lines in the UK excluding the Hull Area; and

- a market for wholesale fixed analogue exchange lines in the Hull Area.

Market power assessment

Introduction

3.88 In this section we assess whether any CPs in the relevant markets defined above are in a position of economic strength affording them the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers. We do this by analysing competitive conditions in light of recent market trends and anticipated future developments. In doing so, we take into account the potential constraint from those products outside of the relevant market which may nonetheless provide an alternative for some consumers (e.g. mobile and VoIP and broadband access) and which collectively may be sufficient to constrain a position of market power.

3.89 In conducting our assessment, we first consider recent trends in market shares and their expected evolution during the period covered by this review. We then take into consideration other criteria set out in the EC SMP Guidelines including:

- constraints from competing services at the wholesale and retail level;
- the existence of barriers to entry/expansion;
- the strength of countervailing buyer power; and
- pricing in and the profitability of the market.

SMP assessment in the 2010 WFAEL Statement

3.90 In the 2010 WFAEL Statement, we found that BT had SMP in the market for WFAEL in the UK excluding the Hull Area. This finding was based on BT's high market share (over 70%), which we did not consider would be significantly impacted by growth in use of MPF LLU in the period covered by the review, as well as high barriers to entry and lack of countervailing buyer power. We recognised it was possible that the two new access remedies introduced in our 2010 WLA review, VULA and PIA, could introduce a competitive constraint in the market in the future in a similar manner to MPF LLU. However, we considered it too early to assess what the impact of these new remedies was likely to be.

3.91 We considered the impact of further fixed/mobile convergence, and noted that the majority of customers were likely to continue purchasing both fixed and mobile access within the review period. We also observed that fixed/mobile convergence solutions such as femtocells relied on both fixed and mobile access, and so were unlikely to affect our SMP findings.

3.92 Finally we considered the potential for further increases in the share of MPF LLU, which we considered would be limited by the number of LLU-based broadband customers. We noted that even if all these customers were to be supplied with WFAELs over LLU, BT would still retain a market share of above 60% and our SMP finding would therefore remain.

3.93 In relation to KCOM's position in the supply of WFAEL in the Hull Area, we observed 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. As a result, we concluded that KCOM had SMP in the market for WFAEL in the Hull Area.[55]

2012 FAMR Call for Inputs

3.94 In the 2012 FAMR Call for Inputs we asked stakeholders to indicate whether since the last market review there had been market changes that would affect the SMP assessment and modify our 2010 findings of SMP for BT and KCOM in their respective areas.

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[55] Paragraphs 4.5, 4.6 and 4.17, Ofcom, *Review of the wholesale fixed analogue exchange lines markets - statement*, 20 December 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/review-wholesale-fixed-exchange/statement/statement.pdf.

3.95 A number of respondents considered there had been an increase in the importance of wholesale alternatives to WLR, including MPF LLU, mobile and fibre. Most stakeholders considered that these changes were not sufficient to revise our previous findings on SMP.

3.96 TalkTalk said that it considered BT holds SMP in the WFAEL market.[56] British Sky Broadcasting ('Sky') said that developments that had taken place since the previous market reviews were concluded in 2010 had not affected the markets sufficiently to warrant any major changes to the SMP finding. Sky also said that there were no foreseeable developments during the forward look period of this review that would invalidate this proposition.[57] [✂] also said that the existing SMP assessment remained broadly valid.

3.97 Vodafone[58] said that since the last review there had been significant migration of customers from WLR to LLU-based services. However, it said that this was only practicable where the customer was in a geographic area covered by LLU, where the customer wished to take both broadband and voice services, and where the customer wished to take those services from a single provider. Vodafone considered that when these three conditions were considered together, that the potential migration represented only a subset of customers, and was insufficient to alter Ofcom's existing SMP assessment for WFAEL.[59]

3.98 In contrast to other respondents, BT argued that recent market developments had sufficiently increased the constraint on its provision of WFAELs resulting in no SMP. In particular, BT considered that the growth in the absolute number and the proportion of MPF lines sold in the market had had a significant impact on the market for analogue exchange lines.[60] It said that this demonstrated a rapidly evolving wholesale market, where the competitive effect of MPF had become highly significant and acted as a powerful constraint on WLR pricing. In addition to the impact of MPF, BT said there were a number of other factors continuing to drive changes in the market and acting to reduce the market power of BT in the WFAEL market:

- the increasing number of mobile-only households, and the potential impact of 4G services on the market power of the mobile sector;
- the strong vertically integrated presence of Virgin where it has its network; and
- the deployment of NGA technologies, and their potential future impacts on demand for current generation voice and data products.

3.99 BT also submitted comments in relation to our assessment of SMP in call origination in the 2013 Narrowband Consultation, which we consider relevant to our assessment

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[56] P.5, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.
[57] P.2, *Sky response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/review-wholesale-broadband/responses/BSkyB.pdf.
[58] Vodafone bought Cable & Wireless Worldwide on 27 July 2012. For ease of reference, we use 'Vodafone' when referring to Cable & Wireless Worldwide's submissions.
[59] P.4, *Vodafone response to FAMR Call for Inputs 2012*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Cable_Wireless_Worldwide.pdf.
[60] Pp.6-7, *BT response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BT.pdf.

of SMP in WFAELs due to the close links between these two markets.[61] In particular, BT argued that the SMP assessment should not rely primarily on an analysis of market shares but should instead:

- adopt a more forward-looking approach;
- disaggregate customers on the basis of their purchase habits (e.g. voice-only customers as opposed to those purchasing a bundle offer) when considering their alternatives;
- focus on areas where there is competition rather than those where there is not;
- identify the circumstances in which LLU CPs rely on BT within the LLU footprint (i.e. mainly to serve voice-only customers, which BT argued is a set of customers expected to decline rapidly); and
- analyse competition in the business segment, looking at the size of networks capable of serving business customers independently of LLU services.

Assessment of market power in the UK excluding the Hull Area

Market shares

3.100 The evolution of market shares for the wholesale analogue exchange line market for the UK excluding the Hull Area are shown in Table 3.3:

Table 3.3: Market shares in the UK excluding the Hull Area

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BT (WLR)	84%	84%	84%	84%	81%	79%	74%	68%	65%	61%
Virgin	14%	15%	14%	14%	15%	15%	15%	15%	15%	15%
LLU (MPF) and other	2%	1%	2%	2%	4%	6%	10%	17%	20%	24%

Source: Ofcom and CPs data

3.101 Table 3.3 shows that BT's market share has declined from 84% in 2003-06 to 61% in 2012. Virgin's share has remained approximately constant over the same period, with the decline of BT's market share resulting from the growth in the use of MPF. This indicates that there has been a significant increase in the competitive constraint on BT from MPF LLU since the last review. We expect that the use of MPF LLU may continue to erode BT's market share during the period covered by this market review.

3.102 However, there are some groups of customers for whom there are currently limited alternatives to BT's WLR. To the extent this remains the case throughout the forward-looking period covered by this review, the existence of these groups of customers is likely to limit any further decline in BT's market share. These customers include:

- customers in off-net areas;
- voice-only customers;
- customers purchasing voice and broadband separately; and

[61] *BT response to 2012 Narrowband Market Review Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/nmr-2013/responses/BT.pdf

- business users.

3.103 We now discuss each group in turn, considering how their preferences may evolve over the course of this review period.

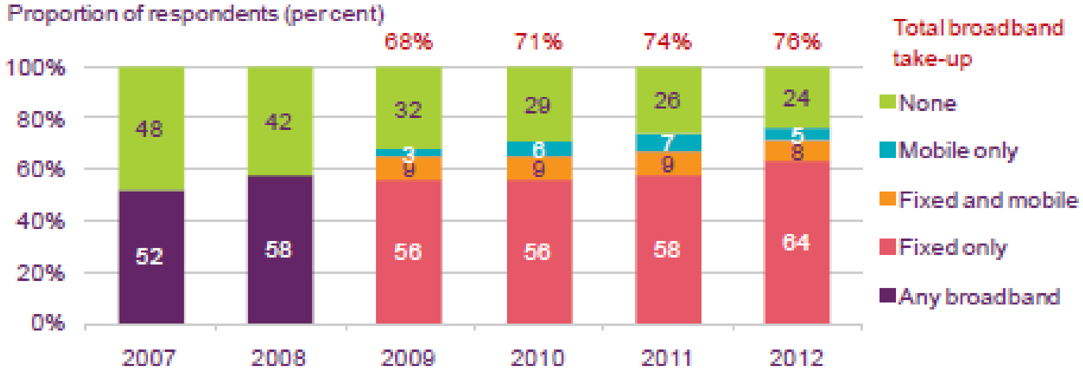
Customers in off-net areas

3.104 This group of customers amounts to 8% of the residential segment. They are outside the MPF LLU/Virgin footprint and retail CPs competing with BT are therefore reliant on access to BT's WLR to be able to supply them an analogue exchange line. We do not expect further expansions to the MPF LLU footprint to have a material impact on the size of this group of customers for reasons described in paragraph 3.113.

Voice-only customers

3.105 Voice-only customers currently account for 16% of the residential segment.[62] As noted in paragraph 3.57, it is not currently economic to provide a voice-only service over MPF LLU, and so MPF LLU is unlikely to be used to self-supply wholesale analogue exchange lines to these customers. We consider that the proportion of voice-only customers is likely to decline during the period covered by this review as broadband take-up continues. However, we expect it to decline slowly, reflecting the already-high broadband penetration rate and the slow incremental uptake in recent years, as shown in Figure 3.2 below.

Figure 3.2: Broadband take-up (residential segment)



Source: Ofcom research, data as at Q1 of each year
Base: All adults aged 16+

3.106 We therefore consider that voice-only customers are likely to remain a material proportion of all landline users within the period covered by this review.

Customers purchasing voice and broadband separately

3.107 Our market research suggests approximately 18% of those with a residential landline currently purchase voice and broadband separately, despite the fact that the dual-play offers combining the two services are usually cheaper.[63] As with voice-only customers, it is not currently economic to use MPF to supply voice services to these customers.

[62] Bespoke cross-tabs using underlying data from Ofcom, Technology Tracker, Jan-Feb 2013. General details on this survey are available at: www.ofcom.org.uk/static/research/Wave-1-2013-data-tables.zip.
[63] Ibid.

3.108 While we expect there to be some decline in the size of this group over the course of this review period as legacy customers are migrated onto MPF, we consider this decline is likely to be limited. This is because we consider that most price sensitive customers are likely to have switched to MPF LLU operators already.[64] As a result, we consider that many of these customers may be purchasing voice and broadband separately because doing so offers them something the (often) cheaper dual play offer cannot.

Business customers

3.109 Business customers (16% of the total market) may also be more dependent on WLR-based products due to the limited penetration of MPF LLU and, in particular, cable in this segment to date.[65] As Table 3.4 illustrates, BT holds a 82% share of WFAELs used to supply the business segment, which is significantly higher than its share of the overall WFAEL market.

Table 3.4: Market shares of WFAELs used to supply business customers in the UK excluding the Hull Area

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BT (WLR)	89%	91%	93%	95%	95%	95%	89%	84%	84%	82%
Virgin	3%	4%	2%	2%	3%	2%	2%	2%	2%	2%
LLU (MPF) and other	8%	5%	5%	3%	2%	3%	8%	14%	14%	16%

Source: Ofcom and CPs data

3.110 One reason for BT's relatively high market share of the business segment is that, in the past, Virgin has primarily targeted the residential segment, which it has supplied using its cable network.[66] Virgin has recently expressed increasing interest in the business segment and has invested in MPF LLU with a view to increasing its share of this segment. Although we do not have any indication of the size of Virgin's planned investments in LLU nor on their likely impact on market share during the period covered by this market review, we expect these LLU investments will have a positive impact on Virgin's market share in the business segment to the detriment of BT's position. However, we consider any impact is likely to be limited by the fact this market segment is characterised by features which tend to slow growth, particularly the highly differentiated nature of business user needs.

3.111 As set out in relation to market definition, we consider it likely that some business users may give up their fixed line access in favour of an IP-based solution. However, we do not expect BT's market share in the business segment to be significantly affected by this trend within this review period for the reasons set out in paragraphs 3.40-3.49.

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[64] In this respect, we note that in 2005, the MPF rental charge was capped so as to be substantially below that for WLR and WLR plus SMPF. The difference between these charges began to reduce in 2008 and has continued to decline over time (see Figure 7.4, Ofcom, *Charge control review for LLU and WLR services*, 7 March 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf). As a result, CPs using MPF have been able to price their dual play offers significantly below the total cost of taking a voice and broadband access from providers using WLR and SMPF/WBA.

[65] Historically, LLU and cable CPs have focused more on residential customers, while competition with BT in the business market comes to a much greater extent from resellers of BT's wholesale products.

[66] CPs wishing to attract and retain business customers must have the ability to maintain an uninterrupted and high-quality service over their network infrastructure, to identify and cater to the specific requirements of business users and to offer a higher degree of customization than those serving residential users. As a result, CPs serving the business sector require different business models than those serving the residential sector with the result that few are active to the same degree in both.

3.112 We therefore consider that the proportion of business that retail CPs can only realistically serve using BT's WLR is likely to remain high in this review period.

Additional factors limiting further decline in BT's market share

3.113 In addition to the existence of customers for whom there are likely to remain limited alternatives to WLR, we consider there are likely to be other factors limiting any further reduction in BT's market share during this review period. These include the fact that:

- **the rate at which exchanges are unbundled is likely to slow down:** We expect the pace at which exchanges are being fully unbundled by MPF LLU CPs to slow in the future, as exchanges not yet unbundled are likely to be characterized by higher connection costs (e.g. more remote exchanges) and to be of a smaller size. We also expect that LLU CPs will be conscious of the likely migration of customers to broadband over fibre in the medium term, which is likely to reduce demand for broadband over LLU from current levels (see third bullet below). We consider that CPs are likely to be cautious about investing further in a technology which is likely to be in decline;

- **there are operational constraints on the speed at which remaining SMPF lines will be converted to MPF**: Approximately 24% of LLU lines purchased by CPs other than BT are SMPF.[67] SMPF lines cannot support voice services and so cannot be used to self-supply WFAELs. We understand from LLU CPs that they intend to convert as many SMPF lines to MPF as possible in MPF-enabled exchanges since it is more profitable for them. However, the speed at which they do so is limited by factors which are not related to the price of wholesale analogue exchange lines, including the sunk costs involved[68]; and

- **anticipated roll-out and uptake of fibre-based broadband may limit additional demand for LLU**: As set out in paragraph 3.62, we consider it possible that developments in broadband over fibre could limit demand for additional deployments of MPF LLU.

3.114 As a result of all of the above factors, we consider it unlikely that the share of WFAELs supplied over MPF LLU will increase by any material amount during the period covered by this review. We therefore consider it likely that BT's market share will still be greater than 50% by the end of this review period (March 2017). We also note that, even if BT's market share were to fall below the 50% threshold, it would be very unlikely to fall below 40%, as this would require a faster annual rate of decline than the average over the last three years (10% vs. 6%) which we consider unlikely given the factors outlined above.

3.115 There are some segments of the market where BT's market share is likely to remain significantly higher than 50% during this review period, notably those customer segments identified above as having limited alternatives to WLR.

3.116 On the basis of the above considerations, we expect that our concerns about the existence of a dominant position in the market will persist during the period of the review. Indeed, even in the more aggressive decline scenario, by 2017 BT is likely to

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[67] Based on data received from BT.
[68] For example, CPs may consider that the most efficient way of converting SMPF lines to MPF is to use bulk migration, which requires a critical mass of customers to be economic.

hold a market share above 40% in the overall market and a share considerably higher than this for certain customer groups. In such circumstances, in accordance with the EC SMP Guidelines, we are concerned about the existence of single firm dominance.[69] Therefore, having considered the foreseeable developments, we consider the market is not likely to be effectively competitive during the period of this market review.

3.117 While market shares provide useful indications on the competitiveness of the market in line with the EC SMP Guidelines, we now also assess the competitiveness of the market against the additional factors that we consider key in driving the competitive interactions between CPs in the WFAEL market. These key factors are:

- constraints on wholesale prices from substitute services (both at wholesale and retail levels);
- barriers to expansion (particularly for LLU CPs);
- countervailing buyer power; and
- pricing and profitability.

<u>Constraints from competing services</u>

3.118 We have assessed the extent to which BT's ability to increase the price of WLR is constrained by the existence of suppliers of substitute wholesale services (i.e. MPF LLU CPs and Virgin) and by the capability of retail consumers to switch to suppliers who use wholesale inputs that are substitutes to WLR. In doing so, we consider constraints from potential alternatives at a retail level which were not sufficiently close constraints to be included within our relevant market but may nonetheless provide an alternative for some customers. Together, these constraints may be sufficient to prevent BT from increasing the price of WLR even if individually they would not be. In particular, we consider the constraints at a retail level from mobile and broadband access.

Existence of suppliers of substitute wholesale services

3.119 As discussed in paragraph 3.20, MPF LLU CPs and Virgin provide an alternative wholesale service to BT's WLR. They are currently both used predominantly to self-supply analogue exchange lines but may also be used to supply third party CPs.

3.120 We consider that the potential for direct substitution by CPs currently using WLR to MPF LLU or cable is likely to be limited for the following reasons.

3.121 In the first instance, we consider that CPs without their own network have limited potential for substitution to wholesale services over MPF LLU and cable. While we recognise there has been some sale of wholesale inputs based on MPF LLU to third party CPs, we note this has been very limited to date.[70] On the demand-side, we

[69] EC, *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), 11 July 2002, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2002:165:0006:0031:EN:PDF.

[70] Some LLU operators, notably TalkTalk and Vodafone, offer wholesale products to third party CPs (see paragraph 5.121, Ofcom, *Review of the fixed narrowband services markets,* 5 February 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/nmr-2013/summary/NMR_Consultation.pdf).

consider this may reflect the additional costs to CPs which purchasing wholesale access from suppliers other than BT entails.[71]

3.122 Moreover, the same barriers to self-supply over MPF LLU (e.g. consumer preferences, operational limitations, limited geographic coverage) apply to its use as a wholesale input, which may limit the attractiveness of this option for CPs. On the supply side, MPF LLU CPs and Virgin may be unwilling to provide a wholesale input to third-party CPs because of strategic considerations (e.g. a wish to maintain control over own network and/or avoid cannibalisation of their own customers). As a result, we consider use of this option is likely to remain limited.

3.123 We also consider the potential for increased self-supply by the MPF LLU CPs and Virgin is likely to be limited for this review period. This is because it would require an expansion of the MPF LLU/cable footprint, the conversion of existing SMPF lines to MPF and/or the migration of customers to dual-play bundles – all of which we consider likely to be driven primarily by commercial considerations other than the price of WLR. As set out in our analysis of market shares, we do expect to see some increase in self-supply of WFAELs over MPF in this review period irrespective of any developments in the price of WLR. However, we do not consider this increase is likely to be sufficient to reverse our finding of SMP.

3.124 On the basis of the above considerations, we consider the potential for CPs currently using BT's WLR to switch to alternative wholesale services is likely to be limited during the period covered by this review. As a result, we do not consider that they represent a material barrier to BT's ability to increase the price of WLR above the competitive level.

Constraints from retail consumers switching

3.125 We have also considered whether retail consumers can impose a constraint on increases in the price of BT's WLR product by switching to providers who do not use WLR.

3.126 As set out in paragraph 3.20, no CP other than BT is able to self-supply all of its needs. An increase in the WLR charge would therefore lead to an increase in the cost to retail CPs of supplying at least some of their customer base. However, the extent to which individual CPs would see an increase in their average costs following an increase in the WLR charge depends on their ability to use alternatives to BT's WLR to serve their customers.

3.127 For CPs without their own network, an increase in the price of WLR increases the cost of supplying all of their customers. For MPF LLU CPs and Virgin, the proportion of their customer base that it will become more costly to supply is smaller than this and is limited to those customers who are either located in an off-net area, purchasing a voice-only product (whether with or without a separately purchased broadband line) or who are supplied with a dual-play offer using SMPF. These

[71] Example of costs additional to the LLU/cable charge include: the costs of managing multiple contracts due to the sub-national coverage of the LLU/cable networks; the costs of connecting to the LLU/cable network; and the costs of dealing with quality issues arising from migrating customers.

customers amount to approximately 22% of all MPF LLU CPs' customers and 3% of Virgin's.[72]

3.128 These cost increases are likely to be passed onto retail customers, at least to some degree, creating differentials between retail prices reflecting the extent to which the various CPs are able to self-supply. If the resulting retail price differentials induce a sufficient number of consumers to switch to CPs with lower prices, then this may provide a constraint on BT's ability to profitably increase WLR prices.

3.129 In contrast to our findings in the past market reviews, there is now a significant number of retail customers who, in response to any price increase, could switch to a CP who can use alternatives to BT's WLR to compete at the retail level. This is largely a result of the significant increases in MPF LLU roll-out described above, which provides an alternative to WLR for all customers purchasing voice and broadband from the same supplier in areas where it has been deployed. We consider it likely that a significant proportion of these customers would be likely to exercise this option to switch in response to any price increase. We also note that a small number of customers may be able to switch to either mobile or VoIP with broadband access (as discussed in paragraphs 3.28-3.49).

3.130 However, there are also a significant number of customers for whom there are likely to be limited alternatives to a product based on BT's WLR within the period covered by this review. These customer groups are set out above and include customers in off-net areas (8% of the residential segment), voice-only customers (16% of the residential segment), customers purchasing voice and broadband separately (18% of the residential segment) and business users (16% of the total market).

3.131 If the above groups of residential customers were considered separately, 42% of the residential segment would face significant barriers to switching to non-WLR-based alternatives. In practice, there is likely to be some degree of overlap in these customer groups and that the actual figure will be somewhat lower. Nonetheless, our indicative calculations suggest the total number of customers with limited alternatives to products based on WLR is likely to be high- over 39% of the residential segment and 33% of the total WFAEL market.[73]

3.132 With regards to the business segment, we do not have detailed evidence on usage and preferences as we have for the residential segment. Nonetheless we consider there are likely to be barriers to switching for many of these users for the reasons set out above. As a result, we consider that the total number of customers ultimately with no or limited alternatives to BT's WLR is likely to be higher than our indicative calculations suggest.

3.133 Overall we consider that a significant proportion of retail customers (more than 33% of the WFAEL market) would not have an alternative to services provided through BT's WLR. Given the size of this group of customers, we consider that switching by consumers would not be sufficient to constrain a position of SMP.

[72] Figures obtained by dividing the number of WLR lines purchased by LLU CPs by the sum of WLR and MPF lines purchased by LLU CPs, and by dividing the number of WLR lines purchased by Virgin by the sum of WLR and cable lines used by Virgin. Data on LLU and WLR lines based on information received from BT. Data on Virgin cable lines based on information received from Virgin.

[73] We estimate that 33% of the total market would face considerable barriers to switching to a product not based on WLR. Our estimate is based on the assumption that voice-only customers and customers buying voice and broadband separately are evenly distributed across areas within and outside the footprint. We have not included business users in this calculation.

Barriers to entry and expansion (particularly for MPF LLU CPs)

3.134 The market for the provision of wholesale fixed analogue exchange lines is characterised by high entry barriers, namely the costs of investing in an access network of a significant size. In order to foster entry in spite of these barriers, LLU was imposed as a remedy to allow access to the BT network infrastructure.

3.135 An LLU operator has to invest in electronic equipment to be installed at BT's exchange. Since the investment required to support LLU is not negligible, a CP undertakes it only if there are expectations of acquiring a minimum number of customers. For this reason, LLU CPs have focused on the larger exchanges (around 2,900 exchanges covering approximately 92% of premises for the operator (TalkTalk) with the most significant coverage).

3.136 We have considered whether there are barriers to entry/expansion for MPF LLU CPs in terms of serving the groups of consumers we have identified as having a limited set of, or no, alternatives to WLR-based services. In particular:

- **customers outside the MPF LLU footprint**: As discussed in paragraph 3.101, we consider the decision to unbundle additional exchanges is unlikely to be affected even by a significant increase in the price of WLR. Therefore, we consider there are significant barriers to extend the MPF LLU footprint to these areas and therefore that such expansion is unlikely;

- **voice-only customers**: As set out in paragraph 3.57, it is not currently economic to use MPF to provide a voice-only service. The WLR charge would need to increase by a significant amount for a CP to be able to offer a voice-only retail product over MPF at a comparable price to CPs using WLR. As a result, we do not consider it likely that LLU CPs would begin supplying voice-only customers over MPF following an increase in the price of WLR; and

- **business customers**: As noted above, MPF LLU and cable together account for a significantly lower share of business exchange lines than residential. MPF LLU CPs and/or Virgin could increase their share of this sector by targeting business customers themselves or by selling wholesale inputs to CPs already serving business users. Alternatively, CPs already focused on the business sector could invest in building their own network. We consider all of these scenarios unlikely to have a material impact on the reliance of this sector on WLR in this review period. As set out in paragraph 3.110, there are features of this market segment which tend to make growth slow and are therefore likely to limit the impact of any commercial strategy to target business users. In addition, we consider there are barriers to the wider use of wholesale inputs over MPF LLU or cable by third party CPs, as set out in paragraph 3.119-3.124. Finally we note there has been some recent investment in LLU infrastructure intended for use in the business sector, notably by Virgin and by a new entrant, Zen. However, their impact on BT's share of business users has been limited to date. We therefore consider there are material barriers to expansion in the business sector, even for CPs focused on this segment.

3.137 As a result of the above, we consider that significant entry or expansion by MPF LLU CPs or Virgin in the business segment is unlikely within the period covered by this review, and that the reliance of this customer group on products based on BT's WLR is therefore likely to remain very high.

Other factors

3.138 We have also considered two other factors in our assessment of competition in the WFAEL market, namely the existence of countervailing buyer power and prices.

3.139 As we have discussed previously (paragraphs 3.119 and 3.124), the alternatives to BT's WLR for current users are few and require non-negligible investments by CPs, being limited in practice to investment in MPF LLU or an alternative access network. These circumstances make it unlikely that CPs hold countervailing buyer power sufficient to discipline BT's market power, particularly in the short term.

3.140 The WLR charge is currently regulated and subject to a charge control remedy that sets an upper boundary to its level at £98.81 per year, £50.07 and £3.29 for rental, connection and transfers, respectively.[74] Table 3.5 shows that BT has set its WLR prices at the maximum level allowed for every WLR service.

Table 3.5: WLR prices

	Rentals	Connections	Transfers
12/13 ceiling	£98.81	£50.07	£3.29
12/13 price	£98.81	£50.44[75]	£3.29

Source: Openreach Price list and Ofcom, Charge control review for LLU and WLR services, 7 March 2012

3.141 BT's pricing behaviour suggests that the competitive constraints on WLR are not sufficient to prevent it from pricing at the maximum level allowed when pricing uniformly. We consider, therefore, that the analysis of WLR prices does not contradict findings based on other factors discussed in the previous paragraphs.

Provisional conclusion on market power assessment in the UK excluding the Hull Area

3.142 For the reasons set out above, in particular BT's high market share and the lack of sufficient competitive constraints on BT's ability to raise WLR prices, we propose to find that BT has SMP in the UK excluding the Hull Area.

Assessment of market power in the Hull Area

SMP assessment in 2010 WFAEL Statement

3.143 In 2010 WFAEL Statement we found that KCOM had SMP in the WFAEL market in the Hull Area. We based our conclusion on the grounds that KCOM held 100% of the wholesale market and that the other SMP criteria (e.g. barriers to entry) against which we assessed the existence of SMP in the UK except Hull were likely to lead to the same conclusions in the Hull Area.

2012 FAMR Call for Inputs and responses

3.144 In the 2012 FAMR Call for Inputs we asked stakeholders whether they foresaw in the next three years any significant market development in the WFAEL market such that the SMP assessment in the Hull Area would be affected.[76]

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[74] See Ofcom, *Charge control review for LLU and WLR services*, 7 March 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf.
[75] We note that the limited difference between price and ceiling is likely to be due to an imprecise volume forecast by BT that affects the calculation of charges in compliance with their regulatory cap.

3.145 KCOM was the only respondent to the question of SMP in the Hull Area, saying that there had been significant developments, as described in relation to the WLA market in Section 7. In summary, KCOM stated that the availability of alternative access infrastructure, by MS3 Communications, was expected to affect the SMP assessment of the WFAEL market.

Market shares

3.146 KCOM is currently the only supplier of retail and wholesale analogue lines in the Hull Area. It therefore holds a 100% share of the market for WFAELs, which creates a clear presumption of dominance.

3.147 We are aware that MS3 is in the process of deploying an access network in the Hull Area (see Section 6 for more detail on the timing and scope of this deployment), which we understand it plans to use to supply wholesale access products to resellers active in the business sector. As a result of this potential entry into the wholesale market, we recognise there may be some reduction in KCOM's market share of WFAELs within the period covered by this review. However, as noted in relation to RFAELs in Hull, based on the information that we currently have, market entry by MS3 appears unlikely to happen in sufficient time at sufficient market scale, to significantly affect the competitive conditions in WFAELs in Hull over the period covered by this review. MS3's intention seems to be to focus on business customers and we note its network does not cover all of the Hull Area. As a result we consider that it is unlikely that they will be able to gain a significant customer base away from KCOM during the time period of this review.

Barriers to entry

3.148 The barriers to entry in the wholesale fixed analogue exchange lines market in the Hull Area are similar to those discussed above in relation to the rest of the UK. Specifically, to enter the market in the Hull Area in any significant way a CP would need either to build a network to premises in the Hull Area, or to deploy a solution based on MPF LLU within the Hull Area. Both solutions would require a provider to make a significant investment. In this respect, we note that the Hull Area has a relatively small population and, particularly in competition with an incumbent, another CP would find it challenging to gain market share rapidly. When set against the systems integration and the large outlay in infrastructure costs that would be required to enter the market, there is a large structural barrier to entry in this market.

3.149 To date, no supplier has approached KCOM to request MPF LLU. While MS3 is in the process of deploying an alternative access network as described above, its proposed deployment is limited in scope and the impact that this deployment will have on KCOM's market position remains unclear. As a result, we consider the barriers to entering on a sufficient scale to have a material effect on KCOM's market share remain high.

Other criteria

3.150 While the relevant wholesale fixed analogue exchange line market in the Hull Area is much smaller than in the rest of the UK, the assessment of the other SMP criteria as

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[76] Paragraphs 1.1 and 2.9-2.17, Ofcom, *Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 – Call for Inputs*, 9 November 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/summary/condoc.pdf

applied above to BT in the rest of the UK apply equally to KCOM and the Hull Area. This suggests that KCOM would not be constrained in its pricing of this service.

3.151 Overall we consider that KCOM's market share is strong evidence of SMP and that there are no features of the market that would negate the presumption of SMP. Therefore, since we do not envisage material changes in the WFAEL market during the period of this review, we provisionally conclude that KCOM has SMP in the Hull Area.

Provisional conclusion on market power assessment in the Hull Area

3.152 On the basis of the above considerations, we propose to find that KCOM still has SMP in the WFAEL market in the Hull Area.

Consultation question(s)

3.1 Do you agree with our provisional view that, during the period covered by this market review, BT and KCOM will have SMP in the WFAEL markets we define above? Please provide reasons in support of your views.

Section 4

Market definition and SMP analysis: ISDN30

Introduction

4.1 In this section we set out our provisional market definition and our provisional assessment of market power in relation to the provision of ISDN30. The reasoning for carrying out a market definition and market power assessment, including our general approach to doing so, is set out in Annex 6. In approaching our assessment of market definition for the ISDN30 market, we have taken utmost account of the guidance on market definition in the EC SMP Guidelines. As in previous market reviews, the impact of IP based services on ISDN30 is of particular importance.

4.2 This section is structured as follows:

- we summarise the position in the recent market review we concluded in 2010 and subsequent no material change assessment concluded in 2012;
- we summarise responses to the 2012 FAMR Call for Inputs;
- we define the relevant retail markets;
- we define the relevant wholesale markets;
- we explain why our approach to ISDN30 is consistent with the 2007 EC Recommendation; and
- we set out our assessment of wholesale market power.

4.3 In summary, we have provisionally concluded that a narrow market definition based on ISDN30 exchange lines only at both the retail and wholesale levels remains appropriate. IP-based services such as SIP Trunking are growing and becoming increasingly important, but we consider these do not yet pose a sufficiently strong constraint on the supply of ISDN30 to warrant inclusion in the market.

4.4 In our wholesale market power assessments we have provisionally concluded that:

- BT holds SMP in the provision of wholesale ISDN30 exchange line services in the UK excluding the Hull Area; and
- KCOM holds SMP in the provision of wholesale ISDN30 exchange line services in the Hull Area. [77]

[77] In the 2010 ISDN30 Statement, we found the ISDN30 retail market in the UK excluding the Hull Area to be effectively competitive. Consequently, we are not reviewing this market as part of this market review. In the 2010 ISDN30 Statement, we did however find that KCOM has SMP in the ISDN30 retail market in the Hull Area. We consider the provision of retail ISDN30 exchange line services in the Hull Area in Section 6.

Position in the previous market review

4.5 In the 2010 ISDN30 Statement, our conclusions on retail market definition were 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.

4.6 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.

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

- BT's market share was high;
- demand and supply-side substitution was limited;
- BT'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 party resellers.

4.8 In the 2010 ISDN30 Statement we determined that KCOM held 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 among competing CPs to enter the market, possibly due to high barriers to entry.

4.9 In relation to the retail level, we found that no CP had SMP in the retail ISDN30 market in the UK excluding the Hull Area. However, for the Hull Area, we found that KCOM had SMP.

4.10 In the assessment for the 2012 ISDN30 Charge Control Statement, we were satisfied that at that time there had been no material change in the wholesale ISDN30 exchange line services market since Ofcom's market power determination in relation to that market in the 2010 ISDN30 Statement.[78]

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[78] Paragraphs 3.4-3.13, Ofcom, *Wholesale ISDN30 charge control,* 12 April 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/statement/ISDN30_final_statement.pdf.

Summary of responses to 2012 FAMR Call for Inputs

4.11 In the 2012 FAMR Call for Inputs, we summarised the conclusions from the 2010 ISDN30 Statement and asked the following question.[79]

> *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.*

4.12 Overall, the majority of responses to the 2012 FAMR Call for Inputs suggest that the market has not changed significantly since the last review:

- EE was not aware of any significant changes since the last review, or any expectation of developments in the next three years which would require Ofcom to alter its existing ISDN30 market definition or SMP finding;
- Virgin stated that the market for ISDN30 had been reviewed recently and therefore the current market definition and SMP finding made an appropriate starting point;
- Verizon Enterprise Solutions ('Verizon') considered that market dynamics had not changed materially since the last review, and that BT still had SMP. It noted that despite the growing popularity of NGA services, which it expected to have some impact on ISDN30 services, there would remain a significant demand for ISDN30 over the forward look period of this review; and
- Vodafone stated that at this point in time there were no clear reasons to alter the existing market definition and SMP assessment for ISDN30, but that the product was rapidly approaching the end of its life and Ofcom needed to bear this in mind before considering what remedies may be appropriate.

4.13 BT considered that ISDN30 was under strong competitive pressure from relatively new services, most notably IP-based services such as SIP Trunking, but also Hosted VoIP. It stated that indications were that ISDN30 volumes were declining, and that this was likely to continue and accelerate in the future. BT noted that there was likely to be a period of transition where firms 'tested the waters' with a new technology before fully implementing it. Once confidence grew that IP voice services were technically a good alternative to ISDN30 and offer financial savings, then there was likely to be a sharper decline in ISDN30 volumes and rapid growth in the volumes of substitute products. BT cited independent analysis by Illume Research which indicated substantial growth (72%, or from 331,000 to 570,000) in the number of SIP Trunks over the period June 2011 to June 2012.[80] BT considered that it faced strong competition both at the retail and wholesale level, noting that Vodafone and Virgin both had substantial wholesale ISDN30 businesses. BT said that Ofcom should fully review both its market definition and market power findings for ISDN30 drawing on a range of up to date evidence.

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[79] Paragraphs 2.18-2.22, Ofcom, *Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 – call for inputs,* 9 November 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/summary/condoc.pdf.
[80] www.matttownend/wordpress.com/tag/sip-trunking/.

4.14 KCOM stated there had been significant developments in the Hull Area with a new entrant (MS3) currently deploying a network in Hull. It said MS3 would provide direct infrastructure based competition to KCOM and was likely to do so in a relatively short time frame given the limited geographic area to be covered. KCOM said that it expected the availability of alternative access infrastructure to have an impact on the ISDN30 market, and this should be considered by Ofcom when assessing SMP.

4.15 We deal with the points raised in response to the 2012 FAMR Call for Inputs where relevant in our analysis of market definition and market power below.

Retail market definition

4.16 We define the retail market at this stage for the purposes of informing our analysis of indirect constraints when defining the wholesale market. In addition, the retail market discussion set out below provides a frame of reference for the assessment of the retail market for ISDN30 in the Hull area, which is discussed in Section 6.

Product market definition

4.17 As the starting point for the product market definition exercise, we have taken ISDN30 as the focal product. This is consistent with the approach adopted in the 2010 ISDN30 Statement. Taking this focal product at the retail level is consistent with the focal product we use at the wholesale level (see paragraph 4.77 below). Looking at both the demand- and supply-side, we have then considered whether the retail price of ISDN30 is constrained by a variety of potential substitutes.

4.18 The potential substitutes we have identified at the retail level for ISDN30 exchange line services are as follows:

- analogue exchange lines;
- ISDN2;
- leased lines; and
- IP-based services.

4.19 We consider these potential substitutes in turn below, first considering them on the demand side. We then consider the potential for price discrimination, in particular targeting any price rises at ISDN30 consumers that are unlikely to switch. We also discuss the potential for supply-side substitution looking, amongst other things, at the functionality and technical characteristics of these various services, before setting out our provisional conclusions. We have particularly focused on the scope for IP-based services to constrain ISDN30 prices, consistent with our understanding of the market developments and with responses to the 2012 FAMR Call for Inputs.

Assessment of demand-side substitutability: analogue exchange lines and ISDN2

4.20 We consider that analogue exchange lines and ISDN2 are unlikely to constrain ISDN30 prices, consistent with our findings in previous reviews.[81]

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[81] Paragraphs 4.20 to 4.25, *Review of retail and wholesale ISDN30 markets – consultation*, 4 May 2010 www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30/summary/isbn30.pdf. See also paragraph 4.12,

4.21 The characteristics of ISDN2 and analogue exchange lines significantly differ from those of ISDN30:

- An analogue exchange line provides a single analogue channel that can support traditional telephony, facsimile and modem data traffic, without guarantees on data throughput (speed).

- ISDN2 is a narrowband access service operating over an analogue exchange line that was designed to provide two digital 64kbit/s channels supporting traditional telephony, facsimile and data with guaranteed transmission rate (speed).

- In contrast, ISDN30 is an access service designed to cater for larger business sites. ISDN30 supports up to 30 narrowband 64kbit/s channels and is used most commonly to provide multiple telephone lines to private branch exchanges ('PBXs'). It is generally accepted that the entry level for ISDN30 is 8 channels, and charges are set generally on a per channel basis above this level.[82] ISDN30 (and ISDN2) also supports a wider range of supplementary services than analogue lines, for example Digital Select Services and Direct Dial In ('DDI').

4.22 In the light of these functional differences, we consider that substitution to analogue exchange lines or ISDN2 would not prevent a hypothetical monopolist raising the retail price of ISDN30 above the competitive level by a small but significant amount:

- A significant level of substitution to analogue exchange lines is unlikely because the retail price of ISDN30 (on a per channel basis) and analogue exchange lines are similar, yet ISDN offers extra functionalities, such as Digital Select Services and DDI.[83]

- A significant level of substitution to ISDN2 is unlikely because ISDN2 services are designed to cater for smaller business sites. Single line ISDN2 services provide two channels and therefore an ISDN30 customer with 30 channels would require fifteen ISDN2 lines in order to replace its ISDN30 service. However it is not cost-effective for a customer requiring more than eight channels to substitute an ISDN30 service for an ISDN2 service.[84] In September 2011 [✂] and [✂] informed us that on average their customers utilised 28-30 ISDN30 channels per partial private circuit ('PPC') bearer.[85] In other words, ISDN30 customers typically utilise almost the maximum available number of channels for each ISDN30 exchange line. This suggests that the number of customers that may find it cost-effective to substitute between ISDN30 and ISDN2 is unlikely to be large enough to act as a competitive constraint on the price of ISDN30.

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

[82] www.openreach.co.uk/orpg/home/products/pricing/loadProductPriceDetails.do?data=WH17ucyC%2Fv7E1PoECWJLs3T0E4HidA8NS2h%2Bn9f3uuQlMnGHsqdC0vzO163bJmh34D91D7M0q8u%2F%0AIlSgtIFAKw%3D%3D.

[83] As of 19 June 2013, BT Retail charged £20.04 excl. VAT per channel per month for ISDN30, and £18.05 excl. VAT per month for a standard business phone line. ISDN30 price taken from www.business.bt.com/phone-services/isdn/pricing/ and standard business line price taken from www.business.bt.com/phone-services/business-phone-lines/.

[84] BT Retail currently is pricing basic ISDN2 at £20.43 excl. VAT per channel per month (on a 1 year contract) and ISDN30 (without DDI quota) at £20.04 excl. VAT per channel per month (on a 1 year contract). ISDN2 requires a minimum of 2 channels, and ISDN30 requires a minimum of 8 channels. Prices correct as of 11th June 2013, see www.business.bt.com/phone-services/isdn/pricing/.

[85] [✂]

Assessment of demand-side substitutability: Leased Lines

4.23 An ISDN30 service can be considered to consist of two components – a bearer service that connects the customer premise to the exchange, and the call control/ switching functions provided by the exchange. In contrast, a leased line only consists of the bearer service and would require additional equipment to gain the functionality of ISDN30 services. As a result we do not consider leased lines are likely to constrain retail ISDN30 prices from a demand-side perspective (we discuss supply-side substitution below).[86]

Assessment of demand-side substitutability: IP services

4.24 IP-based telephony services are services for the exchange of information primarily in the form of speech that utilises the Internet Protocol (IP). In considering the potential to constrain ISDN30 prices, we discuss two main types of IP based technologies:

- Hosted VoIP/IP Centrex; and
- SIP Trunking.

4.25 A number of responses to the 2012 FAMR Call for Inputs mentioned IP-based services as alternatives to ISDN30. BT in particular specified both VoIP Trunking and Hosted VoIP/IP Centrex as potential substitutes. Our assessment of the extent to which IP services constrain the price of ISDN30 is structured as follows.

4.26 First, we set out some background evidence in relation to ISDN30 and IP services:

- description of IP services;
- 2010 survey evidence;
- historic volume trends for ISDN30 and IP services; and
- main drivers of the trends in volumes.

4.27 Second, we discuss the three main barriers to switching from ISDN30 to IP-based services that we have identified, based on information from end users and our understanding of the market:[87]

- costs of switching;
- concerns about quality and reliability; and
- functionality differences and standards.

4.28 Finally we set out our provisional conclusions.

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[86] This is consistent with our findings in earlier reviews, see paragraphs 4.28-4.30 of Ofcom, *Review of retail and wholesale ISDN30 markets – consultation*, 4 May 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30/summary/isbn30.pdf. See also paragraph 4.12, *Wholesale ISDN30 charge control*, 12 April 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/statement/ISDN30_final_statement.pdf.

[87] In the 2010 ISDN30 Consultation, we noted that the majority (86% of those surveyed) of ISDN30 users were aware of IP-based services. This is likely to have grown since then so we consider that a lack of awareness is unlikely to be a barrier to switching.

Description of IP services

4.29 IP Centrex, also known as Hosted VoIP, is an IP-based exchange line service that includes the functionality of a PBX within the CP's network rather than at the consumer's premises. This enables businesses to have the call management features of a PBX such as extension numbering and inter-extension calling without the need to purchase or operate a PBX. It is generally used to describe services provided to small sites that are accessed via an ordinary broadband internet connection.

4.30 The key functional difference between Hosted VoIP services and ISDN30 (and SIP Trunking) is that, in addition to the exchange line functionality, Hosted VoIP services incorporate the functionality of a PBX. This reduces the capital expenditure for any company wishing to take up a multi-user telephony service. However, lack of an onsite PBX may be unattractive for some companies because it means user control is further from the customer site and some companies may have concerns over security. Hosted VoIP would therefore only be a substitute for ISDN30 for businesses that are prepared to use a managed network based service for PBX functionality as an alternative to an onsite PBX.

4.31 SIP Trunking is a communications service that uses the SIP protocol for voice and data transmissions. SIP Trunking services are generally multi-line services that are used to provide exchange line services to modern IP PBXs that support this type of interface.

4.32 As SIP Trunking uses a PBX based at the customer site, it is a closer functional substitute for ISDN30 than Hosted VoIP services, which do not involve a PBX at the consumer's premises (as discussed above). For companies that want an on-site PBX (for example to retain greater user control or for security reasons), SIP Trunking could be used to replace ISDN30 in a way that Hosted VoIP could not.

4.33 In practice, the dividing line between ISDN30 and SIP Trunking may not be clear cut since some CPs (such as TalkTalk) are now offering an alternative to ISDN30 which supports IP telephony.[88] We consider this service differs from a traditional ISDN30 exchange line service as it requires a gateway to be used in order for a traditional PBX to communicate with TalkTalk's fibre network (the trunk side is based on SIP Trunks over Ethernet First Mile ('EFM')). Therefore we treat this in the same way as IP-based services in our analysis.

2010 survey evidence

4.34 As part of the analysis for the 2010 ISDN30 Statement, we conducted a survey of ISDN30 and IP-based services users (the 2010 ISDN30 Survey).[89] The purpose of this survey was to assess why businesses use ISDN30 services, gauge how much longer they are likely to continue to use ISDN30 services, explore whether IP technologies are regarded as a valid substitute for ISDN30 services and understand the experience of businesses which have already migrated from ISDN30 to IP-based services. We placed significant weight on the results of the 2010 ISDN30 Survey in our conclusions on market definition in 2010. In its response to the 2012 FAMR Call for Inputs, BT said that we should fully review the ISDN30 market, drawing on up to

[88] www.talktalkbusiness.co.uk/test/isdn30
[89] Ofcom, *Narrowband Multi-channels Market Research*, 4 May 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30/narrowband.pdf.

date sources of evidence. In contrast, other respondents indicated that the market had not changed significantly since our last review.

4.35 In the light of these responses to the 2012 FAMR Call for Inputs, we have considered whether it is necessary to conduct a new, full survey of ISDN30 and IP-based users. To help us determine whether a new survey was necessary, we contacted a small number (40) of businesses using ISDN30 and IP-based services and asked a small number of questions focusing on the important characteristics of these services and on users' preferences over switching. We received 12 responses, predominantly from larger users of these services – respondents included major financial institutions and a large public sector organisation. While we do not seek to use these responses as a representative and statistically robust survey, they nonetheless provides an indication of whether the results of the 2010 ISDN30 Survey are still likely to be valid. For example, if the businesses we contacted in 2013 had given a substantially different result to respondents to the 2010 survey then this might have suggested that a new full survey was appropriate. Moreover, we are able to rely on up to date information on actual choices made by businesses (see discussion below on the actual volumes).

4.36 The businesses we contacted raised broadly similar points to the 2010 ISDN30 Survey. For example:

- SIP Trunking and Hosted VoIP were the most cited alternatives to ISDN30;
- ISDN30 users continue to value ISDN30 for its reliability and quality of service, but they do not currently rate IP-based services as highly for reliability or resilience; and
- reduced costs are a key consideration in a decision to switch to IP-based services, but there are several other important characteristics of the services which are also taken into account.

4.37 We thus consider that it is appropriate to continue to rely on the results of the 2010 ISDN30 Survey, since they are likely to remain broadly accurate. We also note that in response to the 2012 FAMR Call for Inputs we did not receive any strong evidence from stakeholders to suggest that things had changed dramatically since the review in 2010. While BT's response stated that Ofcom should consider market definition taking into account the growth of IP-based services, it did not explicitly state that such service should be included within the same market as ISDN30. We asked BT for any reports or customer survey evidence which it had gathered in relation to ISDN30 customers switching to IP-based services in the past 6 months under our statutory information powers; BT informed us that it had no such evidence.

Volume trends for ISDN30 and IP services

4.38 Over the last few years there has been a trend away from ISDN30 towards IP services and towards SIP Trunking in particular. However, the decline in ISDN30 has been very gradual as shown by the graph in Figure 4.1 below.[90] Over the 27 month period shown, volumes declined by approximately 6% (this is equivalent to an annual decline of just around 2.5%).[91]

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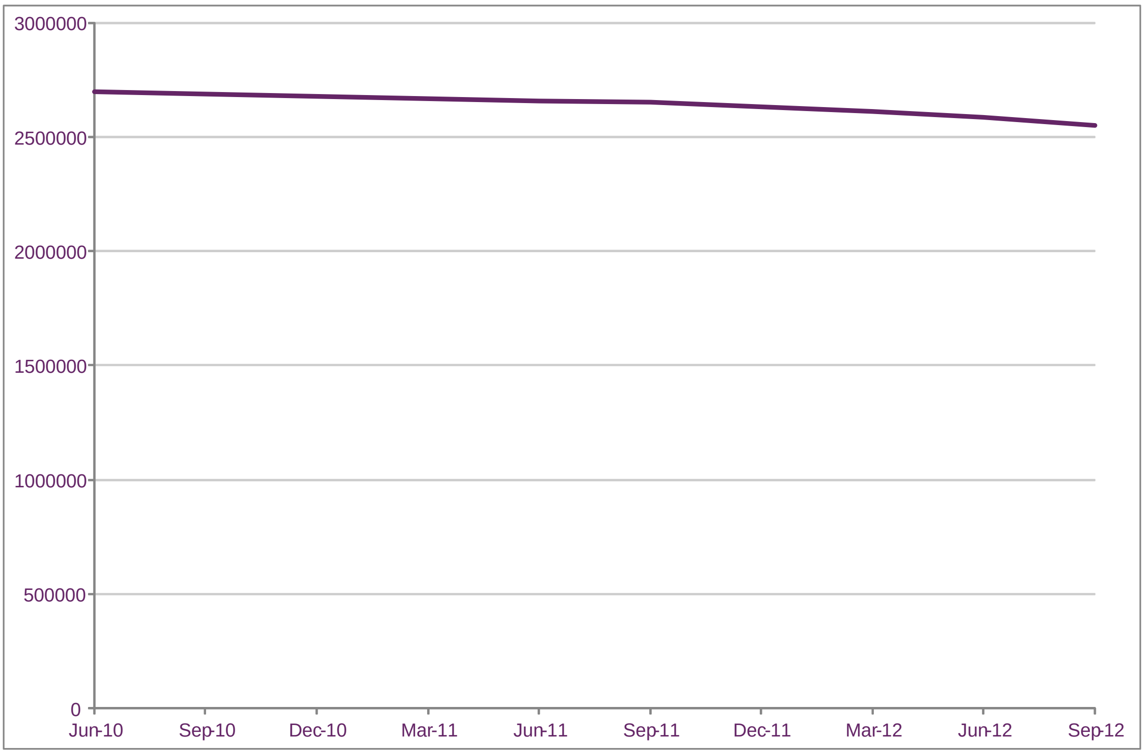
[90] We produced this chart by summing wholesale ISDN30 volumes from BT, Vodafone, TalkTalk, Verizon and Virgin. We believe that these CPs are likely to account for the vast majority of wholesale ISDN30 volumes. We have noted an adjustment we have made to this chart in footnote 84 below in response to a discontinuity

Figure 4.1: Wholesale ISDN30 volumes (channels)



Source: Responses to s.135 notice of 26 November 2012 from BT, Vodafone, TalkTalk, Verizon and Virgin

4.39 We asked CPs to provide us with forecasts of ISDN30 volumes covering the period of this market review. These forecasts suggest that the decline in ISDN30 volumes is expected to accelerate over the review period (an average annual decline of 8%) – see Figure 4.2 below.[92] However even this accelerated rate of decline would still mean that a significant ISDN30 user base will remain at the end of the period under review (approximately 1.8m channels).

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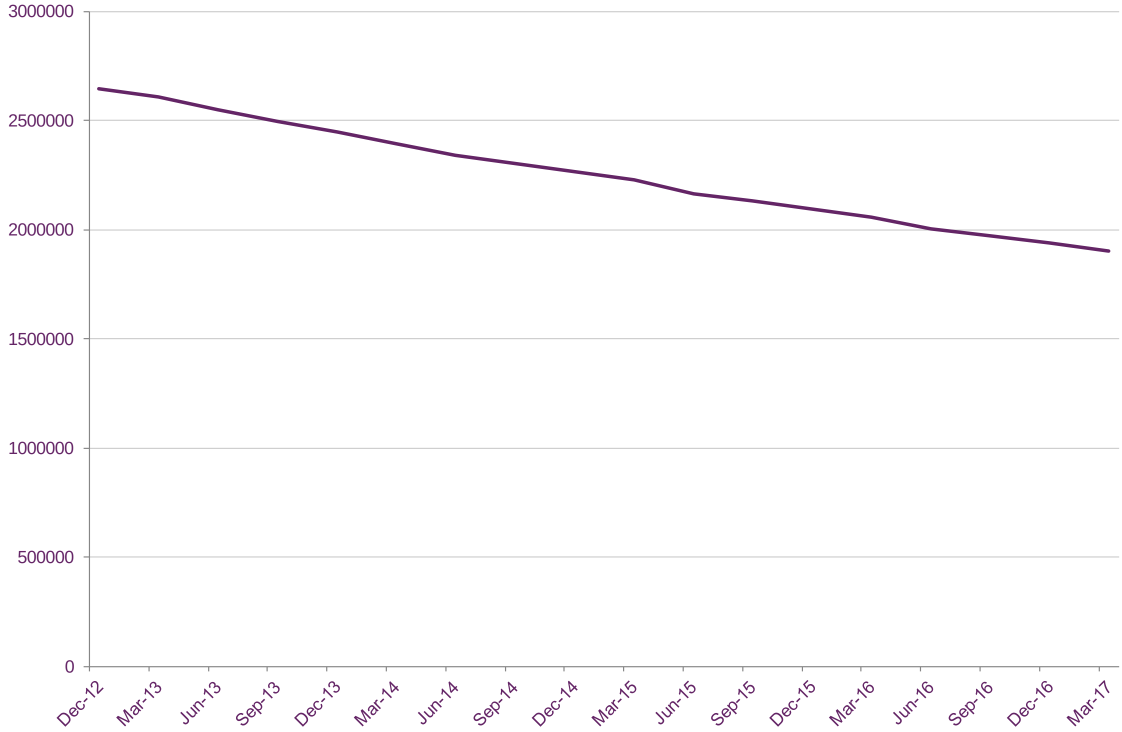
identified in one CP's volume data. We also had some concerns over the accuracy of the data submitted by one CP [✂] – the ISDN30 volumes it submitted for the purposes of this review were of a different order of magnitude to those that same CP submitted for the 2012 Charge Control Statement. We attempted to address this issue with the CP, but our concerns remain and so we have decided to exclude the volumes submitted by this CP. We do not consider this to significantly affect the inferences we draw from the data as this CP only comprised a small proportion of the market. We do not present volumes from before June 2010 because, when gathering ISDN30 data for the 2012 ISDN30 Price Control Statement, we were informed by a large CP [✂] that volumes prior to this date were not comparable with those after (See note to Table A5.2 in Annex 5 of Ofcom, *Wholesale ISDN30 charge control*, 12 April 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/statement/ISDN30_final_statement.pdf). Hence we consider volumes post June 2010 to be the most reliable.

[91] One CP [✂] identified an error near the end of 2011 in their system for recording service volumes, which meant that volumes were not being reported correctly for a time. This was thought to have occurred at some point after June 2010 and was calculated to have resulted in the omission of approximately [✂] channels. These channels were subsequently included in the volume data for September 2011, but this addition of a large number of volumes caused an apparent discontinuity in the data at September 2011. To rectify this, we have presented the volumes which we are most confident are accurate given what we have been told by the CP in question about the nature of the discontinuity identified – June 2010, and September 2011 onwards. Between June 2010 and September 2011 we assume a linear decline. This seems reasonable since the [✂] channel discrepancy is believed to have occurred between these two dates, but neither Ofcom nor [✂] know precisely when. Again, we do not consider this has any material effect on the inferences we draw from the data.

[92] We produced this chart by summing forecasts of wholesale ISDN30 volumes from BT, Vodafone, TalkTalk, Verizon and Virgin.

Figure 4.2: Forecast wholesale ISDN30 volumes (channels)



Source: Responses to s.135 notice of 26 November 2012 from BT, Vodafone, TalkTalk, Verizon and Virgin.

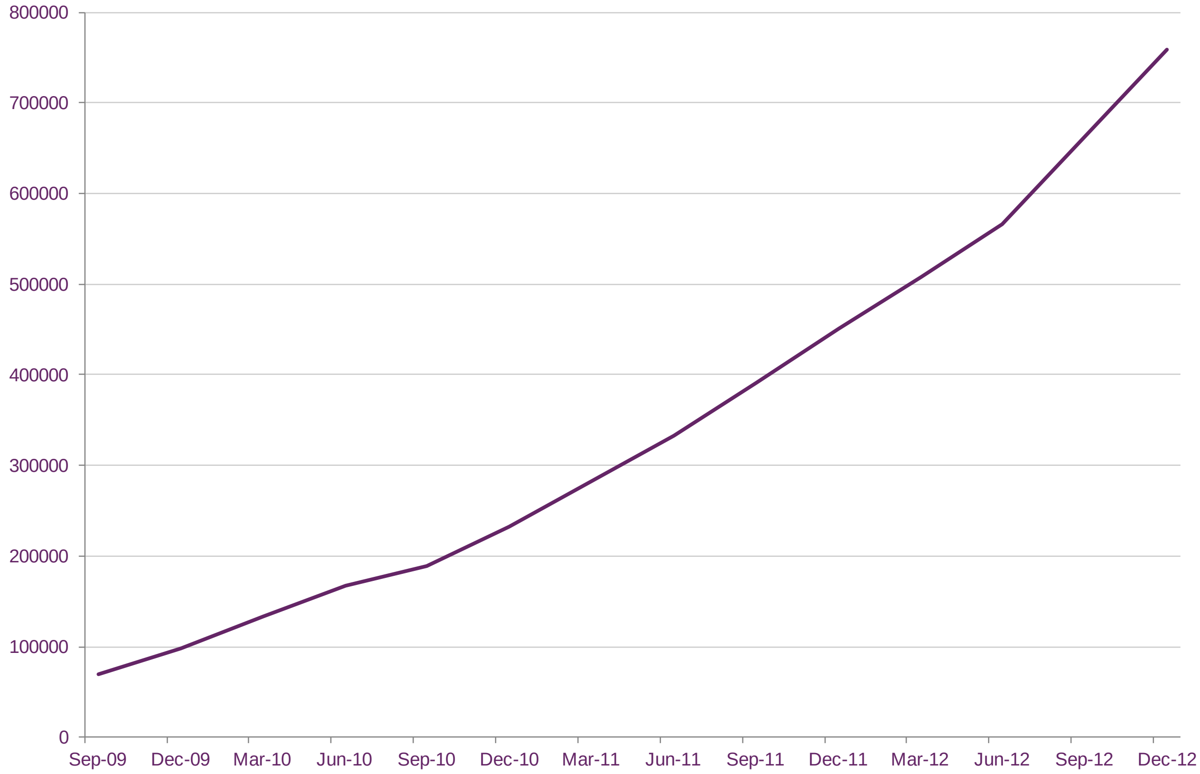
4.40 We have treated the forecast volumes shown in Figure 4.2 with caution, given the likely difficulties in estimating the rate at which customers are switching away from ISDN30 services. These difficulties are illustrated by the experience over the last few years. As part of the 2010 ISDN30 market review we asked BT (the largest wholesale ISDN30 provider) for forecasts of its ISDN30 volumes. In 2009 BT forecast that its ISDN30 volumes would decline by 28% over the 27 month period shown in Figure 4.2 above.[93] This is much greater than both the 6% decline in total ISDN30 volumes and the 4% decline in BT's wholesale volumes that actually occurred over this period.

4.41 In its response to the 2012 FAMR Call for Inputs, BT referred to figures from Illume Research on the growth of SIP Trunks. In Figure 4.3 and Figure 4.4 below we present evidence of the growth in IP volumes, also provided by Illume Research.[94] Both SIP/IP Trunking and Hosted VoIP have shown strong growth over the past 3-4 years, albeit from a fairly low starting base. We also note that for both SIP/IP Trunking and Hosted VoIP the total volume of channels remains relatively low in comparison to that of ISDN30.

[93] BT response to s.135 notice of 20 November 2009.

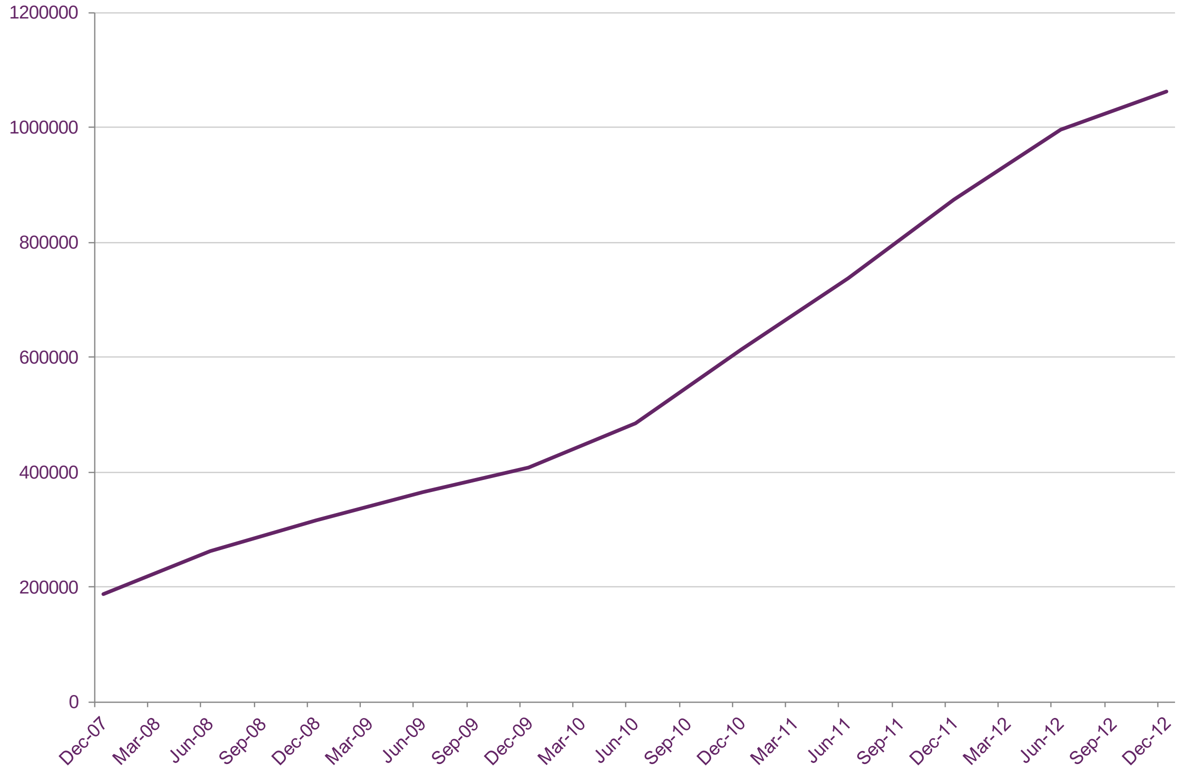
[94] Illume Research told us that their dataset consists of all IP Trunks including SIP (accounting for the majority of IP Trunks), IAX and H.323. We refer to the Illume Research report for an understanding of the broad growth trends of IP-based services, and use their data to assess an upper bound for the extent of the constraint that IP services may exert as part of our SMP assessment.

Figure 4.3: SIP/IP Trunk volumes



Source: Illume Research

Figure 4.4: Hosted VoIP volumes



Source: Illume Research

4.42 We have compared the trends in wholesale ISDN2 and ISDN30 volumes against the trends in SIP/IP Trunk Volumes and Hosted VoIP volumes.[95] Considering ISDN services as a whole, the growth in IP-based services in absolute terms is still greater than total ISDN decline. Over the 27 month period from June 2010 to September 2012, SIP/IP Trunk volumes grew by approximately 600,000 trunks, Hosted VoIP volumes grew by approximately 575,000 (units are equivalent to 1 ISDN channel) – roughly 1.2 million in total. In comparison ISDN30 volumes declined by about 180,000 and ISDN2 volumes declined by about 110,000 – only around 290,000 channels in total.[96] This may be as a result of transitional dual running of services and growth in other uses of IP-based services. This disparity in rates of growth and decline of the respective services suggests that there is not a one to one relationship, and therefore we cannot assume that the growth of IP is purely as a result of switching behaviour of ISDN customers.

4.43 We collected IP-based services volume data from five providers of wholesale ISDN30 and note that they forecast continuing strong growth during the period of this market review.[97] However, we have not aggregated the volume data from these five providers in order to forecast overall growth in IP-based services. This is because there are a large number of other providers of IP based services and the market is much more fragmented than that of ISDN30, with 50+ providers of IP Trunking services currently operating.[98]

4.44 In summary, ISDN30 volumes are in gradual decline and while this decline is likely to continue, there is uncertainty about the rate. In contrast, IP-based services are growing. We discuss below the drivers behind these trends.

Main drivers of the trends in volumes

4.45 In this section we describe the potential drivers of the trend identified above, highlighting what may be the reasons for the relatively slow switching to IP-based services. We then go on to describe the barriers to switching in more detail.

4.46 IP services are generally promoted as a cheaper alternative to ISDN30, at least in terms of the ongoing costs.

4.47 The costs of switching to IP services vary between the types of service and are dependent on the functionality of the customers' current equipment. Costs will differ between a Hosted VoIP service, where no PBX is required, and SIP Trunking services where users must have an IP enabled PBX (IP-PBX). However, Illume Research noted that for most of the PBX packages offered on the market, 40-50% of the cost of the package was comprised of the cost of the IP handsets.[99] As IP handsets are required for all IP-based services this cost would apply to both Hosted VoIP and SIP Trunking, with the remaining 50-60% of the package cost (actual PBX unit cost) applying only to SIP Trunking. The consequence of this is that even though

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[95] We have included ISDN2 volumes in this comparison as IP-based services are also considered to be the most likely alternative service for a business considering switching away from ISDN2. As a result we expect that growth in IP volumes will be contributed to by both ISDN2 and ISDN30 users switching to IP-based services.
[96] Wholesale ISDN30 channel volumes received by BT, Vodafone, TalkTalk, Verizon and Virgin in response to the s.135 notice of 26 November 2012. Wholesale ISDN2 channel volumes received from BT in response to the s.135 notice of 26 November 2012. SIP/IP Trunk and Hosted VoIP Volumes were provided by Illume Research in March 2013.
[97] Responses from BT, Vodafone, TalkTalk, Verizon and Virgin to the s.135 notice of 26 November 2012.
[98] Illume Research, *SIP/IP Trunking Market Report & Forecast 2012*, 8 August 2012.
[99] Ibid.

Hosted VoIP requires less equipment, there is still a not insignificant amount of expenditure required if a customer switches from ISDN30.

4.48 However, costs are unlikely to be the only consideration in a decision to switch. The end users we contacted suggested that while reduced costs are an important reason for switching, several other factors also feature highly in the decision. These relate to service flexibility, reliability, resilience, security and functionality.

4.49 The main benefit of a Hosted IP service is the same as for IP-based services more generally – IP services are much more flexible than a traditional ISDN30 line. For example, the bandwidth used by an IP service can be switched between various uses very quickly and easily. A common requirement for some business is to sacrifice some data capacity in order to support more voice lines. This means additional uses can be added in minutes, rather than the more complicated process which would be required to do the same with an ISDN30 line.

4.50 Like Hosted VoIP services, SIP Trunking has benefits in comparison to ISDN30, especially in terms of greater flexibility. CPs have promoted the benefits of additional flexibility in terms of scalability and numbering configuration compared to ISDN30. Trunk aggregation also enables a customer to reduce the number of channels required for a given traffic level. In some cases firms may already have spare capacity on their data service, so additional voice channels can be added quickly and without additional cost.

4.51 Most respondents to the end-user questionnaire conducted for this review who were considering switching to IP-based services from ISDN30 were planning to do so in either the 1-3 years or 3+ years timeframe (rather than within a period of less than a year). This suggests that we should be cautious about inferring that switching to IP services is imminent and likely. Those respondents that had already switched had only done so recently (within the last 6-12 months). This highlights that although IP-based services have been in existence for a while, it is only more recently that firms have begun to adopt them.

Costs of switching to IP services

4.52 As we noted in our 2010 ISDN30 Statement, SIP Trunking services are generally promoted as a cheaper alternative to ISDN30. Most of the end users we contacted supported the view that consumers see the reduced cost of IP services as an incentive to switch. However the business case for switching depends in part on the size of the upfront costs of switching (such as new equipment, training for technical employees), as well as any ongoing cost savings associated with running an IP-based service.

4.53 The financial business case for switching can be dependent on a firm's technological lifecycle and is 'event driven' to some extent, in the sense of it being economic to upgrade to IP services when current equipment is changed. Illume Research noted in its report on SIP/IP Trunking that the working lifecycle of a PBX can be up to 11 years (although the average is closer to 7 years). This suggests that the business case for switching could become stronger for businesses with older equipment. In the 2010 ISDN30 Consultation we found that a significant minority of users surveyed did not have an IP enabled PBX, and that users tended to replace their PBXs *less than* every 5 years.[100] However, gateways can provide an intermediate step for users who

[100] Paragraphs 4.41-4.59, Ofcom, *Price controls for wholesale ISDN30 services:*

currently do not own an IP-enabled PBX, as these allow traditional (not IP-enabled) PBX to communicate with an IP network.[101] There is an additional cost of gateways, so this upgrade path would not be without capital expenditure.

4.54 It is plausible that the costs of switching to an IP based service are falling over time. We note that Illume Research stated in its report on SIP/IP Trunking that penetration of IP-PBX has been strong for large enterprise customers, but a lot slower for small and medium sized enterprises (although this trend is changing).[102]

4.55 Our end-user questionnaire highlighted that while a number of the drivers for switching were generic across businesses, in many cases there were also business-specific reasons. For example:

- [✂] noted that it switched to IP-based services as it had a number of [✂] sites for which the cost was favourable. It then established a commercial deal in combination with its existing sites such that it was still lower cost in total to switch to IP; and

- a government organisation [✂] stated that the most significant practical issue to switching was the short term cost and impact of significant change to existing infrastructure. It noted that its current industry partner recognised this and proposed IP-based services for new sites, buildings or complete refurbishments.

Concerns about quality and reliability of IP services

4.56 As well as cost, another key consideration for consumers is reliability and quality of service. This is consistent with what the consumers of ISDN30 and IP services told us for this review, and also with the 2010 ISDN30 Survey. In particular, a government organisation [✂] responded saying all characteristics listed were important[103], but that security, reliability and price were most important. We asked the ISDN30 end users we contacted how they perceived IP-services relative to ISDN30 in terms of a number of characteristics. Overall, respondents considered ISDN30 superior to IP services for both reliability and resilience. However IP services were rated superior for quality of service.

4.57 Some consumers use both ISDN30 and IP services in combination. This may be due to a number of reasons, including additional functionality, concerns over reliability/resilience and/or as part of a transition period to IP based services. The responses we received from the end users we contacted suggested that the main reason for this ‘dual running’ was for resilience. In the 2010 ISDN30 Survey, 41% of users who had migrated to IP services retained at least some of their ISDN30 services (either as a supplementary or backup service). This compared to 13% of ISDN30 users who also used IP services.[104] The 2010 ISDN30 Survey also noted that of those users who had trialled IP services, less than half had proceeded with

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Consultation of the form and level of price controls on Openreach wholesale ISDN30 services, 22 December 2011, www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf.

[101] A gateway is a node that allows entrance into a network.

[102] Illume Research, *SIP/IP Trunking Market Report & Forecast 2012*, 8 August 2012.

[103] Our latest end-user questionnaire had multiple choice questions; under the question relating to important characteristics we listed the following options: “Quality of service”, “reliability”, “resilience”, “security”, “price”, “functionality” and “other (please specify)”.

[104] Paragraph 4.45, Ofcom, *Review of retail and wholesale ISDN30 markets – consultation*, 4 May 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30/summary/isbn30.pdf.

implementing the service, and about a third mentioned quality of service and reliability issues.[105]

4.58 We understand that the concerns about reliability of IP services may have stemmed from a lack of low cost, high quality access capacity for these services. This has meant that firms may have used IP-based services in the past which used bearer capacity without Quality of Service ('QoS') guarantees, and this has lead to concerns over reliability. This is particularly likely to have been the case for smaller business users which may have used a digital subscriber line ('DSL') as the bearer, whereas larger businesses might have less concern due to use of leased lines which already feature stringent QoS guarantees. However, our understanding is that the introduction of EFM and FTTC may be reducing these concerns as these offer low cost access with improved service quality guarantees.[106]

Functionality differences and standards

4.59 Other key factors affecting take-up of Hosted VoIP services have tended to involve numbering and porting. We understand that this is predominately a result of a large number of Hosted VoIP providers having yet to establish the agreements, processes and systems to enable porting of numbers.[107]

4.60 Furthermore, the coexistence of multiple VoIP communications protocols, some of which are standards based (e.g. IETF's SIP, ITU's H.323) and others being proprietary (e.g. IAX2), means that not all equipment is interoperable. As a result, users may be worried they might in the future be forced to upgrade equipment before the end of its lifecycle and this may dissuade some users from switching to IP.

Provisional conclusion on IP services

4.61 Based on the evidence set out above in paragraphs 4.38-4.44 we recognise that IP-based services are growing and all expectations are that this growth will continue during the period of the review. However current evidence suggests that, while functionally IP services can offer almost the same features as ISDN30 (and in some cases additional features), there remain barriers to switching for many ISDN30 users. Firms that do not need to replace their current equipment in the near future incur an additional cost of switching to IP services. Concerns over reliability and quality of services, which while reducing over time, still appear to remain.

4.62 We also note that the volume decline in ISDN30 has not been that significant in the period since the last review. While further decline is forecast, we consider the rate at which ISDN30 will decline is uncertain. We consider that this uncertainty is highlighted by the extent to which BT overestimated the rate at which ISDN30 would decline when we reviewed this market for the 2010 ISDN30 Statement. Moreover, CPs predict a substantial user base will still remain on ISDN30 at the end of the current market review period.

4.63 Therefore, while we accept that there is a degree of substitutability with IP services and that this may be increasing over time, we do not consider that the constraint from IP services is likely to be sufficiently strong within the forward-look period of this

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[105] Paragraph 4.52, Ibid.
[106] Illume Research confirmed that this was the case on 18 June 2013.
[107] Illume Research, *Hosted VoIP Report & Forecast 2012*, 20 August 2012.

review to warrant the inclusion of these services within the relevant market from a demand-side perspective.

The potential for price discrimination

4.64 BT is currently required to provide wholesale ISDN30 access at a regulated price. This means that if BT Retail charged higher retail ISDN30 prices to consumers who are not well placed to switch to IP services, it could be undermined by those consumers switching to other ISDN30 retailers (who buy ISDN30 at the wholesale level from BT).

4.65 However, absent regulation at the wholesale level, it is likely that BT would not choose to provide wholesale products on reasonable terms.[108] Although Vodafone and Virgin could retail ISDN30 services on their networks, many of the other retailers that currently rely on access to BT's network might either be absent or less able to compete against BT Retail's pricing. Thus, absent regulation at the wholesale level, BT Retail is likely to find it more feasible to price discriminate between its ISDN30 customers. In particular, it could increase prices for those consumers who were unlikely or unable to switch, and offer reduced prices to those considering switching to alternative technologies. Such retail price discrimination likely mitigates the extent to which consumers switch to alternative products. In particular, it seems plausible that BT – as a longstanding ISDN30 provider – has sufficient knowledge of its customer base to engage in such activity.

Assessment of supply-side substitution

4.66 We do not consider that supply-side substitution would prevent a hypothetical monopolist of retail ISDN30 services from profitably increasing its retail prices by a small but significant amount:

- it would be possible for CPs providing analogue exchange lines, ISDN2, services over LLU or leased lines to upgrade their networks to offer ISDN30 services. However, this would require significant sunk investment to provide the necessary functionality and to undertake the necessary updates to operational support systems. Given that the ISDN30 market is forecast to decline, such investments are unlikely to be economic given the limited time period over which sunk costs could be recovered, and the fact that adding to capacity in a market forecast to decline is likely to lead to a fall in the retail prices over the period of the investment; and

- as discussed above, IP-based services such as SIP Trunking are being offered by CPs as alternatives to ISDN30. It seems likely that CPs would concentrate their efforts on promoting their IP-based services as alternatives to ISDN30 rather than to provide ISDN30 services (particularly as IP-based alternatives are seen as the successor product to ISDN30).

[108] This scenario is relevant to the issue of wholesale market definition (as explained in Annex 8, the extent of substitutability at the retail level determines the extent of indirect constraints). When defining wholesale ISDN30 markets it is appropriate to consider the position absent the presence of SMP remedies at the wholesale level (this reflects the application of the modified Greenfield approach, which is described in Annex 8).

Provisional conclusion on retail product market definition

4.67 Our provisional view is that, for the period of this market review, a narrow market definition based on ISDN30 only is still appropriate. In particular, as explained above, we consider that ISDN2, analogue exchange lines and leased lines are unlikely to be close substitutes on either the demand-side or supply-side for ISDN30. Supply-side substitutability is unlikely to exert a significant constraint. We believe that there is a degree of substitutability with IP services and that this is likely to increase over time but do not consider that it is sufficiently strong to warrant the inclusion of these services within the relevant market during this market review period.

4.68 The market definition exercise is generally performed assuming prices are at the competitive level. Where actual prices are above that level then the available evidence may overstate the degree of substitutability, since those high prices make alternative products appear more attractive. This is explained further in Annex 6.

4.69 In May 2012, a price control came into effect to reduce the wholesale ISDN30 price by a significant amount (the main control was RPI-13.5%) by 2013/14. Over the charge control period prices are declining in line with a glide path (in order to most closely approximate the workings of a competitive market, where profits are gradually eroded).[109] This suggests that ISDN30 prices prior to 2013/14 may be elevated[110] and thus evidence prior to this period may therefore *overstate* the degree to which other products are effective substitutes for ISDN30. Put another way, the modest decline in ISDN30 volumes and limited evidence of substitutability that we identify above occurred *despite* ISDN30 prices potentially being above the competitive level during the most recent period.

Geographic market

4.70 In 2010 we found that:

- The Hull Area was distinct from the rest of the UK due to KCOM facing little competition in the supply of ISDN30 (no cable, LLU or WLR). There was no effective demand-side substitution, and supply-side substitution from the rest of the UK was limited by the absence of wholesale access infrastructure.

- In the UK excluding the Hull Area, on the demand-side customers were only able to choose between CPs that operate in their geographic area and we also noted that some CPs offered bespoke pricing. However, BT's prices were uniform across the UK and, given that competitors tended to price relative to BT, this suggested that pricing had a national dimension.

4.71 Therefore we concluded there was a single UK market excluding the Hull Area and a separate Hull Area market.[111]

4.72 We do not consider that market conditions for the supply of ISDN30 have changed significantly across geographic areas since the last review in 2010. Our reasoning in

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[109] Paragraph 3.53, Ofcom, *Wholesale ISDN30 charge control*, 12 April 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/statement/ISDN30_final_statement.pdf.

[110] In the ISDN30 price control prices are reduced to FAC by April 2014 on a glidepath, up until this date the charge set by the cap is above FAC. See Paragraphs 4.30-4.31, Ibid.

[111] Paragraphs 4.68-4.71, *Review of retail and wholesale ISDN30 markets – consultation,* 4 May 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30/summary/isbn30.pdf.

2010 thus continues to be relevant. We did not receive any responses to the 2012 FAMR Call for Inputs to suggest that any other geographic market definitions were appropriate. In our view the Hull Area continues to be distinctive, particularly as BT's network does not cover the Hull Area in the same way that it covers the rest of the UK.

4.73 As a result we consider that the following geographic market definitions still remain appropriate:

- UK excluding the Hull Area; and
- the Hull Area.

Provisional Conclusion on retail market definition

4.74 Our provisional conclusion is that there remain distinct ISDN30 retail markets for the provision of:

- Retail ISDN30 exchange line services in the UK excluding the Hull Area; and
- Retail ISDN30 exchange line services in the Hull Area. [112]

Wholesale market definition

Product market definition

Introduction and summary

4.75 In the 2010 ISDN30 Statement we considered that the relevant wholesale product market was the supply of wholesale ISDN30 exchange line services. IP-based services were considered to be outside the market.

4.76 In this section we define the relevant wholesale product market taking into account any new evidence we have obtained about changes since the last review, and expected changes during the course of this current review period. This assessment is structured as follows:

- first, we describe the focal product;
- second, we consider whether there are any direct demand- or supply-side substitutes to the focal product which should be included in the relevant market;
- third, we consider whether there are indirect competitive constraints that should be included in the relevant market. These arise from the potential for end users to switch to retail products that do not require wholesale ISDN30 exchange lines (e.g. SIP Trunking, Hosted VoIP, and ISDN2); and
- finally we set out our provisional conclusions.

[112] In the 2010 ISDN30 Statement, we found the ISDN30 retail market in the UK excluding the Hull Area to be effectively competitive. Consequently, we are not reviewing this market as part of this market review. We did however find in the 2010 ISDN30 Statement that KCOM has SMP in the ISDN30 retail market in the Hull Area. We consider the provision of retail ISDN30 exchange line services in the Hull Area in Section 6.

Focal product

4.77 In the context of this market review, we are reviewing the overall effectiveness of competition in the supply of wholesale ISDN30 exchange lines on fixed networks. Therefore we take this as the focal product. This focal product includes self supply of wholesale ISDN30 exchange lines by retailers using their own PSTN, cable or fibre network, or using LLU.

Direct competitive constraints

Demand-side substitution

4.78 Other types of exchange lines, such as ISDN2 and IP based technologies, do not provide a direct demand-side substitute as a retailer of ISDN30 exchange lines needs to purchase wholesale ISDN30 inputs in order to supply its ISDN30 retail customers. However switching at the retail level to these services does potentially impose an indirect constraint on prices at the wholesale level. This is considered in the next section.

Supply-side substitution

4.79 To warrant inclusion in the relevant market, supply-side substitution to an alternative product needs to be both technically feasible and economically likely. In principle any form of access network could be upgraded to provide ISDN30 access. However as discussed in the context of the retail market in paragraph 4.66, we do not consider this to be likely. The main reason for this is that it is unlikely to be economically viable to invest in network upgrades when ISDN30 is in decline, reducing the period within which to recover these costs.

Indirect competitive constraints

Inferences from retail market definition

4.80 Wholesale demand for ISDN30 exchange lines is derived from the demand of consumers at the retail level. A rise in the wholesale price of ISDN30 exchange lines would be unprofitable if the resulting rise in retail prices were to lead to sufficient end users of ISDN30 switching to substitute products such as SIP Trunking. In such circumstances it would be appropriate to include such indirect competitive constraints in the definition of the relevant economic market.

4.81 In our assessment of the retail market we accepted that there is a degree of substitutability with IP services and that this may be increasing over time. Nonetheless, we provisionally concluded that other products, including IP-based services, did not provide a sufficient constraint on retail ISDN30 prices to warrant inclusion in the relevant retail market. This suggests that indirect constraints are unlikely to be strong. We also noted the likelihood that, absent regulation at the wholesale level, retail price discrimination would mitigate the extent to which consumers switch to alternative products. This is likely to further weaken any indirect constraints. Accordingly we also consider that they are unlikely to exert a sufficiently strong indirect constraint to warrant inclusion in the relevant wholesale market. There is not likely to be sufficient switching at the retail level, given our analysis of that market, such that wholesale prices are sufficiently constrained.

Provisional conclusion on wholesale product market definition

4.82 In light of the factors discussed above, our provisional view is that, for the period of this market review, a narrow wholesale market definition based on ISDN30 only is still appropriate.

Geographic market definition

4.83 We believe that the same considerations that apply to geographic markets at the retail level also apply at the wholesale level and we therefore propose to find two separate geographic markets:

- the UK excluding the Hull Area; and
- the Hull Area.

Provisional conclusion on market definition

4.84 Our provisional conclusion is that there remains distinct ISDN30 wholesale markets for the provision of:

- ISDN30 exchange line services in the UK excluding the Hull Area; and
- ISDN30 exchange line services in the Hull Area.

Three criteria test for ISDN30

4.85 The ISDN30 market is not listed in the 2007 EC Recommendation as a market in which *ex ante* regulation may be warranted. [113] Therefore, taking utmost account of the 2007 EC Recommendation, we have applied the three criteria test to assess whether *ex ante* regulation is appropriate.

4.86 In relation to the proposed wholesale ISDN30 market for the UK excluding the Hull Area we consider that the three criteria set out in the 2007 EC Recommendation are met:

- **the presence of high and non-transitory barriers to entry:** we consider that significant barriers to entry remain. This is discussed in more detail in our section on barriers to entry and expansion in our analysis of SMP below (paragraphs 4.100-4.103);
- **a market structure which does not tend towards effective competition within the relevant time horizon**: our provisional conclusion is that our proposed market does not display a tendency towards competition. BT has maintained a very high market share over time and are currently pricing at the cap imposed by the charge control. This is discussed in more detail in the discussion on market shares (paragraphs 4.95-4.99) and on prices and profitability (paragraph 4.104) in our SMP assessment; and

[113] EC, *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),* www.ec.europa.eu/information_society/policy/ecomm/doc/library/proposals/rec_markets_en.pdf

- **the insufficiency of competition law alone to adequately address the market failure(s) concerned:** we consider that competition law would not be sufficient to address concerns in this market. As we explain below, we do not believe this market will tend towards competition within the relevant time horizon and therefore *ex ante* regulation is necessary to promote effective competition (particularly downstream).

4.87 Similarly, we consider that, in relation to the proposed wholesale ISDN30 market for the Hull Area, that the three criteria test is met:

- **the presence of high and non-transitory barriers to entry:** as discussed below, we consider that significant barriers to entry remain;

- **a market structure which does not tend towards effective competition within the relevant time horizon:** as discussed below, we provisionally conclude that our proposed market does not display a tendency towards competition. KCOM has virtually a 100% share of the relevant market, barriers to entry and expansion remain substantial and there is no effective countervailing buyer power; and

- **the insufficiency of competition law alone to adequately address the market failure(s) concerned:** we consider that competition law would not be sufficient to address concerns in this market. As we explain below, we do not believe this market will tend towards competition within the relevant time horizon and therefore *ex ante* regulation is necessary to promote effective competition (particularly downstream).

4.88 We therefore are of the view that our proposed market definitions satisfy the criteria set out in 2007 EC Recommendation and that it is appropriate to analyse these markets to determine whether any provider holds SMP.

Provisional conclusions on market definition

4.89 In light of the analysis set out above and having applied the three criteria test, we propose to identify the following markets for the purposes of making a market power determination:

- a market for wholesale ISDN30 exchange line services in the UK excluding the Hull Area; and

- a market for wholesale ISDN30 exchange line services in the Hull Area

Wholesale market power assessment

4.90 Market definition is not an end in itself. Rather, it is a tool to help assess the extent to which operators possess market power. Below we set out our assessment of whether BT and KCOM continue to possess SMP in the wholesale ISDN30 markets that we have defined above. In making that assessment we have had regard to criteria for assessing SMP set out in the EC SMP Guidelines (market share, barriers to entry and countervailing buyer power, in particular). Our general approach to the assessment of market power is described in Annex 6.

Introduction

4.91 Having defined the relevant markets above, in this section we assess whether there are any CPs that hold a position of SMP in the provision of ISDN30 exchange line services.

4.92 For the reasons set out below, our provisional conclusions are that:

- BT holds SMP in the wholesale supply of ISDN30 exchange line services in the UK excluding the Hull Area; and
- KCOM holds SMP in the wholesale supply of ISDN30 exchange line services in the Hull Area.

4.93 These provisional conclusions are the same as the conclusions we reached in the 2010 ISDN30 Statement.

4.94 Annex 6 summarises the criteria for the assessment of SMP. These include market shares, barriers to entry and expansion, prices and profitability, and countervailing buyer power. Note also that we have applied the modified Greenfield approach when carrying out our wholesale market power assessment and have therefore considered the CPs' hypothetical market position absent the presence of SMP remedies at the wholesale level.

UK excluding the Hull Area

Market shares

4.95 The major ISDN30 retailers predominantly obtain access through self-supply. BT Retail exclusively self-supplies. BT's two biggest rivals, Vodafone and Virgin, use their own networks to meet the bulk of their retail demand, although they also purchase small amounts of wholesale ISDN30 from Openreach, largely to meet demand in locations where they have no network coverage. In contrast, the smaller ISDN30 retailers tend to rely upon wholesale ISDN30 provided by Openreach to be able to retail ISDN30 access. The market shares for the supply of wholesale ISDN30 exchange lines between September 2007 and September 2012 are set out in Table 4.1.[114]

[114] In line with our approach in the 2010 ISDN30 Consultation, we consider that the impact on competition of CPs is best measured by their current market shares as opposed to hypothetical shares based on the size of their narrowband networks. Paragraph 6.23, Ofcom, *Review of retail and wholesale ISDN30 markets – consultation*, 4 May 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30/summary/isbn30.pdf.

Table 4.1: Wholesale ISDN30 market shares

	Sep 07	Sep 08	Sep 09	Sep 10	Sep 11	Sep 12
Openreach	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Vodafone	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Virgin	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Others	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total market (Channels)	**2,905,042**	**2,987,734**	**2,766,725**	**2,688,578**	**2,649,535**	**2,551,009**

Source: Market shares for September 2010-September 2012 were calculated using data received in responses to the s.135 notice of 26 November 2012. Responses received from BT, Vodafone, TalkTalk, Verizon and Virgin. One CP [✂] identified an error in its systems which record volumes for ISDN30 and as a result there was a discontinuity in its data submission in September 2011 – this is discussed in footnote 91 above. We also had concerns over the reliability of data provided for this review by another CP [✂], and have chosen to exclude this from the calculations. Market shares prior to September 2010 were calculated from data provided as part of our previous review of this market in 2010, and were originally presented in the Table 7.1 of the 2010 ISDN30 Consultation, However, we have recalculated these using the original data but excluding [✂] (this is to ensure consistency, since we have also excluded this CP from our calculations for September 2010 onwards).

4.96 BT's market share has remained relatively constant over time, with a slight increase in the period since the last review in 2010, and in September 2012 stood at [✂]. For the period 2007-2009, BT's wholesale market share fluctuated between [✂] and [✂]. In the period since the last review (2010-2012), BT's wholesale market share fluctuated between [✂] and [✂]. Stable market shares of this magnitude create a clear presumption that BT has SMP.

4.97 As discussed above, we accept that there is a degree of substitutability with IP services but do not consider that it is sufficiently strong to warrant the inclusion of these services within the relevant market. Nonetheless, for the sole purpose of assessing an upper bound for the extent of the constraint that IP services may exert, we have also considered the impact on market shares if we were we to include SIP Trunking (the likely closest substitute to ISDN30) in the relevant market.[115]

4.98 In September 2012 BT had a share of supply of 62%.[116] This remains sufficiently high to give rise to a presumption of SMP. Importantly, this 62% figure overstates the constraint from SIP Trunking, as we have found it to be just outside the relevant market. Accordingly, we consider that this 62% figure is likely to understate the extent of BT's market power.

4.99 We recognise that, using BT's own forecasts of SIP Trunking and wholesale ISDN30, this share of supply figure is likely to decline over time as a consequence of forecast growth in IP-based services. Nonetheless we remain of the view that BT is likely to enjoy a position of SMP during the period covered by this market review for two reasons. First, as noted above, shares of supply calculated on this basis are likely to understate the extent of BT's market power. Second, BT appears particularly well placed to convert its current ISDN30 customers to SIP Trunking as it currently has a large wholesale and retail ISDN30 customer base at which it can directly target marketing of IP-based services. Moreover, as discussed in paragraph 4.40, we recognise there are significant difficulties in forecasting volumes, particularly for

[115] We adopted a similar approach when considering the constraints imposed by 'out of market' products in Annex 8, paragraphs 2.226-2.227, Ofcom, *Pay TV phase three document*, 26 June 2009, www.stakeholders.ofcom.org.uk/binaries/consultations/third_paytv/annexes/annex8.pdf.

[116] This share is calculated using the sum of Openreach's wholesale ISDN30 volumes and SIP Trunking volumes. Openreach's volumes for wholesale ISDN30 and SIP Trunking were provided in response to the s.135 notice of 26 November 2012. Volumes for the SIP/IP Trunking market were provided by Illume Research.

relatively new products such as BT's SIP Trunking service. This also suggests that we should not put too much weight on the future shares of supply calculated on the basis of uncertain forecasts about ISDN30 volumes and SIP Trunking.

Barriers to entry and expansion

4.100 We consider that the barriers to entry and expansion remain at least the same as those discussed in the 2010 ISDN30 Statement, and are possibly even greater at this stage given the increased maturity of the ISDN30 product.

4.101 Barriers to entry and expansion are high due to the large sunk costs that would need to be incurred to establish the infrastructure required to provide an ISDN30 exchange line. Volume forecasts submitted by CPs suggest that ISDN30 volumes will continue to decline (see Figure 4.2 above). As a result these barriers will increase in the future due to the more limited time period and customer volumes over which to recover these sunk costs.

4.102 Even if it is plausible for new entrants to supply ISDN30 exchange lines over LLU, there remain non-trivial sunk costs that are required to upgrade switches to offer ISDN30 functionality and recovering these costs in a declining market is likely to act as a barrier to entry.

4.103 Declining demand for ISDN30 (as a result of some switching to alternative IP-based services) means that there are fewer customers which new entrants could attempt to attract. In order to attract customers a new entrant would need to persuade existing ISDN30 customers of competitors to switch supplier, rather than attracting customers that currently do not purchase ISDN30. This is likely to increase the obstacles to new entrants winning sufficient business.

Prices and profitability

4.104 Since we imposed a charge control on wholesale ISDN30 prices in the 2012 ISDN30 Charge Control Statement, BT has set its ISDN30 prices at the maximum level permitted under that charge control. BT's pricing of these services since the current charge controls were introduced thus appears to be determined significantly by the regulatory controls imposed upon it, rather than market forces and we expect this to continue to be the case over the forward look period covered by this market review. This is consistent with a finding of SMP.

Countervailing buyer power

4.105 We do not consider that conditions for buyers in the ISDN30 market have changed materially since the 2010 ISDN30 Statement. Retailers continue to have no effective choice of wholesaler as vertically integrated providers such as Vodafone and Virgin have very limited commercial incentive to supply rival providers as shown by the fact that they have so far decided not to sell to competing retail providers. If these firms were to supply third party resellers they would be facilitating direct competition with their own downstream businesses. Therefore it is unlikely they would choose to do this. As a result, retailers have very little countervailing buyer power.

Provisional conclusions on SMP in the UK excluding the Hull Area

4.106 In conducting the SMP assessment set out above we have found:

- BT accounts for a high, stable share of wholesale ISDN30 channels:

- we accept that there is a degree of substitutability with IP services. However even taking the constraint exerted by these 'out of market' products into account, BT is likely to continue to enjoy a strong market position; and

- other market conditions have not changed significantly since the 2010 ISDN30 Statement. There remain significant barriers to entry, a lack of countervailing buyer power and the potential for BT to charge high prices to its customers absent regulation.

4.107 Our provisional conclusion is thus that BT continues to have SMP in the supply of wholesale exchange lines in the UK excluding the Hull Area.

The Hull Area

4.108 In the 2010 review we found KCOM had virtually a 100% share of the market for wholesale ISDN30 services in the Hull Area.

4.109 In its response to the 2012 FAMR Call for Inputs, KCOM pointed to the deployment of fibre by MS3. MS3 has not stated explicitly that they intend to offer ISDN30 exchange line services, but this is technically possible over a fibre network and in any event they are likely to offer IP services. However as discussed in Section 6 MS3 is still in the process of entering the market and, while intending to offer various wholesale products, has not yet begun to offer these at the current time. Given the limited extent of MS3's network and recent nature of its deployment, it seems unlikely that MS3 will capture a significant proportion of KCOM's current customer base during the period covered by this market review. We thus believe that KCOM will continue to enjoy a very strong market position in the Hull Area.

4.110 Barriers to entry in this market are also increased by the fact that ISDN30 is a declining product. Any new entrant wishing to enter the market would need to invest considerably in rival infrastructure to KCOM, and given the small geographic area and declining ISDN30 volumes, would likely have a limited customer base and limited time period within which to recover these costs.

4.111 Any form of countervailing buyer power is unlikely given KCOM is currently the only wholesale supplier of ISDN30 in the Hull Area.

4.112 Our provisional conclusion is thus that KCOM continues to hold SMP in the wholesale supply of ISDN30 exchange line services in the Hull Area.

Consultation question(s)

4.1 Do you agree with our provisional view that, during the period covered by this market review, BT and KCOM will have SMP in the wholesale ISDN30 markets we define above? Please provide reasons in support of your views.

Section 5

Market definition and SMP analysis: ISDN2

Introduction

5.1 In this section we set out our provisional market definition and assessment of market power in relation to the provision of ISDN2. The reasoning for carrying out a market definition and market power assessment, including our general approach to doing so, is set out in Annex 6. In approaching our assessment of market definition for the ISDN2 market, we have taken utmost account of the guidance on market definition in the EC SMP Guidelines. We consider that the impact of IP based services on ISDN2 is of particular importance in this review and have therefore focused attention on this issue.

5.2 This section is structured as follows:

- we summarise the position in the previous market review;
- we summarise responses to the 2012 FAMR Call for Inputs;
- we define the relevant retail markets;
- we define the relevant wholesale markets;
- we explain why our approach to ISDN2 is consistent with the 2007 EC Recommendation;
- we set out our provisional assessment of wholesale market power; and
- we set out our provisional assessment of retail market power; and

5.3 In summary, we have provisionally concluded that a narrow market definition based only on ISDN2 exchange lines at both the retail and wholesale levels remains appropriate. IP-based services such as SIP Trunking are growing and becoming increasingly important but we consider these do not yet pose a sufficient constraint on ISDN2 to warrant inclusion in the relevant product market.

5.4 In our market power assessments at the retail and wholesale level we have provisionally concluded that:

- BT holds SMP in the provision of wholesale ISDN2 exchange line services in the UK excluding the Hull Area;
- KCOM holds SMP in the provision of wholesale ISDN2 exchange line services in the Hull Area; and

- no communications provider holds SMP in the provision of retail ISDN2 exchange line services in the UK excluding the Hull Area.[117]

Position in the previous market review

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

5.6 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.

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

5.8 In the 2009 Wholesale Narrowband Statement we found that BT had SMP in the market for ISDN2 both at the wholesale and retail level in the UK excluding the Hull Area.[118]

5.9 We concluded that KCOM had SMP in the supply of ISDN2 exchange lines at both the wholesale and retail level in the Hull Area.

Summary of responses to 2012 FAMR Call for Inputs

5.10 In the 2012 FAMR Call for Inputs, we summarised the conclusions from the previous market review and asked the following question.[119]

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.

5.11 The majority of respondents to the 2012 FAMR Call for Inputs noted that generally ISDN2 is a service in decline. However, Vodafone, EE and Verizon said that they did not consider there had been significant changes in the market in the period since the last review in 2009, and they did not expect any significant changes in the forward look period of this review. Virgin noted that, although ISDN2 was a declining product, certain uses (such as the provision of resilience) meant that it remained an important product going forward. As a result, Virgin indicated that the market definition and

[117] We consider the provision of retail ISDN2 exchange line services in the Hull Area in Section 6.
[118] Ofcom, *Review of the fixed narrowband services wholesale markets,* 15 September 2009, www.stakeholders.ofcom.org.uk/binaries/consultations/wnmr_statement_consultation/summary/main.pdf.
[119] Paragraphs 2.25-2.28, Ofcom, *Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 – call for inputs,* 9 November 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/summary/condoc.pdf.

SMP assessment from the 2009 Wholesale Narrowband Statement remained an appropriate starting point for the current review.

5.12 BT's response noted that ISDN2 volumes had continued to decline steadily as alternative services such as SIP Trunking, broadband and NGA services provided opportunities for substitution. BT stated that ISDN2 was in terminal decline and it did not believe there were any significant barriers to customers switching to superior alternatives. BT therefore saw no basis for maintaining the current finding of SMP at the retail level or for imposing upstream regulatory remedies. The Bit Commons noted ISDN2 was a highly profitable legacy service which could be replaced by a broadband service configured to support required latency, packet loss and jitter. Modern Communications Ltd ('MCL') stated that, as was also the case for ISDN30, it was possible that our current market definition and SMP finding had changed due to carriers offering replacement services based on SIP Trunking.

5.13 KCOM stated that it expected the availability of alternative access infrastructure in Hull to have an impact on the ISDN2 market. It also noted that even absent this recent development ISDN2 volumes were declining.

Retail market definition

Product market definition

5.14 As the starting point for the product market definition exercise, we have taken ISDN2 as the focal product. We have then considered whether the retail price of ISDN2 is constrained by a variety of potential substitutes.

5.15 ISDN2 is a narrowband access service designed to cater for smaller business sites. It used to be available for both business and residential sites, but it is now a business only product. ISDN2 lines are provided using copper access network infrastructure and are designed to provide two digital 64kbit/s channels supporting traditional telephony, facsimile and data with a guaranteed transmission rate (speed).

5.16 We have sought to identify the main uses of ISDN2 lines, as whether ISDN2 is mainly purchased by specific types of user for specific purposes is relevant to the substitutability of other services for ISDN2. BT informed us that it considers multiline voice to be the main use of ISDN2. We understand that the main current uses of ISDN2 lines are[120]:

- multiline voice;
- internet access (in areas where broadband access is poor);
- video conferencing;
- EPOS (electronic point of sale applications);
- ATM (automated teller machines);

[120] Uses of ISDN2 were provided to us by BT. ATMs were not in this list, but have been added as we understand this to be an important use for ISDN2, as noted in paragraph 5.67 of Ofcom, *Fixed Narrowband Retail Services Markets*, 15 September 2009, www.stakeholders.ofcom.org.uk/binaries/consultations/retail_markets/statement/statement.pdf.

- backup;
- outside broadcast; and
- street furniture (e.g. traffic lights).

5.17 We also collected information on BT's 10 largest retail customers which highlighted that high street banks featured quite heavily amongst the largest users of ISDN2.[121] We understand that ATMs use ISDN2 lines due to the security, high quality of service and reliability characteristics of ISDN2. ATMs only require very low bandwidth, but 24 hour service reliability is considered to be vitally important. ATMs are also spread out in many locations, so companies would choose to purchase this low bandwidth service to terminate in multiple locations, as opposed to ISDN30 for example, as greater bandwidth/more channels is not necessary for this use. Very similar considerations are also important for EPOS uses.

5.18 We also understand that ISDN2 is used quite widely for backup purposes (i.e. it is used in the instance of a failure of the primary service), again due to its reputation for reliability and high quality of service. Some legacy video conferencing services may also make use of ISDN, since a high level of reliability and a stable connection helps to maintain picture and audio quality.

5.19 Given the uses of ISDN2 lines we have identified, we consider there are likely to be particular characteristics of the service which are highly valued by users. The most significant is the need for a high quality of service and a high level of reliability. Of the uses identified, other characteristics such as greater bandwidth are likely to be less important. This suggests that alternative products may not be sufficiently good demand-side substitutes for ISDN2 lines if they involve a reduction in quality of service or reliability.

Demand-side substitution

5.20 The potential substitutes we have identified at the retail level for ISDN2 exchange line services are as follows:

- analogue exchange lines;
- ISDN30;
- leased lines; and
- IP-based services.

5.21 We first discuss the extent to which these products constrain retail ISDN2 prices below. We then consider the potential for price discrimination, in particular targeting any price rises at ISDN2 consumers that are unlikely to switch.

Analogue exchange lines

5.22 We consider that analogue exchange lines are unlikely to be a suitable substitute for ISDN2. The main reason for this is the additional capabilities of ISDN2. These

[121] A significant minority of the largest customers were high street banks [✂]. BT response to the s.135 notice of 28 March 2013.

capabilities relate primarily to its telephony characteristics (as broadband has largely superseded ISDN2 in terms of data usage)[122]:

- an ISDN2 service provides the capability for simultaneous Internet access and voice telephony;
- an ISDN2 service supports a much wider range of supplementary services (e.g. Digital Select Services and DDI).

5.23 In addition to the functionality differences between these two services, we have considered the retail price differential. ISDN2 access remains approximately twice the price of analogue access.[123] Given two analogue exchange lines would be required to be equivalent to a single ISDN2 line at a similar cost (£20.43 excl. VAT per channel per month for ISDN2 and £18.05 excl. VAT per month for an analogue exchange line), an ISDN2 customer is unlikely to switch to analogue access particularly as ISDN2 offers additional functionality over analogue exchange lines such as Digital Select Services and DDI.

Leased lines

5.24 A fundamental difference between ISDN2 and leased lines is that the former provides switched voice and data access services whereas the latter provides transmission capacity only. In order to upgrade leased lines to offer ISDN2 functionality additional equipment would be required. Therefore a retail customer cannot purchase leased lines alone as a demand-side substitute for ISDN2 exchange lines.

ISDN30

5.25 ISDN2 and ISDN30 are functionally very similar services but offered with differing numbers of channels. BT offers ISDN30 services ranging from between 8 and 30 channels – charges are on a per channel basis above the minimum number of 8.[124] In contrast, ISDN2 services provide 2 channels.

5.26 ISDN2 services are appropriate for sites requiring up to 8 voice channels. For consumers that require fewer than 8 channels ISDN30 would not be cost effective (since some channels would be unused). ISDN2 is not generally used for much larger sites, since ISDN30 would be a more cost effective service for businesses requiring greater than 8 channels.[125] From the perspective of ISDN2 users (i.e. sites requiring fewer channels, including users that require lines in a number of different physical locations) we thus consider that ISDN2 and ISDN30 do not lie in the same market on the demand side.

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[122] Paragraph 4.69, Ofcom, *Fixed Narrowband Retail Services Markets*, 15 September 2009, www.stakeholders.ofcom.org.uk/binaries/consultations/retail_markets/statement/statement.pdf.

[123] BT Retail prices correct as of 18 June 2013. ISDN2 price based on BT's low start tariff with a 1 year contract. Analogue exchange line price based on BT's standard business phone line on a 1 year contract.

[124] www.openreach.co.uk/orpg/home/products/pricing/loadProductPriceDetails.do?data=WH17ucyC%2Fv7E1PoECWJLs3T0E4HidA8NS2h%2Bn9f3uuQlMnGHsqdC0vzO163bJmh34D91D7M0q8u%2F%0AIlSgtIFAKw%3D%3D.

[125] Currently BT Retail is pricing basic ISDN2 at £20.43 excl. VAT per channel per month (on a 1 year contract) and ISDN30 (without DDI quota) at £20.04 excl. VAT per channel per month (on a 1 year contract). Prices correct as of 11th June 2013, see www.business.bt.com/phone-services/isdn/pricing/

IP-based services and ISDN2

5.27 IP-based telephony services are services for the exchange of information primarily in the form of speech that utilises IP. There are two main types of IP based technologies: [126]

- Hosted VoIP and IP Centrex; and
- SIP Trunking.

5.28 Our assessment of the extent to which IP services constrain the price of ISDN30 is structured as follows:

- description of IP services;
- volume trends for ISDN2 and IP services;
- main drivers of the trends in volumes;
- barriers to switching from ISDN2 to IP-based services; and
- our provisional conclusions.

Description of IP-based services

5.29 We note that ISDN2 and ISDN30 are functionally very similar services but offered with differing numbers of channels. As a result we consider that much of the discussion about IP-based services as a potential substitute to ISDN30 (in terms of functionality) set out in the previous section also applies to ISDN2. The functional differences of ISDN30 and IP-based services are discussed in paragraphs 4.45-4.60.

Volume trends for ISDN2 and IP-based services

5.30 Broadband superseded ISDN2 for residential use several years ago.[127] Accordingly, ISDN2 is now a business only product. We consider that IP-based services are the closest potential substitute for ISDN2 and therefore we have analysed the volume trends of each service below.

Figure 5.1: Historic wholesale ISDN2 volumes[128]
[✂]

Source: BT

[126] A variety of underlying bearers could be used for IP-based services, including DSL, EFM, leased lines etc.
[127] Paragraph 4.69, Ofcom, *Fixed Narrowband Retail Services Markets,* 15 September 2009, www.stakeholders.ofcom.org.uk/binaries/consultations/retail_markets/statement/statement.pdf.
[128] Openreach wholesale ISDN2 volumes received in response to the s.135 notice of 26 November 2012. Openreach account for almost the entire wholesale market for ISDN2 so wholesale volumes are also representative of retail market volumes.

Table 5.1: Openreach Wholesale ISDN2 Volumes

	2008/09	2009/10	2010/11	2011/13
Internal	896,103	783,623	640,549	616,257
External	400,915	461,968	501,191	524,051
Total	1,297,018	1,245,591	1,141,740	1,140,308

Source: BT Regulatory Financial Statements

5.31 Figure 5.1 shows BT's wholesale ISDN2 volumes over the period June 2009 to September 2012. Overall volumes have declined gradually since June 2009, at a rate of approximately 4% per year.

5.32 Table 5.1 shows how BT's wholesale volumes are broken down between BT's internal use and what it sells to other CPs externally (it should be noted that BT has historically been required to provide wholesale services to other CPs). At the time of the 2009 Retail Narrowband Statement, BT had a near 100% market share of ISDN2 exchange lines at the wholesale level. We have not been provided with any evidence to suggest that this has changed. Therefore the volumes presented in Table 5.1 provide a representative picture of ISDN2 volumes at the retail level between BT (internal) and all other providers (external).

Figure 5.2: Forecast Wholesale ISDN2 Volumes[129]

[✂]

Source: BT

5.33 BT also provided us with forecasts of wholesale ISDN2 volumes covering the period of this market review. These forecasts suggest that BT expects the rate of decline in ISDN2 volumes to more than double during the review period – an average annual decline of [✂]. This is presented in Figure 5.2 above. We note that even if this increased rate of decline occurs, a considerable ISDN2 user base is expected to remain in March 2017 (approximately [✂] channels).

5.34 The growth in volumes of IP-based services (SIP/IP Trunking and Hosted VoIP) are presented in Figures 4.3 and 4.4, and discussed in paragraphs 4.41-4.43 in the previous section. As set out in that section, the decline in the number of ISDN channels has been less than the increase in IP channels over the past three years, including when we consider the sum of ISDN2 and ISDN30 volumes.[130] This comparison is discussed in greater length in paragraph 4.42.

5.35 In summary, ISDN2 volumes are gradually falling. BT forecasts suggest this decline will accelerate. While it seems likely that ISDN2 volumes will continue to fall, we consider that there is considerable uncertainty about the rate of decline.[131] In particular, the implication of BT's forecast appears to be that this market review period represents a 'turning point' i.e. the point at which the rate of decline accelerates significantly because of a significant shift in consumer preferences.

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[129] Openreach wholesale ISDN2 volumes received in response to the s.135 notice of 26 November 2012.

[130] We consider this comparison to be relevant to the point that IP-based services are the closest potential substitute to both ISDN2 and ISDN30. Moreover BT has suggested that switching behaviour by both ISDN2 and ISDN30 customers has contributed to the growth in IP volumes.

[131] We noted in paragraph 4.40 that, in relation to ISDN30, BT's submissions during the 2010 ISDN30 review significantly overestimated the significance of the decline in ISDN30 volumes relative to the decline that occurred in reality. This highlights the difficulties in predicting the demand for services in the future and as a result we treat these forecasts with caution.

Identifying such 'turning points' in advance is particularly difficult, over and above the inherent uncertainty associated with forecasts. However, there are good reasons why we think such a 'turning point' will not be reached during this market review period. We consider the drivers behind the trends in volumes for ISDN2 and IP-based services below.

Main drivers of the trends in volumes

5.36 We consider that the drivers of this trend are very similar to those driving the gradual switching of users from ISDN30 to IP-based services discussed in paragraphs 4.45-4.51. In summary we considered the following reasons were key:

- IP-based services can offer greater flexibility, such as trunk aggregation to reduce the number of channels required, easily switching capacity between voice and data etc;
- IP-based services are generally promoted as a cheaper alternative to ISDN; and
- the trends in volumes will also be affected by the barriers to switching that we discuss below.

Barriers to switching

5.37 We consider there remain barriers to switching away from ISDN2, in particular we have identified:

- the importance of particular service characteristics for particular uses (such as quality of service and reliability);
- costs of switching; and
- functionality differences and standards.

5.38 We identified a number of uses for ISDN2 in paragraph 5.16 above, and discussed the important characteristics of the ISDN2 service which lead it to be suitable for such purposes. We now consider whether IP-based services are able to fulfil the requirements of these users given the importance of particular characteristics.

5.39 We noted that for a number of the uses of ISDN2, reliability and high quality of service were vital e.g. use in ATMs and use as a backup service. For such services it seems unlikely that users would switch to IP-based alternatives given some consumers' view that such alternatives are inferior in respect of reliability and quality of service. As we discussed in paragraphs 4.56-4.58 in the context of ISDN30, end user experiences and perceptions of IP-based alternatives have shown that such services currently are not considered to offer the same level of reliability as ISDN.[132]

5.40 BT considered that multiline voice was the biggest use for ISDN2. [133] For this purpose a PBX may be required. For uses where a PBX is not required, and where the ISDN2

[132] We recognise that ISDN2 customers are different to ISDN30 customers and that they use the services for different purposes. Nonetheless, it seems plausible that they have similar perceptions of IP-based alternatives in terms of reliability and quality of service. We note that we reached the same conclusion in the 2009 Retail Narrowband Statement (see paragraph 4.73).

[133] Informal information submission from BT, 13 March 2013.

service is used for data transmission (e.g. ATMs and EPOS terminals), there would still be the cost of upgrading some of the equipment for use with IP-based services using a different bearer service (e.g. EFM, FTTC, ADSL, leased line). Again, these costs are likely to be of smaller magnitude than those involved in upgrading PBX equipment for voice purposes given the reduced complexity of the device.

5.41 We noted in Section 4 that there remained some concerns with Hosted VoIP services regarding number porting, and that the coexistence of multiple VoIP communications protocols, some of which are standards based (e.g. IETF's SIP, ITU's H.323) and others being proprietary (e.g. IAX2), means that not all equipment is interoperable. We consider these further barriers to switching away from ISDN30 to IP-based services are also relevant to ISDN2 users who consider switching to IP-based services. This is because the barrier is in respect of taking up the IP-based service, which is common in both scenarios, rather than ceasing the ISDN service in question. These barriers are discussed in more detail in paragraphs 4.59-4.60.

5.42 While BT indicated that multiline voice is the largest use for ISDN2, broadband is potentially an alternative for some of the applications listed in paragraph 5.16 above e.g. video conferencing, EPOS.[134] However the barriers to switching we identified in relation to IP-based services (particularly reliability and service quality and the costs of upgrading equipment) are likely to also apply in the case of these applications. This is the same position that we adopted in the 2009 Retail Narrowband Statement.[135]

The potential for price discrimination

5.43 BT is currently required to provide wholesale ISDN2 access on reasonable request and is subject to cost orientation when setting the wholesale charge. This means that if BT Retail charged higher retail ISDN2 prices to consumers who are not well placed to switch to IP services, it could be undermined by those consumers switching to other ISDN2 retailers (who buy ISDN2 at the wholesale level from BT).

5.44 However, absent regulation at the wholesale level, it is likely that BT would not choose to provide wholesale products on reasonable terms.[136] In this environment BT is likely to face almost no competitors at the retail level (given it accounts for almost 100% of wholesale ISDN2 supply). Thus, absent regulation at the wholesale level, BT Retail is likely to find it more feasible to price discriminate between its ISDN2 customers. In particular, it could increase prices for those consumers who were unlikely or unable to switch, and offer reduced prices to those considering switching to alternative technologies. Such retail price discrimination would likely mitigate the extent to which consumers switch to alternative products. In particular, it seems plausible that BT – as a longstanding ISDN2 provider – has sufficient knowledge of its customer base to engage in such activity.

[134] Ibid.
[135] Paragraphs 4.72-4.75, Ofcom, *Fixed Narrowband Retail Services Markets*, 15 September 2009, www.stakeholders.ofcom.org.uk/binaries/consultations/retail_markets/statement/statement.pdf.
[136] This scenario is relevant to the issue of wholesale market definition (as explained in Annex 6 the extent of substitutability at the retail level determines the extent of indirect constraints). When defining wholesale ISDN2 markets it is appropriate to consider the position absent the presence of SMP remedies at the wholesale level (this reflects the application of the modified Greenfield approach, which is described in Annex 6).

Supply-side substitution

5.45 Similar to the case of ISDN30, it would be possible for CPs providing analogue exchange lines, ISDN30, services over LLU or leased lines to upgrade their networks to offer ISDN2 services. However, this would require significant investment to provide the necessary functionality.

5.46 Given that ISDN2 volumes are forecast to decline, such investments are less likely to be economically viable given the limited time period over which sunk costs could be recovered, and the fact that adding to capacity in a market forecast to decline is likely to lead to a fall in the retail prices over the period of the investment. Further, CPs are more likely to concentrate their efforts on promoting their IP-based services as alternatives to ISDN2 rather than investing in new infrastructure in order to provide ISDN2 services.

Provisional conclusion on retail product market definition

5.47 On the basis of the evidence presented above we believe that, for the period covered by the current market review, a narrow market definition based on ISDN2 only is still appropriate. We consider that analogue exchange lines, leased lines and ISDN30 are not close substitutes for ISDN2. We also consider that IP-based services are not sufficiently close demand-side substitutes for ISDN2, and therefore lie outside the relevant market.

5.48 Despite our decision to define the market narrowly, we do recognise that IP-based services are growing and all expectations are that this will continue during the forward look period. We consider they are likely to become increasingly relevant in the future.

Geographic market

5.49 In the 2009 Retail Narrowband Statement we concluded there were separate geographic areas for the UK excluding the Hull Area, and the Hull Area.[137] We found:

- on the demand-side, customers are only able to choose between the CPs that operate in their geographic area;
- all CPs have national uniform pricing policies and national marketing campaigns such that competition on the supply-side of the market has a clear national dimension. The exception was the Hull Area, where the main UK based retailers, including BT, did not offer a competing residential retail service due to the absence of access infrastructure (there is no cable, LLU, or WLR); and
- for consumers in the Hull Area there is no effective demand-side substitution, while supply-side substitution from the rest of the UK is limited by the absence of access infrastructure, particularly WLR.

5.50 We do not consider that market conditions have changed significantly across geographic areas since the 2009 Retail Narrowband Statement, and we did not receive any responses to the 2012 FAMR Call for Inputs to suggest otherwise. It continues to be the case that BT does not supply ISDN2 services in the Hull Area. In our view the Hull Area continues to be distinct, particularly as BT's network does not

[137] Paragraphs 4.22-4.25, Ofcom, *Fixed Narrowband Retail Services Markets*, 15 September 2009, www.stakeholders.ofcom.org.uk/binaries/consultations/retail_markets/statement/statement.pdf.

cover the Hull Area in the same way that it covers the rest of the UK. As a result we consider that the factors we identified in the 2009 review will continue to hold and that the following geographic market definitions remain appropriate:

- the UK excluding the Hull Area; and
- the Hull Area.

Provisional conclusion on retail market definition

5.51 We consider that there remain distinct ISDN2 markets for the provision of:

- retail ISDN2 exchange line services in the UK excluding the Hull Area; and
- retail ISDN2 exchange line services in the Hull Area.

Wholesale market definition

Product market definition

5.52 In the 2009 Wholesale Narrowband Statement we considered that the relevant wholesale product market was the supply of wholesale ISDN2 exchange line services.

5.53 In this section we define the relevant wholesale product market taking into account any new evidence we have obtained about changes since the last review, and expected changes during the course of this current review period. This assessment is structured as follows:

- first, we describe the focal product;
- second, we consider whether there are any direct demand- or supply-side substitutes to the focal product which should be included in the relevant market;
- third, we consider whether there are indirect competitive constraints that should be included in the relevant market. These arise from the potential for end users to switch to retail products that do not require wholesale ISDN2 exchange lines (e.g. SIP Trunking, Hosted VoIP, and ISDN30); and
- finally we set out our provisional conclusions.

Focal Product

5.54 In the context of this market review, we are reviewing the overall effectiveness of competition in the supply of wholesale ISDN2 exchange lines on narrowband networks. Therefore, it is appropriate to take wholesale ISDN2 as the focal product. The characteristics of ISDN2 lines are described in paragraph 6.18 above

Direct competitive constraints

Demand-side substitution

5.55 Other types of exchange lines, such as ISDN30, and IP-based technologies, do not provide a direct demand-side substitute as a retailer of ISDN2 exchange lines needs to purchase wholesale ISDN2 inputs in order to supply their ISDN2 retail customers. However switching at the retail level to these services does potentially impose an indirect constraint on prices at the wholesale level. This is considered in the next section.

Supply-side substitution

5.56 To warrant inclusion in the relevant market, supply-side substitution to an alternative product needs to be both technically feasible and economically likely. In principle any form of access network could be upgraded to provide ISDN2 access. However as discussed in the context of the retail market in paragraphs 5.45-5.46, we do not consider this to be likely. The main reason for this is that it is unlikely to be economically viable to invest in network upgrades when ISDN2 is in decline, as this limits the period within which to recover these costs. As a result we do not consider alternative services warrant inclusion in the relevant economic market.

Indirect competitive constraints

5.57 The demand for fixed wholesale ISDN2 exchange lines is ultimately derived from the demand for retail ISDN2 exchange lines. Even if a CP has no realistic alternative but to purchase exchange lines from a hypothetical monopoly provider, it may not be profitable for the hypothetical monopolist to raise wholesale prices above the competitive level if doing so were to lead to higher retail prices and a significant drop in the retail demand for exchange lines. In such circumstances it would be appropriate to include such indirect competitive constraints in the definition of the relevant economic market.

5.58 In our assessment of the retail ISDN2 market we accepted that there is a degree of substitutability with IP services and that this may be increasing over time. Nonetheless, we provisionally concluded that other products, including IP- based services, did not provide a sufficient constraint on retail ISDN2 prices to warrant inclusion in the relevant retail market. Similarly we also consider that they are unlikely to exert a sufficiently strong indirect constraint to warrant inclusion in the relevant wholesale market. We also noted above the likelihood that, absent regulation at the wholesale level, retail price discrimination would mitigate the extent to which consumers switched to alternative products. This is likely to further weaken any indirect constraints.

Provisional conclusion on wholesale product market definition

5.59 Our market definition analysis suggests there are no direct demand-side substitutes for wholesale ISDN2 exchange line service and that supply-side substitution is highly unlikely given the sunk costs of upgrading current access networks and declining overall ISDN2 volumes.

5.60 We recognise the growth and increasing importance of IP-based services which pose some indirect constraint on the wholesale price of ISDN2 exchange lines. However we believe that this is not sufficient to warrant inclusion in the relevant market.

5.61 We thus propose to define the wholesale product market as the supply of ISDN2 exchange line services only.

Geographic market definition

5.62 We believe that the same considerations that apply to geographic markets at the retail level also apply at the wholesale level. We therefore propose to find two separate geographic markets:

- the UK excluding the Hull Area; and
- the Hull Area.

Provisional conclusion on wholesale market definition

5.63 In light of the above analysis, our provisional conclusion is that there remain distinct wholesale markets for the provision of:

- ISDN2 exchange line services in the UK excluding the Hull Area; and
- ISDN2 exchange line services in the Hull Area.

Three criteria test for ISDN2

5.64 The ISDN2 market is not listed in the 2007 EC Recommendation as a market in which *ex ante* regulation may be warranted. [138] Therefore, taking utmost account of the 2007 EC Recommendation, we have applied the three criteria test to assess whether *ex ante* regulation is appropriate.

5.65 In relation to the proposed wholesale ISDN2 market for the UK excluding the Hull Area we consider that the three criteria set out in the 2007 EC Recommendation are met:

- **the presence of high and non-transitory barriers to entry**: we consider that significant barriers to entry remain. This is discussed in more detail in our section on barriers to entry and expansion in our analysis of SMP (paragraphs 5.78-5.80);
- **a market structure which does not tend towards effective competition within the relevant time horizon**: our provisional conclusion is that our proposed market does not display a tendency towards competition. In particular, BT has maintained a very high share of the relevant market over time, barriers to entry and expansion remain substantial and there is no effective countervailing buyer power. This is discussed in more detail in the section on market shares (paragraphs 5.74-5.77) and prices and profitability (paragraphs 5.81-5.82) in our SMP assessment; and
- **the insufficiency of competition law alone to adequately address the market failure(s) concerned**: we consider that competition law would not be sufficient to address concerns in this market. As noted above we do not believe this market will tend towards competition within the relevant time horizon and therefore *ex*

[138] EC, *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),*
www.ec.europa.eu/information_society/policy/ecomm/doc/library/proposals/rec_markets_en.pdf

ante regulation is necessary to promote effective competition (particularly downstream).

5.66 Similarly, we consider that, in relation to the proposed wholesale ISDN2 market for the Hull Area, that the three criteria test is met:

- **the presence of high and non-transitory barriers to entry**: as discussed below, we consider that significant barriers to entry remain;

- **a market structure which does not tend towards effective competition within the relevant time horizon**: as we discussed in more detail below, we provisionally conclude that our proposed market does not display a tendency towards competition. KCOM has maintained a very high share of the relevant market over time, barriers to entry and expansion remain substantial and there is no effective countervailing buyer power; and

- **the insufficiency of competition law alone to adequately address the market failure(s) concerned**: we consider that competition law would not be sufficient to address concerns in this market. As we explain below, we do not believe this market will tend towards competition within the relevant time horizon and therefore *ex ante* regulation is necessary to promote effective competition (particularly downstream).

5.67 In terms of the retail markets, we must also undertake the three criteria test to identify markets that are susceptible to *ex ante* regulation. We set out our consideration of the retail market for ISDN2 in the UK excluding the Hull area below:[139]

- **the presence of high and non-transitory barriers to entry**: As discussed in paragraphs 5.96-5.99, we consider that barriers to entry do not appear to be high, but that expansion has been limited suggesting barriers to expansion exist.

- **a market structure which does not tend towards effective competition within the relevant time horizon**: As discussed in paragraphs 5.92-5.95, BT accounts for a high (albeit declining) share of retail ISDN 2connections whereas other retailers remain very small in comparison to BT. BT has also increased its retail margin over the ISDN2 rental charge (although this has coincided with a loss of retail market share). Given these indicators, we cannot conclude that the market structure tends towards effective competition without conducting a full SMP assessment.[140]

- **the insufficiency of competition law alone to adequately address the market failure(s) concerned**: Given the indications that this market may not tend towards effective competition (as set out in the immediately preceding bullet point), it is possible that competition problems could emerge. If such concerns were to emerge, we consider that competition law would not be sufficient to address them. In particular, if this market does not tend towards competition within the relevant time horizon then *ex ante* regulation may be necessary to promote effective competition.

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[139] We consider the provision of retail ISDN2 exchange line services in the Hull Area in Section 5.

[140] As discussed below, after that full SMP assessment our provisional view is that BT will not have SMP during the period covered by this market review, although the evidence is finely balanced.

5.68 We therefore are of the view that our proposed market definitions satisfy the criteria set out in 2007 EC Recommendation and that it is appropriate to analyse these markets to determine whether any provider holds SMP.

Provisional conclusions on market definition

5.69 In light of the analysis set out above and having applied the three criteria test, we propose to identify the following markets for the purposes of making a market power determination:

- a market for wholesale ISDN2 exchange line services in the UK excluding the Hull Area;
- a market for wholesale ISDN30 exchange line services in the Hull Area; and
- a market for retail ISDN2 exchange line services in the UK excluding the Hull Area.

Wholesale market power assessment

5.70 Market definition is not an end in itself. Rather it is a tool to help assess the extent to which operators possess market power. Below we set out our assessment of whether BT and KCOM continue to possess SMP in the ISDN2 markets that we have defined above. In making that assessment we have had regard to criteria for assessing SMP set out in the EC SMP Guidelines (market share, barriers to entry and countervailing buyer power, in particular). Our general approach to the assessment of market power is described in Annex 6.

Introduction

5.71 In this section we consider the effectiveness of competition in the provision of ISDN2 wholesale services. This assessment will inform our decision as to whether any firm has SMP, either individually or collectively. Where SMP is found, we are obliged to consider what regulatory obligations may be required to address the lack of effective competition in the market.

5.72 For the reasons set out below, our provisional conclusions are that:

- BT holds SMP in the supply of wholesale ISDN2 exchange lines in the UK excluding the Hull Area; and
- KCOM holds SMP in the supply of wholesale ISDN2 exchange lines in the Hull Area.

5.73 Annex 6 summarises the criteria for the assessment of SMP. These include market shares, barriers to entry and expansion, prices and profitability and countervailing buyer power. Note also that, as discussed above, we have applied the modified Greenfield approach when carrying out our wholesale market power assessment. We have thus considered CPs' market position absent the presence of SMP remedies at the wholesale level.

UK excluding the Hull Area

Market shares

5.74 In the 2009 Wholesale Narrowband Statement we found BT to have a market share of almost 100% in the wholesale market for ISDN2. Our understanding is that there has not been any significant entry since then and so market conditions remain the same. It is reasonable to presume that a firm who serves such a significant proportion of the market is likely to hold SMP.

5.75 As discussed above, we accept that there is a degree of substitutability with IP services but do not consider that it is sufficiently strong to warrant the inclusion of these services within the relevant market. Nonetheless, for the sole purposes of assessing an upper bound for the extent of the constraint that IP services may exert, we have also considered the impact on market shares if we were to include SIP Trunking (the likely closest substitute to ISDN2).[141]

5.76 Even after including SIP Trunking, BT would have had a "share of supply" of 62% in September 2012.[142] This remains sufficiently high enough to give rise to a presumption of SMP. Importantly, this 62% figure overstates the constraint from SIP Trunking, as we have found it to be outside the relevant market. Accordingly this 62% figure is likely to understate the extent of BT's market power.

5.77 We recognise that, using BT's own forecasts of SIP Trunking and wholesale ISDN2, this share of supply figure is likely to decline over time as a consequence of forecast growth in IP-based services. Nonetheless we remain of the view that BT is likely to enjoy a position of SMP during the period covered by this market review for two reasons. First, as noted above, shares of supply calculated on this basis are likely to understate the extent of BT's market power. Second, BT appears particularly well placed to convert its current ISDN2 customers to SIP Trunking as it currently has a large wholesale and retail ISDN2 customer base at which it can directly target marketing of IP-based services. Moreover, as discussed above, there are significant difficulties in forecasting volumes for relatively new products such as BT's SIP Trunking service. This suggests that we should not give too much weight to the future shares of supply calculated on the basis of uncertain forecasts about ISDN2 volumes and SIP Trunking.

Barriers to entry and expansion

5.78 We consider the barriers to entry are largely similar to those identified for wholesale ISDN30. Barriers to entry and expansion are high due to the large sunk costs that would need to be incurred to establish the infrastructure required to provide an ISDN2 exchange line. Given the forecast decline in ISDN2 volumes, there is a limited time period within which to recover this investment.

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[141] We adopted a similar approach when considering the constraints imposed by 'out of market' products in Paragraphs 2.226-2.227, Ofcom, *Pay TV phase three document*, 26 June 2009, www.stakeholders.ofcom.org.uk/binaries/consultations/third_paytv/annexes/annex8.pdf.

[142] This share is calculated using the sum of Openreach's wholesale ISDN2 volumes and SIP Trunking volumes. Openreach's volumes for wholesale ISDN2 and SIP Trunking were provided in response to the s.135 notice of 26 November 2012. Volumes for the total SIP/IP Trunking market were provided by Illume Research in March 2013. We believe this approach to be appropriate as we are simply using the figures to observe a general trend in volumes and calculate a hypothetical market share based on an alternative market definition.

5.79 Further, declining demand for ISDN2 means that there are fewer customers which new entrants could attempt to attract. In order to attract customers a new entrant would need to persuade existing ISDN2 customers of competitors to switch supplier, rather than attracting customers that currently do not purchase ISDN2. This is likely to increase the obstacles to new entrants winning sufficient business.

5.80 Finally, while it is possible for new entrants to offer ISDN2 over LLU, there are non-trivial costs required to upgrade equipment to offer ISDN2 functionality. As noted above, declining ISDN2 volumes mean the time period within which to recover this investment is limited, and therefore unlikely to be economic.

Prices and profitability

5.81 Openreach's wholesale charges for ISDN2 are £55.50/channel per quarter. This price is applicable from 1 October 2012, and is 50 pence higher than the previous price which had remained unchanged since 1 October 2004.

5.82 Market power should be assessed in the absence of regulation, but we believe it is still useful to consider reported returns on ISDN2 to provide an indication of current profitability in the presence of the existing SMP remedies. BT's published accounts report that its return on mean capital employed was 26.4% in 2011/12. We consider that this figure is inflated due to much of the ISDN2 asset base being fully depreciated[143] and have adjusted the figure to account for this by adjusting the Net Replacement Cost/Gross Replacement Cost ratio, leaving a return of 15% (see paragraph 15.107). This remains 5.1% above the weighted average cost of capital ('WACC') of 9.7%.[144] This suggests that even with wholesale regulation in place in the form of a cost orientation obligation, BT has been able to earn returns somewhat in excess of its cost of capital. This profitability evidence does not lead us to change our position on the SMP finding given BT's high market share.

Countervailing buyer power

5.83 Purchasers of BT's wholesale ISDN2 service are highly unlikely to possess sufficient countervailing buyer power to undermine BT's market power given the lack of alternative suppliers.

5.84 BT's largest purchaser of wholesale ISDN2, other than its own downstream retail business, only accounts for approximately [✂] of wholesale ISDN2 sales.[145] This further reinforces our view that countervailing buyer power is unlikely.

Provisional conclusions

5.85 In conducting the SMP assessment set out above we have found:

- BT's market share remains at almost 100%;

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[143] Inflation of the reported returns for ISDN30 was discussed at length in the 2012 ISDN30 Charge Control Consultation, and the same logic applies to ISDN2.

[144] "Rest of BT" WACC taken from Annex 4, *Wholesale ISDN30 charge control*, 12 April 2012 www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/statement/ISDN30_final_statement.pdf.

[145] BT response to the s.135 notice of 28 March 2013.

- a degree of substitutability with IP services. However even taking the constraint exerted by these 'out of market' products into account, BT is likely to continue to enjoy a strong market position; and

- other market conditions have not changed significantly since the 2009 Wholesale Narrowband Statement. There remain significant barriers to entry and a lack of countervailing buyer power.

5.86 Our provisional conclusion is thus that BT continues to have SMP in the supply of wholesale ISDN2 exchange lines in the UK excluding the Hull Area.

The Hull Area

5.87 In the 2009 Wholesale Narrowband Statement we found KCOM continued to enjoy SMP despite some entry via PPCs and radio links. We do not consider KCOM's position of market power has been eroded significantly since then as we are not aware of any material entry into the market.

5.88 KCOM's response to the 2012 FAMR Call for Inputs pointed to the deployment of fibre by MS3. MS3 has not stated explicitly that it intends to offer ISDN2 exchange line services, but this is technically possible over a fibre network. However, as discussed in Section 6, MS3 is still in the process of entering the market and is intending to offer various wholesale products but has not yet begun to offer these. Given the limited extent of MS3's network and the recent nature of its deployment, it seems unlikely that MS3 will capture a significant proportion of KCOM's current customer base during the period covered by this market review. We thus believe that KCOM will continue to enjoy a very strong market position in the Hull Area.

5.89 Aside from MS3, barriers to entry in this market appear relatively high as ISDN2 is a declining product. Any new entrant wishing to enter the market would need to invest considerably in rival infrastructure to KCOM, and, given the small geographic area and declining ISDN2 volumes, would likely have a limited customer base and limited time period within which to recover these costs.

5.90 Any form of countervailing buyer power is unlikely given KCOM is the most significant wholesale supplier of ISDN2 in the Hull Area and any single customer is unlikely to account for such a proportion of their customer base as to be able to exploit buyer power.

5.91 Our provisional conclusion is thus that KCOM continues to hold SMP in the wholesale supply of ISDN2 exchange line services in the Hull Area.

Retail market power assessment for the UK excluding the Hull Area

5.92 In this section we consider the effectiveness of competition in the provision of ISDN2 retail services in the UK excluding the Hull Area. This assessment will inform our decision as to whether any firm has SMP, either individually or collectively. Where SMP is found, we are obliged to consider what regulatory obligations may be required to address the lack of effective competition in the market. We conduct this assessment at the retail level assuming the wholesale remedies are in place.

Market Shares

Table 5.2: BT market share of retail ISDN2 market[146]

	2008/09	2009/10	2010/11	2011/12
Total channels	1,297,018	1,245,591	1,141,740	1,140,308
BT	896,103	783,623	640,549	616,257
Others (WLR resellers)	400,915	461,968	501,191	524,051
BT market share	69%	63%	56%	54%

Source: BT Regulatory Financial Statements

5.93 In the 2009 Retail Narrowband Statement we found that BT had a 69% retail market share. Using the wholesale volumes reported in BT's published accounts and assuming that other retailers all purchase ISDN2 from Openreach (given their near 100% wholesale market share), we have determined that BT's retail market share has, since the last review, declined 15% to 54%.

5.94 BT provided us with details of its five largest purchasers of the wholesale ISDN2 product. This showed that BT Retail was the most significant retail supplier (as highlighted in the market shares above), but that the second largest retail supplier only accounted for about [✂] of the retail market.[147] This suggests that BT Retail is the single leading supplier, with many much smaller suppliers also operating in the market.

5.95 As discussed above, we accept that there is a degree of substitutability with IP services but do not consider that it is sufficiently strong to warrant the inclusion of these services within the relevant market. Nonetheless, for the sole purpose of assessing an upper bound for the extent of the constraint that IP services may exert, we have also considered the impact on market shares were we to include SIP Trunking (the likely closest substitute to ISDN2).[148] In September 2012, BT had a share of supply of 33%.[149] Importantly, this 33% figure overstates the constraint from SIP Trunking, as we have found it to be outside the relevant market. Accordingly this 33% figure is likely to understate the extent of BT's market power.

Barriers to entry and expansion

5.96 In terms of barriers to entry into this retail market, there has, as noted in the 2009 Retail Narrowband Statement, been substantial entry into the ISDN2 market by resellers.[150] However, ISDN2 is a declining product with established resellers (particularly BT). As a result, CPs may instead focus their efforts on marketing IP-based services as these are generally considered to be the successor to ISDN2.

5.97 In terms of barriers to expansion, as shown in Table 5.2 BT has lost a reasonable amount of market share between 2008/9 and 2011/12 (a decline of 15 percentage

[146] Figures exclude Virgin which we estimate to only comprise a very small proportion of the market.
[147] BT response to the s.135 notice of 26 November 2012.
[148] We adopted a similar approach when considering the constraints imposed by 'out of market' products in Annex 8, paragraphs 2.226-2.227, Ofcom, *Pay TV phase three document*, 26 June 2009, www.stakeholders.ofcom.org.uk/binaries/consultations/third_paytv/annexes/annex8.pdf.
[149] BT's share was calculated using BT's volumes for both wholesale ISDN2 and SIP Trunking, and the total market size was calculated using BT's wholesale ISDN2 volumes and Illume Research's SIP/IP Trunking volumes. See also footnote 142.
[150] Paragraph 5.152, Ofcom, *Fixed narrowband retail services markets: Consultation on the identification of markets and determination of market power,* 19 March 2009, www.stakeholders.ofcom.org.uk/binaries/consultations/retail_markets/summary/fnrsm_condoc.pdf.

points to 54%). This suggests that the barriers to BT losing customers are modest and that there is scope for other retailers (in aggregate) to expand at BT's expense.

5.98 However, this decline in BT's market share has not led to any large rival retailers emerging in the ISDN2 market. As noted above, the second largest retail supplier (after BT Retail) only accounts for around [✂] of the market.

5.99 Overall we consider that barriers to entry and expansion are unlikely to be high. There is evidence that rival retailers (as a whole) have been able to grow at BT's expense over recent years, although no rival retailer has been able to attain significant scale.

Prices and profitability

5.100 Wholesale rental charges for ISDN2 have increased by 50 pence since 2004 (to £55.50 per quarter), but retail prices have increased by a significantly larger margin in the same time period. On 1 November 2008 the retail charge for a 1 year tariff was £100.89 (excl. VAT) per ISDN2 line per quarter.[151] Effective from 1 January 2013 the charge was £122.58 for the same tariff.[152] This represents an increase of approximately 21% over this period, which equates to just under 5% per year.

5.101 As a result, BT's margin over wholesale access costs has increased. In 2008 BT's price cost margin was 45% (based on a one year low start tariff).[153] This has increased to 55% in 2013 based on the same tariff.[154]

5.102 We recognise that this increase in BT's margins has coincided with a decline in BT's retail market share (as set out above). This suggests that some of BT's customers have switched to other ISDN2 retailers. Nonetheless the fact that BT has chosen to increase its margin between retail and wholesale prices suggests that it believes it would be profitable to do so.

Countervailing buyer power

5.103 BT has provided us with details of its 10 largest retail customers of ISDN2 lines which shows that the largest of BT Retail's customers only accounts for less than 3% of their total customer base (in number of lines).[155] Therefore we consider it is unlikely any company purchasing retail ISDN2 would be able to exercise buyer power to any significant extent.

Provisional conclusions

5.104 We consider that the evidence as to whether BT will continue to enjoy SMP in the retail supply ISDN2 during the period covered by this market review is finely balanced. We would particularly welcome stakeholders' views on this point.

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[151] BT's one year contract low-start tariff.

[152] www.globalservices.bt.com/static/assets/pdf/products/isdn2e/BT_One_Voice_access_ISDN_2e_pricing_options_010113.pdf.

[153] Paragraph 5.168, Ofcom, *Fixed narrowband retail services markets: Consultation on the identification of markets and determination of market power,* 19 March 2009, www.stakeholders.ofcom.org.uk/binaries/consultations/retail_markets/summary/fnrsm_condoc.pdf.

[154] Based on a retail price of £122.58 per quarter for BT's low start tariff on a 1 year contract (price effective from 1 January 2013, and a wholesale price of £55.50 per quarter per ISDN2 exchange line).

[155] BT response to the s.135 notice of 28 March 2013.

5.105 On balance, we provisionally consider that BT is unlikely to maintain SMP at the retail level for the duration of the time period covered by this review. We note that BT has managed to increase its price-cost margin on retail ISDN2 (which coincides with the continuing decline in its market share) and faces little in the way of countervailing buyer power. However, in the period since the last review BT's market share has fallen by a not inconsiderable amount, as consumers have switched to rival ISDN2 retailers. Should the decline over this period continue at the same rate, BT may have a market share of less than 40% within the forward look period. The influence of IP-based alternatives will also place additional constraints on retail pricing of ISDN2. Taking all this evidence into account we provisionally consider that on balance a finding of no SMP is appropriate in this market during the period of the market review.

5.106 Our provisional conclusion is thus that no operator holds SMP in the supply of retail ISDN2 exchange lines in the UK excluding the Hull Area.

Consultation question(s)

5.1 Do you agree with our provisional view that, during the period covered by this market review, BT and KCOM will have SMP in the wholesale ISDN2 markets we define above? Please provide reasons in support of your views.

5.2 Do you agree with our provisional view that, during the period covered by this market review, BT does not possess SMP in the retail ISDN2 market we define above? Please provide reasons in support of your views.

Section 6

Market definition and SMP analysis: Retail markets in the Hull Area

6.1 This section covers our assessment of various retail markets in the Hull Area. We have presented this analysis separately as we provisionally conclude that these markets fail to satisfy all three criteria in the test set out in the 2007 EC Recommendation. Accordingly, we provisionally conclude that it is not appropriate to impose *ex ante* regulation in these markets.

6.2 We discuss each of the following markets in the Hull Area in turn:

- retail fixed analogue exchange lines;
- retail ISDN30 exchange line services; and
- retail ISDN2 exchange line services.

Summary of responses to the 2012 FAMR Call for Inputs

6.3 In the 2012 FAMR Call for Inputs, we summarised our past findings in relation to market definition and the assessment of market power for business and residential narrowband analogue access in the Hull Area and for retail ISDN30 access in the Hull Area. We then asked the following:

> *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*

6.4 We asked a similar question in relation to ISDN2 access.

6.5 In relation to the supply of retail fixed analogue exchange lines (‘RFAEL’) in the Hull Area, KCOM stated that there had not been any particular developments in the last three years that would alter Ofcom’s existing market definition. However, KCOM argued that *ex ante* regulation of RFAELs in the Hull Area was no longer appropriate and in some instances may be having a negative effect.

6.6 In particular, KCOM argued that competitive constraints on RFAELs in both the business and residential sectors had been growing over time:

- in the business sector, KCOM noted that there were resellers using KCOM’s wholesale product who had been active since late 2009. It also pointed to those business customers who were choosing to substitute analogue business exchange lines with alternative access solutions including leased lines. KCOM said that it expected competition from resellers of fixed access to increase as a result of the availability of MS3’s network. It stated that as a result of the developing presence of retail access competition in the business market in the Hull Area, as well as declining volumes, further consideration should be given to whether retail regulation remains appropriate in business markets; and

- in the residential sector, KCOM noted the constraint was largely in the form of a significant and increasing use of mobile services as a substitute for fixed services. KCOM said that it expected the competitive pressure from mobile access to increase as a result of EE's roll out of LTE services in the Hull Area.

6.7 In relation to the supply of ISDN30 and ISDN2 in the Hull Area, KCOM stated there had been significant developments with a new entrant (MS3) currently deploying a network in the Hull Area. It said MS3 would provide direct infrastructure based competition to KCOM and was likely to do so in a relatively short time frame given the limited geographic area to be covered. KCOM said that it expected the availability of alternative access infrastructure to have an impact on both the ISDN30 and the ISDN2 markets, and that we should take this into account when assessing SMP. It noted that, even absent this recent development, ISDN2 volumes were declining.

Regulatory framework

6.8 Under the European Framework, and in particular Article 15 of the Framework Directive, in considering whether or not it is appropriate to impose regulation in electronic communications markets, national regulatory authorities must begin by defining relevant markets appropriate to national circumstances in accordance with the principles of competition law and taking utmost account of the 2007 EC Recommendation.

6.9 As set out in Section 2, the 2007 EC Recommendation identifies a set of product and service markets in which *ex ante* regulation may be warranted. None of the retail markets in paragraph 6.2 above are listed in the 2007 EC Recommendation. However, the 2007 EC Recommendation also recognises that NRAs may impose regulation in markets different from those identified in the 2007 EC Recommendation where this is justified by national circumstances and the three criteria test is met. Our analysis of whether this test is met in the case of the markets in paragraph 6.2 is set out below.

6.10 We have now considered the extent to which the conditions of competition within those markets remain such as to warrant the imposition of *ex ante* regulatory remedies. In doing so, we have had regard to the test set out in the 2007 EC Recommendation for the identification of markets in which regulatory obligations may be appropriate. In particular, we have considered the extent to which *ex post* competition law may be sufficient to deal with any competition concerns or whether regulatory obligations ought to be imposed in order to ensure intervention where those concerns become manifest. Our analysis of whether this test is met in the case of the markets in paragraph 6.2 is set out below.

Three criteria test

6.11 The 2007 EC Recommendation seeks to "*identify those product and service markets within the electronic communications sector the characteristics of which may be such as to justify the imposition of regulatory obligations set out in the Specific Directives, without prejudice to markets that may be defined in specific cases under competition law*".[156] It therefore lists a number of markets in which the European Commission

[156] Article 15(1), EC, *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*, www.ec.europa.eu/information_society/policy/ecomm/doc/140framework.pdf.

considers that regulatory obligations are appropriate, taking into account the particular features of those markets.

6.12 The 2007 EC Recommendation also recognises that there may be other markets, aside from those identified, in which it is appropriate to impose regulatory obligations. However, where national regulatory authorities seek to identify such markets, the 2007 EC Recommendation sets out the following three criteria which must all be met:

- the presence of high and non-transitory barriers to entry. These may be of a structural, legal or regulatory nature;
- a market structure which does not tend towards effective competition within the relevant time horizon. The application of this criterion involves examining the state of competition behind the barriers to entry; and
- the insufficiency of competition law alone to adequately address the market failure(s) concerned.[157]

Retail fixed analogue exchange lines in the Hull Area

Introduction

6.13 The analysis set out below covers the supply of retail fixed analogue exchange lines (RFAELs) to business and residential consumers in the Hull Area. An analogue exchange line service is a telephone connection (typically a single 64 kbit/s channel) from a customer's premises to a local aggregation point (e.g. local exchange) in the access network. This connection provides consumers with the capability to consume other telephony services in the form of telephone calls, facsimile and dial-up internet access.

6.14 We reviewed the retail position in the 2009 Retail Narrowband Statement and found that KCOM had SMP. We concluded that it was appropriate, at that time, to impose SMP regulation on KCOM as a result. We now propose that the supply of RFAELs in the Hull Area is no longer a market in which the imposition of *ex ante* regulation remains appropriate.

6.15 The analysis below is set out as follows:

- a summary of the position in the previous market review;
- relevance of the 2013 Narrowband Consultation;
- identification of the appropriate frame of reference for the three criteria test;
- application of the three criteria test; and
- our provisional conclusions.

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[157] Paragraph 5, EC, *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),* www.ec.europa.eu/information_society/policy/ecomm/doc/library/proposals/rec_markets_en.pdf.

Position in the previous market review

6.16 We last reviewed analogue exchange line markets in the 2009 Retail Narrowband Statement and concluded that there were two separate markets for retail narrowband access services in the Hull Area.[158] We found that mobile and VoIP were both outside these markets, and as a result we defined the markets as follows:

- residential fixed narrowband analogue access; and
- business fixed narrowband analogue access.

6.17 We found that KCOM had SMP in both the residential and business retail fixed analogue exchange line markets in the Hull Area due to the lack of alternative providers at that time and significant barriers to entry. We therefore retained the existing general remedies (no undue discrimination and price publication) on KCOM in these markets.

2013 Narrowband Consultation

6.18 We reviewed the retail market for narrowband calls in the Hull Area in the 2013 Narrowband Consultation. This market is very closely linked to the retail market for narrowband access as customers need a fixed line in order to make narrowband calls, and typically purchase a package of access and calls together. We therefore draw on the analysis conducted in our 2013 Narrowband Consultation to inform our analysis in this section. Our position in the 2013 Narrowband Consultation was in turn heavily based on the findings in the 2009 Retail Narrowband Statement. In particular, we found no evidence which would cause us to reconsider the conclusions of the 2009 review, i.e. that there were separate retail markets for:

- residential fixed narrowband calls; and
- business fixed narrowband calls.

6.19 These markets do not appear on the list of relevant markets in the 2007 EC Recommendation and therefore we assessed whether or not it was appropriate to impose *ex ante* regulation using the three criteria test. We proposed that *ex ante* regulation was no longer appropriate as we considered that competition law was sufficient to address market failures that may arise. We noted that given the prices in the UK excluding the Hull Area provided a first order benchmark, it would be relatively apparent if prices in the Hull Area were excessive.

Frame of reference for the three criteria test

6.20 In order to apply the three criteria test it is necessary to have a frame of reference. In other words, it is necessary to identify the products and geographic area that is evaluated against the three criteria in that test. We identify below an appropriate frame of reference in relation to RFAELs.

[158] Narrowband access services are another name for analogue exchange line services.

Product market

6.21 In this market review we have taken the definitions set out in the 2009 Retail Narrowband Statement as the starting point for our analysis. As set out above, we defined separate markets for business and residential fixed analogue access in the 2009 Retail Narrowband Statement. We did not consider that alternative networks (including mobile) exercised a direct constraint at the retail level such that they should be included in the definition of the relevant market.

6.22 In the analysis of indirect constraints on WFAELs set out in paragraphs 3.26-3.49, we find that switching at the retail level to both mobile access and VoIP over broadband is likely to be limited for both residential and business users within the period covered by this review.

6.23 We note that KCOM described different market developments in relation to the business and residential segments in its response to the 2012 FAMR Call for Inputs. In particular, it pointed towards a growing constraint from resellers and leased lines in the business sector and from mobile access in the residential sector. We consider that the fact that the two segments are subject to different trends in competitive conditions suggests they are distinct.

6.24 The above analysis suggests that our 2009 Retail Narrowband Statement market definitions remain an appropriate frame of reference for applying the three criteria test. We therefore assess the following products below:

- residential analogue exchange line services; and
- business analogue exchange line services.

Geographic market

6.25 In the 2009 Retail Narrowband Statement, we concluded that the relevant geographic market for business and residential calls was the Hull Area. We have not identified any changes which would call into question those conclusions either at the present time or during the period of the review. We thus consider that the Hull Area remains an appropriate frame of reference.

Application of the three criteria test

6.26 We have used the three criteria set out in the 2007 EC Recommendation to assess whether or not the supply of business and residential analogue exchange line services in the Hull Area are markets in which regulatory obligations may be appropriate. Discussion of these three criteria is set out below.

Presence of high and non-transitory barriers to entry

6.27 There have been a range of wholesale and retail remedies in place since the 2009 Retail Narrowband Statement and, while there have been clear regulatory mechanisms in place to allow competing CPs to supply retail analogue exchange lines in the Hull Area, there has been limited uptake of wholesale products to provide these retail services. At the end of 2011/12 KCOM accounted for over 90% of business RFAELs in the Hull Area and 100% of residential RFAELs.[159]

6.28 There are economic barriers in place that limit the extent to which competition can develop in the Hull Area. The Hull Area has a relatively small population and, particularly in competition with an incumbent, another CP would find it challenging to gain market share rapidly. When set against the systems integration that would be required to enter the market, there is a structural barrier to entry.

6.29 There is a degree of retail competition in the business sector resulting from the presence of resellers in this segment. However KCOM's high market share for both residential and business customers and the lack of market entry in the residential market, suggest that there have not been significant changes to the economic barriers to entry in the Hull Area.

6.30 In its response to the 2012 FAMR Call for Inputs, KCOM indicated that MS3 is currently deploying some competing infrastructure in the Hull Area, which it argued will lead to an increase in the competitive constraint from resellers. MS3 is a fibre network operator.[160] It has announced its intention to concentrate on supplying services for the business sector, although it has stated that some potential partners expressed an interest in offering domestic services.[161] MS3's network deployment may be an indicator that barriers to entry are falling in relation in the Hull Area. MS3 recently announced that its current network build of about 30km was now live and it next planned to focus on network expansion, bringing the size of its network to about 200km over the next 3 years.[162]

6.31 As we noted in the 2013 Narrowband Consultation in relation to retail narrowband calls in the Hull Area, the extent to which any entry by MS3 might act as a competitive constraint on the actions of KCOM is unclear. We believe this also applies in the case of RFAELs. More specifically we consider that MS3 is unlikely to attain sufficient scale to significantly affect the competitive conditions in the supply of RFAELs in the Hull Area over the period covered by this review. MS3 seems likely to focus on business customers and we note its network does not cover all of the Hull Area. As a result we consider that it is unlikely that MS3 will be able to gain a significant customer base from KCOM during the time period covered by this review.

6.32 In consequence, we continue to consider that there are high and non-transitory barriers to entry in the markets for retail fixed analogue access in the Hull Area.

Market structure which does not tend towards effective competition within the relevant time horizon

6.33 As set out above, KCOM accounts for a very high share of RFAELs in the Hull Area. While the entry of MS3 might increase the limited competitive constraints faced by KCOM in the retail market, MS3's operations are at an early stage of development and it is unclear: (i) which markets MS3 will operate in; and (ii) the extent to which MS3 will exercise an effective constraint on KCOM in the retail analogue exchange

[159] KCOM reported external sales in its regulated accounts of 3,000 lines in 2011/12. This represents just under 2% of total lines in Hull, and just under 8% of business lines in Hull. This figure is attributable to resellers who are active in the business market. See page 11 of www.kcomplc.com/docs/regulatory-pdf/final_statements_2012.pdf
[160] www.ms-3.co.uk/pages/about-us
[161] MS3, *MS3 expand with Garness Jones*, 11 January 2013, www.ms-3.co.uk/articles/5.
[162] MS3, *MS3 network officially live*, 10 April 2013, www.ms-3.co.uk/articles/7.

line markets in the Hull Area. We do not therefore consider that, during the period of the current market review, the entry of MS3 is likely to provide a sufficient constraint such that the retail markets in the Hull Area will tend towards effective competition.

6.34 In light of the above, we continue to consider that the market for retail analogue exchange lines in the Hull Area exhibits a market structure which does not tend towards effective competition over the period of this review.

Sufficiency of competition law

6.35 The third criterion relates to whether competition law is sufficient alone to adequately address market failure(s). We provisionally conclude that *ex ante* regulation is no longer appropriate for the business and residential retail analogue exchange line markets in the Hull Area as we consider competition law would be sufficient to address market failures which arise in these markets. Our reasoning is set out below.

6.36 Despite the absence of price regulation in the Hull Area, the evidence in Table 6.1 appears to show that KCOM's prices for retail access and related bundles remain aligned with national prices. In 2010 we relaxed regulation in relation to KCOM's ability to offer bundles including fixed calls and fixed access.[163] Since that change we have not received any complaint or dispute submission meeting our guidelines requirements sufficient to trigger an enquiry (the process of deciding whether to conduct an investigation), in relation to KCOM's commercial practices at the retail level.

Table 6.1: Retail packages including narrowband services in Hull and the UK

	KC (KCOM)	BT	Sky
Fixed access plus 24/7 calls package	£13.49 /month including line rental Free local calls 24/7 60 UK mobile minutes to use after 7pm at weekends	£0 + £15.45/month line rental Free weekend UK landline calls Does not include 'Line Rental Saver' Price	£0 + £14.50/month line rental Inclusive weekend calls to UK landlines and calls to 0870 numbers
Fixed access plus, fixed calls and broadband (+33Gb/month)	£30.99 per month including line rental Free local calls 24/7 Free UK landline calls on evenings and weekends Broadband with 35Gb monthly usage allowance 120 UK mobile minutes to use a weekends	£15 + £15.45/month line rental Fibre broadband with 40Gb monthly usage allowance Weekend calls included £30 activation charge	£10 + £14.50/month line rental Unlimited broadband (no monthly usage cap) Inclusive weekend UK landline calls and calls to 0870 numbers

Source: Respective CPs websites. Terms and conditions described are indicative only, and are not intended as a complete description of the price or package options. Prices do not include discounts or special offers.

6.37 If KCOM did engage in conduct amounting to an abuse of a dominant position, we consider that competition law would provide a means of addressing this behaviour.

[163] Ofcom, *Retail Bundling in Hull*, 5 August 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/retail-bundling-in-hull/summary/main.pdf.

Regarding pricing concerns in particular, we consider prices in the rest of the UK provide a relevant (first order) benchmark for competitive retail rates that would assist in identifying excessive pricing in the Hull Area. This means that any potentially excessive increase in price could be identified by Ofcom or brought to our attention by affected consumers. In addition, retail competitors would be able to indicate the existence of targeted KCOM discounts which would assist in identifying conduct that might constitute exclusionary behaviour.

6.38 Taking the considerations set out above into account we consider that competition law alone would be sufficient to address market failures that may arise in the retail markets for fixed analogue exchange lines in the Hull Area. We thus provisionally conclude that this criterion of the three criteria is not satisfied.

Provisional conclusion

6.39 In light of the analysis above, we provisionally conclude that competition law is sufficient to address any competition concerns in residential fixed narrowband analogue access in the Hull Area and business fixed narrowband analogue access in the Hull Area. Accordingly *ex ante* regulation is no longer appropriate given all the requirements of the three criteria test are not satisfied. This conclusion is consistent with our provisional conclusion for retail narrowband calls in the Hull Area in the 2013 Narrowband Consultation. Therefore we propose removing the existing remedies:

- no undue price discrimination; and
- price publication.

Retail ISDN30 exchange line services in the Hull Area

6.40 The analysis set out below covers the retail market for ISDN30 in the Hull Area. We reviewed this market in the 2010 ISDN30 Statement and KCOM was found to hold SMP. We concluded that it was appropriate, at that time, to impose SMP regulation on KCOM as a result. We now propose that the retail supply of ISDN30 exchange lines in the Hull Area is no longer a market in which the imposition of *ex ante* regulation remains appropriate.

6.41 The analysis below is set out as follows:

- application of the three criteria test; and
- our provisional conclusions.

Application of the three criteria test

6.42 In the light of the discussion in Section 4, we have adopted the retail supply of ISDN30 exchange line services in the Hull Area as our frame of reference and applied the three criteria set out in the 2007 EC Recommendation to assess whether regulatory obligations may be appropriate. Discussion of these three criteria is set out below.

Presence of high and non-transitory barriers to entry

6.43 We consider that much of the discussion set out in relation to the barriers to entry into the retail market for fixed analogue exchange lines in paragraphs 6.27-6.32 above is also applicable to the supply of retail ISDN30 exchange line services in the Hull Area. In particular:

- there are economic barriers in place that limit the extent to which competition can develop in the Hull Area. The Hull Area has a relatively small population and, particularly in competition with an incumbent, another CP would find it challenging to gain market share rapidly; and

- MS3 is currently in the process of entering the wholesale market in the Hull Area. We do not consider it likely that the availability of an alternative network will enable resellers to expand significantly within the period covered by this review, particularly given the limited extent of MS3's planned network.

6.44 KCOM is currently subject to a number of SMP conditions in relation to the wholesale supply of ISDN30, including a requirement to provide network access. Notwithstanding these wholesale remedies, competition at the retail level in the Hull Area is very limited. In 2011/12, KCOM reported wholesale ISDN30 sales to resellers of 7% of total sales.[164] This suggests that KCOM has a market share at the retail level in excess of 90%. This indicates that it is unlikely there has been any change in the economic barriers to entry in the Hull Area. In addition, as IP-based services increase in importance as an alternative to ISDN30 it is increasingly unlikely that significant entry into the retail market for ISDN30 in the Hull Area will occur.

Market structure which does not tend towards effective competition within the relevant time horizon

6.45 We have discussed the barriers to entry into the retail market for ISDN30 in the Hull Area above and concluded they remain high. KCOM also accounts for a high share of retail ISDN30 supply. As we noted in relation to RFAELs in the Hull Area, while the entry of MS3 might increase the limited competitive constraints faced by KCOM in the retail market, MS3's operations are at an early stage of development. As a result it is unclear: (i) which markets MS3 will operate in; and (ii) the extent to which MS3 will exercise an effective constraint on KCOM in the retail ISDN30 market in the Hull Area. We do not therefore consider that, during the period of the current market review, the entry of MS3 is likely to provide a sufficient constraint such that the retail markets in the Hull Area will tend towards effective competition.

Sufficiency of competition law

6.46 We provisionally concluded above in the context of RFAELs in the Hull Area that competition law was now sufficient to address market failures and therefore imposition of *ex ante* regulation was no longer appropriate. We note that the market for ISDN30 is slightly different, but that much of the reasoning for removing *ex ante* regulation on RFAELs is also applicable to ISDN30. In particular we consider that:

- in the absence of any pricing regulation in this market, we have not identified any competition concerns at the present time, nor have we received any complaints or disputes which met our guidelines' requirements sufficient to trigger an inquiry, in relation to KCOM's commercial practices at the retail level. We also note that no

[164] P.19, KCOM, *2011/12 Regulatory Financial Review*, www.kcomplc.com/docs/regulatory-pdf/final_statements_2012.pdf

competition concerns have come to our attention as a result of the removal of regulation in other retail markets in the Hull Area; and

- any competition concerns would become apparent in the absence of regulation due to prices in the rest of the UK providing a relevant (first order) benchmark for competitive retail rates.

6.47 More specifically to the retail market for ISDN30 we note that while the current *ex ante* regulation in this market (no undue discrimination and price publication) does not seem to have been effective in promoting substantial entry in the Hull Area, the prices charged by KCOM are below those charged by BT. KCOM currently charges £210.00 excl. VAT for “local” ISDN30 (on a per channel basis) when paid via invoice and on a 1 year contract.[165] In contrast, BT charges between £240.48 and £277.44 excl. VAT for an approximately equivalent product.[166] This suggests that, even in the absence of significant direct competitors and price regulation, KCOM is choosing to price at a level below that found in a market for ISDN30 where competition has been deemed to be effective. This indicates that the pricing in the Hull Area is not likely to be considered excessive.

6.48 Taking account of the above we provisionally conclude that competition law would now be sufficient to address market failures in the retail supply of ISDN30 exchange line services in the Hull Area.

Provisional conclusions

6.49 In light of the analysis above, we provisionally conclude that competition law is sufficient to address market failures in the retail supply of ISDN30 exchange line services in the Hull Area. Accordingly *ex ante* regulation is no longer appropriate given all the requirements of the three criteria test are not satisfied.

6.50 For the avoidance of doubt, this proposal means that the existing remedies imposed on KCOM in the retail market for ISDN30 in the Hull Area will be removed, namely:

- no undue discrimination; and
- price publication.

Retail ISDN2 exchange line services in the Hull Area

6.51 The analysis set out below covers the retail market for ISDN2 in the Hull Area. We reviewed this market in the 2009 Retail Narrowband Statement and KCOM was found to hold SMP. We concluded that it was appropriate, at that time, to impose SMP regulation on KCOM as a result. We now propose that the retail supply of ISDN2 exchange lines in the Hull Area is no longer a market in which the imposition of *ex ante* regulation remains appropriate.

6.52 The analysis below is set out as follows:

- application of the three criteria test; and

[165] KCOM, *Price manual – business services,* www.pricing.k-c.co.uk/business-main.asp.
[166] KCOM’s product includes 10 free DDI numbers, with a charge for additional numbers above this, whereas BT’s product includes either zero DDI numbers (lower charge), or unlimited DDI numbers (higher charge). See: www.business.bt.com/phone-services/isdn/.

- our provisional conclusions.

Application of the three criteria test

6.53 In the light of the discussion in Section 5 we have adopted the retail supply of ISDN2 exchange line services in the Hull Area as our frame of reference and applied the three criteria set out in the 2007 EC Recommendation to assess whether regulatory obligations may be appropriate. Discussion of these three criteria is set out below.

Presence of high and non-transitory barriers to entry

6.54 We consider that much of the discussion set out in relation to the barriers to entry into the retail market for fixed analogue exchange lines in paragraphs 6.27-6.32 above is also applicable to the retail supply of ISDN2 exchange line services in the Hull Area. In particular:

- there are economic barriers in place that limit the extent to which competition can develop in the Hull Area. The Hull Area has a relatively small population and, particularly in competition with an incumbent, another CP would find it challenging to gain market share rapidly; and

- MS3 is currently in the process of entering the wholesale market in the Hull Area. We do not consider it likely that the availability of an alternative network will enable resellers to expand significantly within the period covered by this review, particularly given the limited extent of the planned network.

6.55 KCOM is currently subject to a number of SMP conditions in relation to the wholesale supply of ISDN2, including a requirement to provide network access. Notwithstanding these wholesale remedies, competition at the retail level in the Hull Area is very limited. In 2011/12, KCOM reported wholesale sales to resellers of 8% of total sales.[167] In the Hull Area ISDN2 is sometimes provided using PPCs or radio links, but we consider these are only likely to account for a small proportion of the market Accordingly this suggests that KCOM has a market share at the retail level in excess of 90%. This indicates that it is unlikely there has been any change in the economic barriers to entry in the Hull Area since the last review.

6.56 In addition, as IP-based services increase in importance as an alternative to ISDN2 it is increasingly unlikely that significant entry into the retail market for ISDN2 in the Hull Area will occur.

Market structure which does not tend towards effective competition within the relevant time horizon

6.57 We have discussed the barriers to entry into the retail market for ISDN2 in the Hull Area above and concluded they remain high. KCOM also accounts for a high share of retail ISDN2 supply. As we noted in relation to RFAELs in Hull, while the entry of MS3 might increase the limited competitive constraints faced by KCOM in the retail market, MS3's operations are at an early stage of development. As a result it is unclear: (i) which markets MS3 will operate in; and (ii) the extent to which MS3 will exercise an effective constraint on KCOM in the retail ISDN2 market in the Hull Area. We do not therefore consider that, during the period of the current market review, the

[167] P.15, KCOM, *2011/12 Regulatory Financial Review*, www.kcomplc.com/docs/regulatory-pdf/final_statements_2012.pdf.

entry of MS3 is likely to provide a sufficient constraint such that the retail markets in the Hull Area will tend towards effective competition.

Sufficiency of competition law

6.58 We found in the context of both retail analogue exchange lines in Hull and retail ISDN30 in Hull that competition law was now sufficient to address market failures and therefore the imposition of *ex ante* regulation was no longer appropriate. We note that the market for ISDN2 is slightly different, but that much of the reasoning for removing *ex ante* regulation in the markets discussed above is also applicable to ISDN2. In particular we consider that:

- in the absence of any pricing regulation in this market we have not identified any competition concerns at the present time, nor have we received any complaints or disputes which met our guidelines' requirements sufficient to trigger an inquiry, in relation to KCOM's commercial practices at the retail level. We also note that no competition concerns have come to our attention as a result of the removal of regulation in other retail markets in the Hull Area; and

- any competition concerns would become apparent in the absence of regulation due to prices in the rest of the UK providing a relevant (first order) benchmark for competitive retail rates.

6.59 More specifically to the retail market for ISDN2 we note that while the current *ex ante* regulation in this market (no undue discrimination and price publication) does not seem to have been effective in promoting entry, prices have remained constant in nominal terms since the last review in 2009 (a decline in real terms). In the 2009 review we found KCOM's pricing of retail ISDN2 was broadly similar to that of BT's. However unlike BT, KCOM has not increased its retail tariffs since the 2009 Retail Narrowband Statement. This suggests that even in the absence of significant direct competitors that KCOM is choosing to price at a similar or slightly lower level to BT and therefore that consumers are not facing excessive pricing.

6.60 Taking account of the above we provisionally conclude that competition law would now be sufficient to address market failures in the retail supply of ISDN2 exchange line services in the Hull Area.

Provisional conclusions

6.61 In light of the analysis above, we provisionally conclude that competition law is sufficient to address market failures in the retail supply of ISDN2 exchange line services in the Hull Area. Accordingly *ex ante* regulation is no longer appropriate as all the requirements of the three criteria test are not satisfied.

6.62 For the avoidance of doubt, this proposal means that the existing remedies imposed on KCOM in the retail market for ISDN2 in the Hull Area would be removed, namely:

- no undue discrimination; and

- price publication.

Consultation question(s)

6.1 Do you agree with our provisional view that, during the period covered by this market review, it is not appropriate to impose retail regulation in the RFAEL markets in the Hull Area that we define above? Please provide reasons in support of your views.

6.2 Do you agree with our provisional view that, during the period covered by this market review, it is not appropriate to impose retail regulation in the retail ISDN30 market in the Hull Area that we define above? Please provide reasons in support of your views.

6.3 Do you agree with our provisional view that, during the period covered by this market review, it is not appropriate to impose retail regulation in the retail ISDN2 market in the Hull Area that we define above? Please provide reasons in support of your views.

Section 7

Market definition and SMP analysis: WLA

Introduction

7.1 In this section we set out our provisional assessment of market definition and market power in relation to the provision of WLA. The reasoning for carrying out a market definition and market power assessment, including our general approach to doing so, is set out in Annex 6. In approaching our assessment of market definition for the WLA market, we have taken utmost account of the guidance on market definition in the EC SMP Guidelines.

7.2 WLA refers to the fixed connection from the local exchange or access node to the end user, corresponding to market 4 in the 2007 EC Recommendation, to which we have had utmost account.[168] WLA is an input into a variety of retail services that rely on a fixed local access connection:

- the provision of narrowband telephony (both voice services and dial up internet access);
- the provision of asymmetric broadband (at both standard (CGA) and superfast speeds);
- the provision of ISDN2 and ISDN30; and
- the provision of some symmetric broadband (leased line) services.

7.3 In the UK there are two large fixed access networks, operated by BT and Virgin respectively. Traditionally, BT has provided WLA using a copper connection between the customer's premises and a local exchange. However, BT has recently been upgrading its copper access network by introducing fibre connections between the local exchanges and the street cabinets to make an FTTC network (copper is still used between the street cabinet and the consumer's premise).[169] KCOM operates a similar network in the Hull Area.

7.4 Virgin's access network architecture is slightly different. It provides a connection between a customer's premises and a street cabinet using a Siamese cable, which contains a coaxial cable and a twisted copper pair – the coaxial cable is used to support TV and broadband whereas the twisted copper pair is used to support standard telephony. Virgin then uses fibre rings to connect the street cabinets to the 'head-end' hub site.

7.5 In addition to the two large fixed networks, mobile network operators provide access using wireless connections between customers' devices and the operators' networks. There are also small, niche fixed networks.

[168] Namely 'Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location.'
[169] In a small number of areas BT has deployed a fibre-to-the-premise (FTTP) network.

7.6 Assessing the extent of competition between different access networks (e.g. BT, Virgin and the mobile networks) is at the heart of our market definition exercise and SMP assessment.

7.7 This section is structured as follows:

- we summarise the position in the previous market review;
- we summarise responses to the 2012 FAMR Call for Inputs;
- we define the relevant markets; and
- we set out our assessment of market power.

7.8 In summary, we have provisionally concluded that the scope of the relevant market is the provision of copper loop-based, cable-based and fibre-based wholesale local access at a fixed location.[170] Mobile, fixed wireless and satellite access lie outside the relevant market. There are two distinct geographic markets: the UK excluding the Hull Area; and the Hull Area.

7.9 In our market power assessment we provisionally conclude that:

- BT has SMP in the supply of WLA in the UK excluding the Hull Area; and
- KCOM has SMP in the supply of WLA in the Hull Area.

Position in the previous market review

7.10 Demand for WLA is derived from demand in downstream retail and wholesale markets for those services that require WLA as an input. In the 2010 WLA Statement we referred to our position in other reviews in relation to WFAEL, ISDN2, ISDN30, asymmetric broadband access and retail leased lines. Our views on the relevant market for the provision of WLA reflected the position in these downstream markets. For the WLA market we concluded that:[171]

- copper loop-, cable- and optical fibre-based wholesale local access at a fixed location were in the same market;
- mobile, fixed wireless and satellite access did not lie in the relevant market;
- connections for business and residential users were in the same market; and
- there were two separate geographic markets: the UK excluding the Hull Area, and the Hull Area.

7.11 In the 2010 WLA Statement we concluded that BT had SMP in the UK excluding the Hull Area based on its high and stable market share, the presence of significant barriers to entry and the absence of countervailing buyer power. We also concluded

[170] For brevity we generally refer to "WLA" in the text below.
[171] Section 3, Ofcom, *Review of the wholesale local access market*, 7 October 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf.

that KCOM, which enjoyed a 100% market share in the Hull Area, had SMP in the Hull Area.[172]

7.12 We revisited our analysis of BT's position in the 2012 LLU WLR Charge Control Statement. We concluded that there had been no material change in the WLA market since Ofcom's previous market power determination in the 2012 WLA Statement.[173]

Summary of responses to the FAMR Call for Inputs

7.13 In the 2012 FAMR Call for Inputs, we summarised the conclusions from the 2010 WLA Statement and the 2012 LLU WLR Charge Control Statement. We then asked the following question.

> *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.*

7.14 With the exception of TalkTalk, we only received brief responses on the issue of WLA market definition.[174] Below we first discuss other stakeholders' positions before summarising TalkTalk's submissions. We then deal with the points raised in response to the 2012 FAMR Call for Inputs where relevant in our analysis of market definition and market power below.

Views of stakeholders other than TalkTalk

7.15 A number of respondents (Everything Everywhere ('EE'), MCL, Sky, Verizon and Virgin) stated that they were not aware of any developments that should lead us to change the existing WLA market definition and SMP findings.[175]

7.16 BT did not see "*a strong case to fundamentally redefine existing WLA definitions at this stage*" but did highlight the deployment of superfast broadband. BT stated that the launch of 4G mobile services would improve the quality of mobile broadband and may increase the number of 'mobile only' households, and that it was important to understand the competitive effects of Virgin's relative strength in the provision of superfast broadband.[176]

7.17 BT also stated that there was a *prima facie* case for considering sub-national geographic markets for areas where Virgin was present, since Virgin's presence significantly altered local competitive conditions. BT considered that Virgin exerted a strong competitive constraint where it was present. Similarly, Ofcom should consider

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[172] Ibid.

[173] Annex 11, Ofcom, *Charge control review for LLU and WLR services*, 7 March 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf.

[174] Some respondents to this question discussed the issue of whether the current regulatory remedies were appropriate and how they should be changed: Pp.2-3, *Vodafone response to the 2012 FAMR Call for Inputs*; *Manchester City Council response to the 2012 FAMR Call for Inputs*; Pp. 5-6, *Bit Commons response to the 2012 FAMR Call for Inputs.* See www.stakeholders.ofcom.org.uk/consultations/fixed-access-markets/?showResponses=true. We discuss potential remedies for our SMP findings in Section 11.

[175] P. 12, *EE response to the 2012 FAMR Call for Inputs*; Q.2.1, *MCL response to the 2012 FAMR Call for Inputs*; Paragraph 9, *Sky response to the 2012 FAMR Call for Inputs*; P.1, *Verizon response to the 2012 FAMR Call for Inputs*; Q.2.1, *Virgin response to the 2012 FAMR Call for Inputs*. See www.stakeholders.ofcom.org.uk/consultations/fixed-access-markets/?showResponses=true.

[176] Pp.5-6, *BT response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BT.pdf.

whether to identify new build sites, where a CP other than Openreach may provide access infrastructure, as distinct geographic markets.[177]

7.18 The FCS agreed with our current SMP findings.[178] However, the FCS stated that the deployment of fibre was blurring the distinction between the WLA and WBA markets. It also referred to "*fixed mobile convergence*" and mobile CPs' entry into fixed broadband. The FCS suggested that we instead review "*consolidated 'Voice' and 'Broadband' markets across both fixed and mobile platforms*" and that "*A division into broader 'Access' and "services" markets*" would be a helpful way of assessing appropriate regulatory interventions.[179] The FCS also referred to new build sites where there is a single access supplier, stating that these reflect a form of "*local SMP*".[180]

7.19 Tesco stated that there had been no developments that would alter the existing market definitions or SMP findings but nonetheless considered that the market was changing. It stated that devices such as smartphones and tablets meant consumers increasingly used fixed and mobile connections interchangeably. Consumers were less concerned about the type of connection (fixed or mobile) as opposed to its quality. While it may be simple to separate the fixed and mobile markets today, Tesco considered that this may not be the case in 2016 due to new mobile broadband technologies (e.g. 4G) and the use of fixed networks to deliver broadband to mobile devices. Tesco considered that BT possessed SMP and that BT's market power may be strengthening, noting in support of this view BT Retail's high share of FTTC connections.[181]

7.20 KCOM referred to MS3's network deployment in Hull. KCOM stated that this entry provided direct infrastructure based competition with the potential to significantly affect KCOM's business in the Hull Area.[182]

TalkTalk's views

7.21 TalkTalk advanced extensive representations in relation to WLA market definition and SMP and we summarise its submissions below.

7.22 In its initial response to the 2012 FAMR Call for Inputs, TalkTalk stated that it broadly agreed with our previous definition regarding the "*non-superfast broadband aspects of the WLA market*". In relation to superfast broadband, it referred to a report prepared for TalkTalk by AlixPartners LLP ('the AlixPartners Report for TalkTalk').[183] This report criticised the analysis in the 2010 WLA Statement relating to the inclusion of cable networks in the relevant market, suggesting that the basis for our market definition findings may have been incorrect.[184]

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177 Ibid.
178 P.4, *The FCS response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/fcs.pdf.
179 P.3, Ibid.
180 Pp.3-4, Ibid.
181 P.4, *Tesco response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Tesco_Broadband.pdf.
182 Pp.1-2, *KCOM response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/KCOM_Group_PLC.pdf.
183 Paragraphs 2.1-2.2, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf ,
184 AlixPartners also made observations about the substitutability between standard and superfast broadband at the retail level. Paragraph 2.19, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of*

7.23 TalkTalk also stated that it considered BT held a position of SMP.[185] The AlixPartners Report for TalkTalk stated that our finding in the 2010 WLA Statement that BT possessed SMP was "*sound*" but was inconsistent with a WLA market definition that included cable. The report also stated that, if cable did not lie in the relevant market, the 2010 WLA Statement would have understated the extent of BT's market power.[186]

7.24 TalkTalk subsequently stated that it was developing its position on market definition,[187] after which it put forward the view that, regardless of whether cable was in the relevant retail market, it should be excluded from the upstream market.[188] TalkTalk then provided a further submission setting out "*the appropriate product market definition for BT's VULA product …*"[189] Aspects of this later submission are relevant to the WLA market definition.[190]

7.25 In that later submission, TalkTalk discussed the application of the hypothetical monopolist test and the modified Greenfield approach when defining the WLA market.[191] Central to TalkTalk's position is its view that a rise in wholesale prices was likely to have a limited impact on retail prices.[192] TalkTalk provided a critical loss analysis relating to a rise in the wholesale price of superfast broadband by BT. TalkTalk concluded that it was highly profitable to raise this price above competitive levels and thus that, at the upstream level, BT's network is not constrained by Virgin's network.[193]

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wholesale local access, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf. We consider this issue in the forthcoming 2013 Wholesale Broadband Consultation.

[185] Paragraphs 2.1-2.2, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.

[186] Paragraphs 2.15-2.16 and 2.19, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf.

[187] Informal information submission from TalkTalk, 24 January 2013.

[188] Informal information submission from TalkTalk, 18 February 2013.

[189] Paragraph 2.1, *TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs*. www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_supplemental.pdf. TalkTalk also refers to starting with VULA as the focal product (paragraph 2.3).

[190] In addition, paragraphs 2.83-2.98 of the TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs discussed the extent of substitutability between standard and superfast broadband. We summarise and address these arguments in the 2013 Wholesale Broadband Consultation.

[191] Paragraphs 2.6-2.19, *TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs,* www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_supplemental.pdf. TalkTalk also disputed the relevance of criticisms that its approach tends to find market power when analysing an input that is sufficiently far upstream (paragraphs 2.76-2.82).

[192] This reflects the proportion of retail prices accounted for by wholesale costs ("cost gearing") and the rate of pass-through given downstream competition. Paragraphs 2.34-2.55, *TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs,* www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_supplemental.pdf, and information submission from TalkTalk, 18 February 2013. See also paragraphs 2.5, 2.12 and 2.19, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf.

[193] Paragraphs 2.63-2.71, *TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs,* www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_supplemental.pdf. TalkTalk also referred to the limited coverage of cable networks (paragraphs 2.58-2.61, 2.64 and 2.68, *TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs*; informal information submission from TalkTalk, 18 February 2013; paragraph 2.16, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-

7.26 In carrying out this critical loss analysis, TalkTalk used the results of consumer research carried out for the 2008 WBA Market Review (the '2007 WBA Survey').[194] TalkTalk stated that "*although outdated, it is otherwise relevant*".[195] In contrast, the AlixPartners report for TalkTalk considered that the 2010 WLA Statement provided inadequate evidence of consumer switching behaviour and, in particular, it stated that we had placed "*far too much weight*" on the 2007 WBA Survey. AlixPartners considered that the 2007 WBA Survey may now be out of date and criticised how we had interpreted it when carrying out critical loss analysis for our 2008 review.[196]

7.27 TalkTalk also stated that there were no direct constraints on BT's network at the wholesale level. Cable CPs did not offer wholesale access to third party CPs and would require investment to begin doing so.[197]

7.28 TalkTalk considered that the WLA market was not contestable. It stated that there were significant economies of scale and first mover advantages in deploying NGA networks, competitors would need access to BT's sub-loops to offer FTTC, BT enjoyed a cost advantage in deploying a NGA network since it could use its legacy duct infrastructure, and entry (particularly on a national basis) was likely to be time consuming.[198] TalkTalk also pointed to the difficulties faced by other CPs that had attempted to deploy NGA networks, noting the withdrawal of Fujitsu from the BDUK process and the high costs and low take-up experienced by Digital Region Limited in South Yorkshire. Where NGA had been deployed by other CPs, it tended to be in new build or rural areas where BT had not deployed fibre.[199]

7.29 The AlixPartners Report for TalkTalk also set out some initial observations on countervailing buyer power in the context of superfast broadband. It stated that when

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markets/responses/TalkTalk_Group_additional_p1.pdf). However TalkTalk stated that its conclusion does not rely on finding a national geographic market (paragraph 2.74, *TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs*).

[194] This survey evidence is summarised at Annex 8 of Ofcom, *Review of the wholesale broadband access markets 2006/07*, 15 November 2007. See also paragraphs 3.172-3.180. Available at: www.stakeholders.ofcom.org.uk/binaries/consultations/wbamr07/summary/wbamr07.pdf

[195] Paragraphs 2.56-2.57, *TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs,* www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_supplemental.pdf.

[196] Paragraphs 2.6-2.11 and 2.19, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf.

[197] Informal information submission from TalkTalk, 18 February 2013. See also paragraphs 2.25-2.26, *TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs,* www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_supplemental.pdf, and paragraph 4.12, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf.

[198] Paragraphs 3.3-3.14, *TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs,* www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_supplemental.pdf. TalkTalk also considered that there are no viable supply-side substitutes (paragraphs 2.99-2.102, *TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs*. See also paragraph 4.12, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf.

[199] Paragraph 3.15, *TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs,* www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_supplemental.pdf.

negotiating with third party retailers, BT had the option of directly supplying final consumers using its own retail arm should negotiations break down.[200]

Market definition

7.30 We now set out our views on market definition. An explanation of our general approach to market definition is set out in Annex 6. This section is structured as follows:

- we set out some preliminary observations on market definition;
- we discuss the focal product that we have adopted;
- we explain the implications of the modified Greenfield approach;
- we consider product market definition;
- we consider geographic market definition; and
- we summarise our provisional conclusions.

7.31 In approaching our assessment of market definition for the WLA market, we have taken utmost account of the guidance on market definition in the EC SMP Guidelines.

Preliminary observations on market definition

7.32 The purpose of market definition is to structure and inform our assessment of whether SMP exists. In previous reviews we have found that both BT and KCOM possess SMP. No respondents to the 2012 FAMR Call for Inputs seriously challenged these findings. While TalkTalk submitted extensive representations it did not dispute that BT possessed SMP – rather its submissions centred on the extent of the constraint imposed by Virgin.

7.33 While TalkTalk considered that BT possesses SMP, its submissions raise questions about the analytical approach that should be adopted when defining markets – specifically the issue of how to assess indirect constraints. However it should be borne in mind that the hypothetical monopolist test is simply an analytical tool.[201] It is important to be mindful of whether that test is helpful in terms of identifying SMP and identifying products for which regulatory intervention is appropriate. Indeed WLA is an example of a product that is likely to exist solely as a result of regulatory intervention – absent such intervention it is doubtful whether large network CPs would provide WLA to third party CPs.

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[200] Paragraph 4.12, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf.

[201] For example, the Office of Fair Trading (OFT) stated that "*… it should be emphasised that defining a market in strict accordance with the [hypothetical monopolist] test's assumptions is rarely possible. Even if the test … could be conducted precisely, the relevant market is in practice no more than an appropriate frame of reference for analysis of the competitive effects. Nevertheless, the conceptual framework of the test is important as it provides a structure within which evidence on market definition can be gathered and analysed*" (paragraph 2.6). Further "*The OFT will not follow mechanically every step described [in its guidelines] in every case. Instead, the OFT will look at evidence that is reasonably attainable and relevant to the case in question*" (paragraph 1.2; footnote omitted). OFT, *Market definition*, December 2004, OFT403, www.oft.gov.uk/shared_oft/business_leaflets/ca98_guidelines/oft403.pdf

Focal product

7.34 The focal product forms the starting point for the market definition exercise. For the purposes of this market review, we define relevant markets to consider whether BT and KCOM continue to possess SMP. Accordingly we consider that the focal product should be the provision of wholesale local access at a fixed location by a network that uses a mixture of copper loops and fibre. This mirrors the nature of the service provided by both BT and KCOM, both of which operate networks using copper loops supplemented by fibre (such as FTTC and FTTP).

7.35 It is worth noting the following features of this focal product:

- the key characteristic is the provision of access, rather than the type of service that access is being provided for. The different services that can be provided using WLA (such as narrowband, broadband, ISDN etc) lie downstream;
- similarly our focal product does not distinguish between wholesale local access that is used to provide business services and residential services. At the access level, the connections used to supply business and residential end users are essentially identical, even if the downstream services (including supplementary features such as quality of service guarantees) may differ;
- our focal product does not include the provision of cable-based wholesale local access. Rather we consider whether cable networks, primarily Virgin, lie within the relevant market as part of our assessment of indirect constraints;[202] and
- similarly, our focal product does not include the provision of access using mobile networks. Again we assess whether mobile networks lie within the relevant market as part of our assessment of indirect constraints.

7.36 As set out above, stakeholders generally did not raise issues relevant to the choice of focal product. The possible exception is TalkTalk – its position on the focal product(s) when analysing the WLA level is not entirely clear. An apparent implication of TalkTalk's submissions is that we should separately consider the provision of wholesale local access that is used as an input into superfast broadband.[203] TalkTalk has not explained why this is appropriate in the context of this market review.[204] However, for the reasons set out in paragraph 7.34, we consider that our focal

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[202] We note, however, that an alternative approach would be taking the provision of wholesale local access at a fixed location by fixed networks as our focal product (i.e. including copper loop-based, cable-based and fibre-based access). We would then go on to consider the extent of the constraint exerted by mobile networks. Taking all forms of fixed access as the focal product encapsulates a review that looks at fixed access as a whole. This alternative focal product would lead to the same provisional conclusions on market definition as the approach set out below (given that we provisionally conclude that cable-based access lies within the relevant market).

[203] For example, the TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs adopts VULA as the focal product (paragraph 2.3, *TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs,* www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_supplemental.pdf) although it also refers to WLA in a number of places (paragraphs 2.13, 2.25, 2.34 and 3.4). Similarly, TalkTalk's response to the 2012 FAMR Call for Inputs distinguished its views on the "*non-superfast broadband aspects of the WLA market*" (paragraph 2.1, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf).

[204] If we were conducting the market power assessment for a different purpose (such as a competition law case) it may be appropriate to take a different focal product to the one adopted in this review. For example, the OFT describes the focal product as "*the product under investigation*". This highlights that where the investigation is different, the focal product is likely to differ (paragraph 2.9, OFT, *Market definition*, December 2004, OFT403, www.oft.gov.uk/shared_oft/business_leaflets/ca98_guidelines/oft403.pdf).

product is appropriate and reflects the nature of the SMP assessment we are conducting.

Implications of the modified Greenfield approach

7.37 We have applied the modified Greenfield approach when carrying out the market definition exercise. This means that existing SMP remedies that apply to the WLA market and to downstream markets are disregarded. The market definition exercise is thus conducted in relation to a hypothetical scenario in which many of the SMP remedies that have shaped fixed telecoms competition at the retail level are absent, including LLU, VULA, PIA, SLU, WLR and WBA. In this scenario, there is likely to be little or no use of BT's access infrastructure by third party CPs and an explicit WLA product offered to third party CPs by BT is unlikely to exist.[205] This scenario is essentially characterised by retail competition between different vertically-integrated networks (BT, Virgin, and, to an extent, relevant mobile operators).

Relevant product market

7.38 As explained above, under the modified Greenfield approach we consider a scenario where CPs such as BT and Virgin are unlikely to grant third party access to their networks. Accordingly we believe that direct constraints on the provision of the focal product are unlikely to be relevant. Similarly, the very high entry barriers to establishing a substantial new fixed network mean that supply-side substitution is not plausible.[206]

7.39 We therefore consider that the key issue for determining the boundaries of the relevant product market is the extent of indirect constraints at the retail level. An increase in the price of wholesale local access at a fixed location by a network that uses a mixture of copper loops and fibre is likely to increase the downstream price of the services supplied by that network. As a result, final consumers may instead switch to services supplied by other networks (e.g. cable-based or mobile). We consider the extent of this switching between networks below.

7.40 Our analysis draws upon the assessments of substitutability that we have conducted for the supply of WFAEL in this consultation (see Section 3), the forthcoming 2013 Wholesale Broadband Access Consultation and the 2013 Narrowband Consultation. We recognise, however, that the downstream market definition exercises in these documents are conducted assuming a somewhat different framework. First, the relevant scenario (given the modified Greenfield approach) may be different (e.g. the analysis in the 2013 Wholesale Broadband Access Consultation assumes that LLU is in place). Second, a rise in the price of wholesale local access by a particular network will likely increase the price of all downstream products supplied by that network (i.e. there is a rise in the price of a range of narrowband and broadband services, rather than just one type of service). Nonetheless, we consider that the broad conclusions of those other market definitions are relevant.

7.41 We have also taken into account responses to the 2012 FAMR Call for Inputs and address the specific points raised by respondents below. Our assessment considers substitutability with cable-based wholesale local access, mobile access and other forms of access. Finally we set out our provisional conclusions.

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[205] This is consistent with the commercial strategy adopted by Virgin of not granting third party access to its network.
[206] We discuss entry barriers as part of our assessment of market power below (see paragraph 7.71).

Cable-based wholesale local access

Indirect constraint from cable-based wholesale local access

7.42 The retail products available over BT's network and over Virgin's network have similar characteristics – both provide fixed voice and broadband services. This clear similarity in product characteristics strongly suggests that cable-based wholesale local access exerts a constraint on the provision of wholesale local access by a network that uses a mixture of copper loops and fibre.

7.43 In past market reviews we have consistently concluded that cable-based wholesale local access lies within the WLA market.[207] For cable-based access to now lie outside of the relevant market, the extent of substitutability would need to have fallen. However, we are not aware of any market developments that would reduce the extent of substitutability between products supplied using cable networks and products supplied using copper loop- and fibre-based networks. No respondent to the 2012 FAMR Call for Inputs identified such a development.

7.44 We recognise that the deployment of fibre allows for the widespread provision of superfast broadband over BT's network. However superfast broadband is also available over Virgin's network.[208] Moreover, as set out in the section on product market definition in the forthcoming 2013 Wholesale Broadband Access Consultation, it is appropriate to define a single market for all broadband speeds at present. In that document we are proposing to define a single retail product market including both copper loop- and fibre-based products.

7.45 Our provisional view is thus that the relevant market should include the provision of cable-based wholesale local access.

TalkTalk's critical loss analysis and the dilution effect

7.46 TalkTalk argued that Virgin's cable network does not exert a constraint on BT's network at the wholesale level. The critical loss analysis set out in the TalkTalk April 2013 Submission rests upon the view that a rise in wholesale prices only leads to a small percentage change in retail prices (we refer to this below as the dilution effect).[209]

7.47 We do not consider that it is necessary to carry out a critical loss analysis. In our view the material set out in paragraphs 7.42-7.44 is sufficient to provisionally conclude that cable-based access lies within the relevant market. We also note that our provisional finding that BT has SMP would not be affected if cable access were excluded from the relevant product market (excluding cable access would simply imply that

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[207] See Ofcom, *Charge control review for LLU and WLR services*, 7 March 2012 www.stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf; Ofcom, *Review of the wholesale local access market*, 7 October 2010 www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf; and Ofcom, *Review of the wholesale local access market*, 16 December 2004, www.stakeholders.ofcom.org.uk/binaries/consultations/rwlam/statement/rwlam161204.pdf.

[208] Section 11 describes the expected availability of superfast broadband over BT's network during the period covered by this review and describes Virgin's programme of upgrading its customers to offer superfast speeds.

[209] The smaller footprint of Virgin's network means that some BT subscribers do not have the option of switching to an alternative network. However, TalkTalk considered that BT's wholesale prices would not be constrained even if there were 100% overlap between networks (paragraph 2.74, *TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs*. www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_supplemental.pdf).

competitive constraints on BT are even weaker than is the case under the market definition that we have provisionally adopted).[210]

7.48 Moreover, we consider that carrying out a critical loss analysis is of limited use when assessing indirect constraints on the provision of wholesale local access.[211] Such analysis depends on a number of parameters:

- the elasticity of demand for the downstream products that use wholesale local access as an input (this would need to be a network-specific elasticity in order to examine substitutability between a cable-based network and a network that uses a mixture of copper loops and fibre);
- the extent to which retail prices change (i.e. the strength of the dilution effect); and
- the margin earned on the provision of wholesale local access.

7.49 We consider that there is insufficient data to reliably estimate these parameters. A key obstacle to carrying out a critical loss analysis is the absence of suitable elasticity estimates. TalkTalk's calculation relied on the 2007 WBA Survey, although both it and AlixPartners recognised that the survey is dated. We are not aware of more recent survey evidence looking at this issue.

7.50 We also have significant concerns that TalkTalk's conceptual approach to applying the critical loss test, including its treatment of the dilution effect, is inappropriate. Given our provisional finding that BT has SMP would not be affected if cable access were excluded, for the purposes of this consultation we do not explore these (somewhat abstract) conceptual issues.

Criticisms of the weight placed on the 2007 WBA Survey

7.51 As discussed above, Ofcom has previously concluded that cable-based access lies within the relevant market. However AlixPartners considered that we placed "*far too much weight*" on the 2007 WBA Survey carried out for the 2007 WBA Consultation, and raised a number of criticisms about this survey.

7.52 We consider that AlixPartners has overstated the importance of the 2007 WBA Survey to the 2007 WBA Consultation. The 2007 WBA Survey was simply one piece of the evidence that we used. We stated that "*The fact that cable-based and ADSL-based broadband internet access services have the same intended use, have similar characteristics, are priced at a similar level, have had similar consumer demand (where available), are marketed against one another and are presented as alternatives to one another by independent information sources, overwhelmingly suggest that they are in the same retail market.*"[212] We conducted a critical loss

[210] In addition, as set out in paragraph 7.32, no respondent to the 2012 FAMR Call for Inputs suggested that BT does not possess SMP.

[211] Ofcom has previously carried out critical loss analysis, for example in the 2007 WBA Consultation. However we do not consider that it is necessary to do so in this review. Rather the other evidence set out in this section is sufficient for the purposes of market definition and assessing market power.

[212] Paragraph 3.48, Ofcom, *Review of the wholesale broadband access markets 2007/06,* 15 November 2007, www.stakeholders.ofcom.org.uk/binaries/consultations/wbamr07/summary/wbamr07.pdf.

analysis "*Notwithstanding*" this other evidence.[213] We describe the 2007 WBA Survey as being "*supportive of ADSL and cable in the same market* [sic]."[214]

Mobile access

7.53 Having expanded the candidate market to include cable-based access, we now consider whether mobile access should also be included in the relevant market. As set out above, both BT and Tesco referred to the impact of 4G mobile services (which are likely to offer improved data services) and the FCS referred to "*fixed mobile convergence*".

7.54 Our provisional view is that the relevant market does not include mobile access for the following reasons:

- for mobile access to act as an effective competitive constraint, consumers would need to be willing to cease purchasing fixed products (which use fixed WLA as an input) and instead rely on mobile products;

- for most consumers, mobile telephony appears to be complementary to fixed telephony. In 2012, 79% of households had access to both mobile and fixed telephony; just 5% of households were fixed-only and 15% were mobile only.[215] The proportion of mobile-only households has not materially changed in recent years and it seems reasonable to assume that this will continue to be the case during the period covered by this market review. We adopted the same view in the 2013 Narrowband Consultation;[216]

- as set out in Section 3, we consider that the potential for switching to mobile access at the retail level across both the residential and business segments is likely to be limited throughout the period covered by this review;

- in the 2013 Narrowband Consultation we stated that the competitive constraint exercised on fixed narrowband calls at the retail level from calls originated on a mobile network does not appear to be sufficiently significant at this stage to justify widening our product market definition.[217] We adopt and rely on the analysis in the 2013 Narrowband Consultation for this aspect of our provisional conclusion;

- in terms of data services, we recognise that the deployment of 4G mobile networks and the recent release of substantial amounts of spectrum in the 800 MHz and 2.6 GHz bands will increase the speed and attractiveness of mobile data services. However, in the section on product market definition in the forthcoming 2013 Wholesale Broadband Access Consultation we will provisionally conclude that mobile broadband access and access to the internet via a smartphone do not currently constrain fixed broadband access. We adopt and rely on the analysis in the 2013 Wholesale Broadband Access Consultation for this aspect of our provisional conclusion. 4G mobile broadband is still in the early stage of development with uncertainties such as its roll-out, take-up and speed.

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[213] Paragraph 3.49, Ibid.
[214] Summary after paragraph A8.2, Annex 8, Ibid.
[215] Figure 5.56, Ofcom, *Communication Market Report,* 18 July 2012, www.stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/CMR_UK_2012.pdf.
[216] Paragraphs 3.29-3.31, Ofcom, *Review of the fixed narrowband services markets,* 5 February 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/nmr-2013/summary/NMR_Consultation.pdf.
[217] Paragraph 5.75, Ibid.

Within the timescale of the current market review period, we think it more appropriate to continue to consider that mobile broadband access is not in the same relevant market as fixed broadband access. Although 4G mobile broadband access is likely to increase significantly, we consider that most consumers will continue to require fixed broadband and will regard mobile broadband as a complementary service; and

- ISDN2 and ISDN30 are downstream services that use fixed local access as an input.[218] There are no direct mobile equivalents for these services.

Other forms of access

7.55 We have also considered the position of other forms of access network, namely satellite, fixed wireless access and small-scale fibre-based NGA deployments alongside BT's network (an example of the latter is Hyperoptic, which supplies fibre access to premises such as apartment blocks).[219]

7.56 The downstream products supplied using these alternative access networks represent niche products. Given their small scale, this issue would not affect our conclusions on SMP. Our provisional view on these other forms of access is set out below:

- in the section on product market definition in the forthcoming 2013 Wholesale Broadband Access Consultation, we will provisionally conclude that satellite broadband lies outside the market for broadband access. We adopt and rely on the analysis in the 2013 Wholesale Broadband Access Consultation for this aspect of our provisional conclusion. No respondents to the 2012 FAMR Call for Inputs considered that the market had changed since our finding in the 2010 WLA Statement that access based on satellite technology lies outside the WLA market. We thus provisionally conclude that access based on satellite technology continues to lie outside the relevant market;

- similarly, in the section on product market definition in the forthcoming 2013 Wholesale Broadband Access Consultation we will provisionally conclude that fixed wireless access lies outside the market for broadband access. We adopt and rely on the analysis in the 2013 Wholesale Broadband Access Consultation for this aspect of our provisional conclusion. No respondents to the 2012 FAMR Call for Inputs considered that the market had changed since our finding in the 2010 WLA Statement that fixed wireless access lies outside the WLA market. We thus provisionally conclude that fixed wireless continues to lie outside the relevant market; and

- in terms of small-scale fibre based NGA deployments alongside BT's network, it seems plausible that these lie within the relevant market for the same reasons that cable-based access is included.

[218] We discuss ISDN30 and ISDN2 market definition in Sections 4 and 5, respectively.
[219] Consumers in premises covered by such networks can choose between services provided using BT's network and services provided using Hyperoptic's network (for example). This is distinct from fibre deployments in new build premises where BT is not present. We discuss this issue in the context of geographic market definition below.

Provisional conclusion on relevant product market

7.57 For the reasons set out above, our provisional conclusion is that the relevant product is the supply of copper loop-based, cable-based and fibre-based wholesale local access at a fixed location. Mobile access, access based on satellite technology and fixed wireless access all lie outside the relevant market.

Relevant geographic market

7.58 We now consider the relevant geographic market. There are three main issues to consider in relation to geographic market definition during the period covered by this review:

- the Hull Area;
- new build areas where BT is not present; and
- areas covered by Virgin's cable network.

The Hull Area

7.59 KCOM and BT operate distinct local access networks covering the Hull Area and the rest of the UK respectively. Competitive conditions are unlikely to be homogenous between the Hull Area and the rest of the UK given that they are served by different CPs. In line with our longstanding practice we consider that the Hull Area and the rest of the UK lie in separate geographic markets. None of the respondents to the FAMR Call for Inputs suggested that we should cease to distinguish between these two areas.

New build areas

7.60 BT and the FCS both raised the issue of new build areas where, in some new housing developments, CPs other than BT have deployed NGA networks while BT itself is not present. We understand that the number of consumers in such areas is small.[220]

7.61 We recognise that there may be a case for identifying such areas as distinct geographic markets based on the same reasoning that leads to the Hull Area being identified as a distinct geographic market.[221] This potentially leads to a number of additional geographic markets (e.g. for a particular housing development) for each of which we would need to assess whether the local network operator has SMP.

7.62 We set out our approach to new build fibre developments in the 2010 WLA Statement.[222] We set out our expectations about the practices that CPs should adopt.

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[220] We previously commissioned a report which summarised the state of local access fibre deployments as of September 2010. However this information is somewhat dated and appears to include deployments that are alongside BT's network, rather than just in areas where BT is absent. Of those operators that provided information for this report, all but one had connected fewer than 1,000 premises (the exception was i3 Group with 20,000 premises). Figure 4.31, Analysys Mason for Ofcom, *UK local access fibre deployment study*, 27 January 2011, www.stakeholders.ofcom.org.uk/binaries/telecoms/policy/local-fibre-access.pdf.

[221] This contrasts with areas where BT has a local access network. Such areas fall within our proposed market definition.

[222] Paragraphs 9.99-9.105, Ofcom, *Review of the wholesale local access market,* 7 October 2010 www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf. This reflected the

In particular we stated that "*Where the new build operator has not been found to have SMP, then we would expect the operator of the new build network to provide access to it on a fair, reasonable and non-discriminatory basis through fit-for-purpose wholesale products. However, should this prove ineffective in particular cases, we would be prepared to undertake the relevant market reviews, and to impose appropriate formal SMP obligations in the event of an SMP finding.*"

7.63 Our current view is that the approach set out in the 2010 WLA Statement remains an appropriate and proportionate way of addressing the risks associated with new build fibre deployments. This approach targets regulation at problematic cases and thus avoids imposing an unnecessary regulatory burden on other new build CPs. Accordingly we propose taking no view on whether or not such areas represent distinct geographic markets. Should the approach set out in the 2010 WLA Statement prove ineffective then we may need to revisit the question of market definition in relation to new build areas where problems emerge.

Areas covered by Virgin's cable network

7.64 In its response to the 2012 FAMR Call for Inputs, BT raised the issue of whether (outside the Hull Area) we should distinguish between areas based on whether or not they are covered by Virgin's network. We have considered whether to define sub-national geographic markets in this way in previous WLA reviews. In each case, we took the view that it was appropriate to define the UK excluding the Hull Area as a single geographic market.[223] We are not aware of any developments that mean that it is appropriate to adopt a different view on geographic market definition. Rather the reasoning we adopted in the 2010 WLA Statement would appear to continue to be applicable. In brief:

- we consider that we should not use the hypothetical monopolist test to define geographic markets for WLA. This is because the test works by identifying whether customers would substitute (i.e. move) to other geographic areas (demand-side substitution) in the face of a price rise and also whether any firms supplying different products would begin to supply in the geographic area in question (supply-side substitution) as a result of a price increase. Since opportunities for demand and supply-side substitution are limited, this approach would lead to the definition of very narrow markets which are unlikely to be practical to analyse or be representative of competitive constraints that exist;

- rather, we consider that the geographic market should be defined on the basis of common pricing constraints. Accordingly we have considered whether, in the hypothetical scenario where *ex ante* regulation is absent, BT would find it profitable to adopt uniform national pricing or instead charge different prices depending on whether or not Virgin is present in a particular area;

- as set out above, in this scenario there is likely to be little or no use of BT's network by third party CPs. Rather the focus of competition would be between BT and Virgin's vertically integrated networks;

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position in an earlier Ofcom statement, Ofcom, *Next Generation New Build*, 23 September 2008, www.stakeholders.ofcom.org.uk/binaries/consultations/newbuild/statement/new_build_statement.pdf.

[223] Paragraphs 3.74-3.79, Ofcom, *Review of the wholesale local access market,* 7 October 2010 www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf*,* and paragraphs 3.132-3.145, *Review of the wholesale local access market*, 16 December 2004, www.stakeholders.ofcom.org.uk/binaries/consultations/rwlam/statement/rwlam161204.pdf.

- considering BT's likely conduct in this hypothetical scenario is inherently speculative. However, there are a number of reasons why BT might adopt a national pricing strategy. First, BT's universal service obligation requires it to supply a basic voice service and functional internet access at a uniform price. Second, academic research has highlighted that national pricing by a firm that has a monopoly position in one region of a country may soften competition in competitive areas.[224] BT may prefer uniform pricing since it commits BT to price less aggressively than it otherwise would within areas where there is some competition, such as those where cable is present. This commitment can induce rivals to price less aggressively. Third, the potential impact on brand reputation may suggest that uniform pricing is attractive;[225] and

- where BT has adopted local pricing it has been in response to relatively intense levels of competition, not the presence of a single competitor and never in response to cable infrastructure alone.[226]

7.65 Thus, in our provisional view, there are reasonable grounds to consider that common pricing constraints justify a finding of a single geographic market outside of the Hull Area.

Provisional conclusion on market definition

7.66 In the light of the factors set out above, our provisional conclusion is that there are two geographically distinct relevant markets:

- the supply of copper loop-based, cable-based and fibre-based wholesale local access at a fixed location in the UK excluding the Hull Area; and

- the supply of copper loop-based, cable-based and fibre-based wholesale local access at a fixed location in the Hull Area.

Assessment of market power

7.67 Market definition is not an end in itself. Rather it is a tool to help assess the extent to which CPs possess market power. Below we set out our assessment of whether BT and KCOM continue to possess SMP in the WLA markets that we have defined above. In making that assessment we have had regard to criteria for assessing SMP set out in the EC SMP Guidelines (market share, barriers to entry and countervailing buyer power, in particular). Our general approach to the assessment of market power is described in Annex 6.

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[224] For a detailed discussion on this point, see *Chain-Store Competition: Customized vs. Uniform Pricing*, Dobson P and Waterson M, Warwick Economic Research Paper No. 840*.* Referring to evidence gathered as part of the Competition Commission investigation into grocery retailing, the authors note that supermarkets adopt national pricing despite local variations in cost and competition. They note that a commitment to national pricing (which is essential for its strategic use) can be supported from concerns about brand image. Available at: www2.warwick.ac.uk/fac/soc/economics/research/workingpapers/2008/twerp_840.pdf

[225] The analysis we set out in paragraph 3.78, Ofcom, *Review of the wholesale local access market,* 7 October 2010 www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf, remains relevant in this regard.

[226] Paragraph 3.77. Ofcom, *Review of the wholesale local access market,* 7 October 2010 www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf.

WLA market power assessment for the UK excluding the Hull Area

7.68 As noted above, none of the respondents to the 2012 FAMR Call for Inputs argued that BT no longer enjoys SMP. In particular, the implication of TalkTalk's submissions is that the extent of BT's SMP is stronger than we have previously thought (since – in TalkTalk's view – Virgin does not constrain BT's supply of WLA and lies outside the relevant wholesale market).

Market shares

7.69 As explained above, the application of the modified Greenfield approach means that we are considering a hypothetical scenario in which there is little or no use of BT's network by third parties. In order to estimate the number of lines that BT is likely to supply in this scenario we have used the total of the number of lines served by BT Retail, the number of WLR lines and the number of metallic path facility ('MPF') lines. We have compared this with number of lines served by Virgin in order to calculate market shares.[227]

7.70 Doing this, we find that BT's market share is very high (over 80%). As set out in Annex 6, market shares of this magnitude give rise to a presumption that BT possesses SMP. Moreover, BT's market share has been stable for many years and looking forward over the period covered by this market review we see no reason why BT's position would weaken significantly.

Barriers to entry

7.71 We also consider that there are very high entry barriers to constructing on a significant scale a local access network independent of the incumbent's network. Entry would require very high levels of investment to install local access connections between end users' premises and an entrant's core network. Entry on a significant scale would be extremely risky and deployment would require a considerable period of time. No stakeholder has suggested that entry barriers are low.[228]

Countervailing buyer power

7.72 We consider that there is likely to be insufficient countervailing buyer power to constrain BT's position as a supplier of WLA:

- retail customers (i.e. end users) are small and atomised relative to BT's size; and
- at the wholesale level, absent *ex ante* regulation BT may not allow third party CPs to use its access network (as is currently the case for Virgin). Even if BT did supply access to third party CPs (e.g. LLU CPs), those CPs could only effectively exert buyer power if they could credibly switch to purchasing WLA products from Virgin. We consider this unlikely – Virgin currently does not offer access to third parties and its network only covers part of the UK. In any event it would be

[227] Figures include business and residential PSTN lines, ISDN2 channels and ISDN30 channels, as well as miscellaneous other services such as Centrex. We have excluded lines served by KCOM. BT's market share was calculated by summing the retail lines that it provides as well as the MPF lines and WLR lines it provides to other CPs. Source: Ofcom/operator data.

[228] Consistent with our view that entry barriers exist, TalkTalk identified a number of barriers in relation to NGA deployment.

difficult and costly for LLU CPs to switch to Virgin's network, given they have already built their networks to connect to BT's.[229]

Constraint from Virgin

7.73 We have considered BT's argument that we should take into account Virgin's "*relative strength*" in the provision of superfast broadband. As explained above, WLA involves the provision of access, as distinct from the downstream services that are provided using that access. However we recognise that a more technically advanced network, which is able to offer superior services, could potentially exert a stronger constraint.[230]

7.74 Virgin currently has more superfast broadband subscribers on its network than BT. However, BT (like Virgin) is also in the process of upgrading its network. By the start of the review period, BT's superfast broadband network is expected to cover approximately two-thirds of households. This is expected to rise to around 90% of households by the end of the review period, as a result of government interventions. Forecasts of superfast take-up suggest that the number of subscribers on BT's network is likely to surpass the number on Virgin's network during the review period (for further details see Section 11). Moreover, we expect factors such as technological advantages to be reflected to a large degree in current market shares.

Provisional conclusion for the UK excluding the Hull Area

7.75 In the light of the discussion above, our provisional conclusion is that BT will continue to have SMP in the WLA market outside of the Hull Area. In particular, BT has a very high and stable market share, there are very high barriers to entry, and countervailing buyer power appears insufficient to constrain BT's position. We do not consider that any technological differences between BT's network and Virgin's network are clear enough or material enough to lead us to reach a different conclusion.

WLA market power assessment for Hull Area

7.76 We now set out our assessment of whether KCOM possesses a position of SMP in the Hull Area.

7.77 The only stakeholder that commented on this issue was KCOM, which referred to the recent entry of MS3. We discuss MS3 in detail in Section 6, but, in summary, MS3's network is at this stage small in scale and primarily targeted at business customers, rather than residential consumers.

7.78 Historically KCOM has enjoyed a 100% market share in the provision of WLA in the Hull Area. While the entry of MS3 is likely to diminish this, given the current limited scope of MS3's network it seems very unlikely that KCOM will experience a substantial decline in its market share during the period covered by this market review. In our view, KCOM is likely to continue to supply WLA to the overwhelming

[229] We note that AlixPartners made similar observations in relation to countervailing buyer power.
[230] The EC has identified technological advantages or superiority as one criteria that can be used to assess whether SMP exists. Paragraph 778, EC, *Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services*, OJ C 165, 11 July 2002, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2002:165:0006:0031:EN:PDF.

majority of customers in the Hull Area. As a result of its likely high market share, there is a presumption that KCOM possesses SMP.

7.79 We consider that the barriers to entry that are present in the rest of the UK also exist in the Hull Area. Similarly, countervailing buyer power is likely to be weak, particularly given the lack of alternative WLA suppliers. We recognise that MS3's entry may provide some customers with an alternative to KCOM and shows that entry barriers are not insurmountable. However given the current limited scope of MS3's network we remain of the view that substantial entry barriers exist and that for the majority of customers countervailing buyer power is likely to be insufficient to constrain KCOM during the period covered by this review.

Provisional conclusion for the Hull Area

7.80 In the light of the discussion above, our provisional conclusion is that KCOM will continue to have SMP in the WLA market in the Hull Area. MS3 entry is recent and we will take into account any developments in future market reviews. However at this stage, we do not consider that MS3's presence is sufficient to offset the market power than KCOM is likely to enjoy during the current review period as a result of its very high market share, the existence of substantial barriers to entry and limited scope to exercise countervailing buyer power.

Consultation question(s)

7.1 Do you agree with our provisional view that, during the period covered by this market review, BT and KCOM will have SMP in the WLA markets we define above? Please provide reasons in support of your views.

Section 8

Remedies: Approach

Introduction

8.1 In Sections 3 to 7, we set our provisional findings that BT (in the UK excluding the Hull Area) and KCOM (in the Hull Area only) have SMP in the following wholesale fixed access markets:

- the supply of WLA;
- the supply of WFAEL;
- the wholesale supply of ISDN30 exchange line services; and
- the wholesale supply of ISDN2 exchange line services.

8.2 In light of our market definition analyses and SMP assessments of each of the above markets, we now consider what specific regulatory obligations it is appropriate to impose (by way of SMP conditions) on each of BT and KCOM to address the SMP we have identified.

8.3 In the following sections, we set out the issues we have taken into account in our assessment of the specific regulatory obligations we propose to impose in the various markets. We have structured these sections as follows:

- Section 10 sets out the general SMP remedies we propose to impose on BT and KCOM in each of the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets;
- Section 11 sets out the specific remedies for WLA NGA;
- Section12 sets out the specific remedies for WLA CGA;
- Section 13 draws together our proposals for remedies in the WLA market;
- Section 14 sets out specific remedies for WFAEL; and
- Section 15 sets out specific remedies for wholesale ISDN30 and wholesale ISDN2.

8.4 In these subsequent sections we set out our proposals for imposing a number of regulatory obligations on BT and KCOM which are designed, cumulatively, to address the competition problems arising from the position of SMP we have provisionally found BT and KCOM to hold in these wholesale markets.

8.5 In reaching these proposals we have taken account of our approach in previous reviews of these markets, recent developments in these markets, views expressed by stakeholders in response to the 2012 FAMR Call for Inputs[231] and expected developments over the course of the review period.

8.6 As detailed in Section 2, we are also required to take account of various EU instruments when carrying out our analysis and assessment of markets, SMP and remedies in a market review.

Competition problems common to each of the wholesale fixed access markets

8.7 In each of the four wholesale markets we have identified, there is a vertically integrated operator (KCOM in the Hull Area, BT in the UK excluding the Hull Area) that we have provisionally found to have SMP. In the absence of *ex ante* regulation, we consider that BT and KCOM would have the incentive, and their SMP would give them the ability, to favour their own downstream retail business over rivals in the relevant retail markets. This would distort competition in the relevant retail markets.

8.8 In the respective markets in which they have been provisionally found to have SMP, there are a variety of behaviours that BT and KCOM could engage in that may favour their own retail businesses and which could lead to competition problems in those retail markets, including:

- refusing to supply access at the wholesale level and thus restricting competition in the provision of products and services in the relevant downstream markets; and

- providing access, but only on less favourable terms compared to those obtained by their own retail business – e.g. by charging competing providers more than the amount charged to their downstream divisions, or by less favourable terms for provision and repair, or other quality discrimination.

8.9 We consider that these same concerns about distorting retail competition arise in each of the four of the wholesale markets we are assessing (i.e. WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2).

8.10 Because our provisional view is that they have SMP in these wholesale fixed access markets, we also have concerns about BT and KCOM charging excessive prices for their wholesale services in each of these markets. This may not necessarily lead to a distortion in retail competition (for example, if all retailers were charged that same price), but would nevertheless be damaging to consumers as it would be expected to lead ultimately to higher retail prices than is necessary for the provision of the services.

8.11 Overall we consider that national and EU competition law remedies would be insufficient to address these competition problems we have identified. We therefore believe that it is appropriate to impose *ex ante* regulatory obligations on BT and KCOM in each of the wholesale fixed access markets in which they hold SMP in order to address those competition concerns which we have identified.

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[231] Ofcom, *Fixed access market reviews; wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 Call for inputs*, 9 November 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/summary/condoc.pdf.

Approach to determining remedies

8.12 While the conditions in each of the wholesale fixed access markets are not identical (and we take account of these differences in our proposals for both general and specific remedies in the following sections), we nevertheless consider that BT and KCOM's SMP in these markets is likely to give rise to similar competition problems such that, in determining the *ex ante* wholesale network remedies required, we have adopted the following broad approach across these markets.

8.13 Where it is not feasible for competing providers to replicate BT's and KCOM's network and where BT and KCOM have incentives to refuse to supply wholesale network access in the respective markets in which they possess SMP, we propose to address this by imposing obligations requiring them to make access to that network available to other CPs on reasonable request. In each of the above wholesale fixed access markets, such a condition would restrict the ability of BT and KCOM to distort competition at the retail level. To support this we propose to impose a Statements of Requirements ('SoR') process for new network access.

8.14 In addition to a general network access requirement, we consider it appropriate to require BT to continue to provide specific forms of network access in each of the wholesale fixed access markets (VULA, PIA and SLU in WLA (NGA), LLU in WLA (CGA) and WLR in WFAEL, ISDN30 and ISDN2), and that most of these wholesale inputs and certain related services should also be subject to appropriate pricing remedies to ensure that BT does not set excessive prices to its competitors. We also impose on BT cost accounting requirements appropriate to the nature of our proposed pricing remedies. Where we are concerned about margin squeeze we have set out our *ex ante* remedy to address this.

8.15 A number of other complementary general access remedies such as non-discrimination and transparency requirements can be imposed on BT and KCOM where the market analysis indicates that these are appropriate to address the competition problems identified. There is discretion in how these general remedies can be applied, but when taken together they are designed to provide a framework for BT and KCOM with which to comply, and which constrains them from behaving in a way that would exploit their SMP and enable them to act independently of competitors, customers and consumers in those markets.

8.16 As BT and KCOM are vertically integrated, they have an incentive to provide wholesale services on terms and conditions that favour their own retail activities in a way that would have a material adverse effect on competition. Therefore, we believe we should impose non-discrimination requirements on BT and KCOM. Where it is proportionate to do so we consider that BT and KCOM should be required to provide wholesale services on an equivalence of inputs basis or otherwise to ensure that they are required to behave in a manner which is not unduly discriminatory.

8.17 To ensure that requirements to supply services and not discriminate are effective, we also propose a series of obligations designed to deliver transparency of information. Under these requirements, BT and KCOM must publish a reference offer which assists with the monitoring of their pricing strategies. They must also notify CPs of changes to charges in advance of implementation and give notification of technical information. We are also proposing an accounting separation obligation to support the non-discrimination requirements.

Insufficiency of national and EU competition law remedies

8.18 Our provisional conclusion is that national and EU competition law remedies would be insufficient to address the competition problems we have identified in the each of the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets.

8.19 First, the upstream markets that we have identified are inputs into other downstream markets. Intervening at the upstream level can create effectively competitive downstream markets – indeed, this is highlighted by the UK experience over the last decade. Competition law, which prohibits the abuse of a dominant position, may, however, not place sufficient obligations on BT and KCOM to facilitate and sustain effective downstream competition. We do not consider that the nature and scope of the remedies we are proposing to address the competition problems we have identified could be imposed equally effectively under competition law (this includes reliance on the BT Undertakings which are, in essence, a remedy under national competition law[232]).

8.20 Second, as evidenced by the suite of remedies we are proposing to impose, the requirements of intervening to address the competition problems in each of the wholesale fixed access markets are extensive, and also include provisions to ensure that they remain effective during the three year review period.

8.21 For example, we are proposing both general and specific network access obligations, in the manner and form set out in draft SMP services conditions at Annex 11. These proposed conditions provide, amongst other things, for direction-making powers. These direction-making powers are important since they allow us to direct BT and KCOM as to the application of both the general and specific network access obligations, and so ensure their application can be specifically tailored to address the competition problems we have identified, both now and over the course of the three year review period.

8.22 The *ex ante* remedies we are proposing to impose provide, amongst other things, that new products and services provided in the wholesale fixed access markets are captured by the relevant SMP obligations, thus ensuring their continued effectiveness to address the competition problems over the course of the three year review period.

8.23 Third, we are of the view that providing continued certainty on the types of behaviour that are/are not allowed in the wholesale fixed access markets is of paramount concern both to BT, other CPs, and to end users. We consider this certainty is best achieved through *ex ante* regulation. *Ex ante* regulation will also allow for timely intervention – proactively by us and/or by parties bringing regulatory disputes to us for swift resolution[233] – and, consequently, timely enforcement using the powers accorded to us under the CA03 to secure compliance[234] through a process with which the market in general is familiar and which is also set out in the CA03.

[232] Specifically the Enterprise Act 2002. As we explained in 2005 when we accepted them in lieu of a reference to the Competition Commission, the BT Undertakings are intended to complement *ex ante* regulation under the CA03. They seek to deploy a variety of mechanisms aimed at defining equivalent treatment, and at preventing and detecting discriminatory conduct by BT when supplying wholesale network access and backhaul services to its downstream competitors
[233] See sections 185 to 191 of the CA03, in particular section 185(1A).
[234] See sections 94 to 104 of the CA03.

Removal of regulations

8.24 The remedies we are proposing are those which we provisionally conclude are appropriate to address the competition problems we have identified in each of the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets as a result of our analysis of these markets, and which we provisionally conclude reliance on national and EU competition law alone would be insufficient to address.

8.25 Accordingly, we propose to impose the SMP conditions set out in Annex 11 for the reasons set out in Sections 10 to 15. As a result of this, we are proposing to revoke all of the SMP services conditions imposed on BT and KCOM as set out in the following Statements insofar as they relate to the wholesale fixed access markets which we have provisionally assessed in this market review:

- 2010 WLA Statement;
- 2010 WFAEL Statement;
- 2010 ISDN30 Statement; and
- 2009 Wholesale Narrowband Statement (in relation to wholesale ISDN2).

8.26 The one exception to this is in relation to the accounting separation and cost accounting conditions, where we will implement our proposals by amendments to the SMP conditions imposing cost accounting requirements as set out in Annexes 2 and 3 to *"The regulatory financial reporting obligations on BT and Kingston Communications - Final statement and notification"* of 22 July 2004 ("the 2004 Accounting Statement").

8.27 We set out a draft notice revoking these SMP services conditions, together with the new SMP services conditions we are proposing in each of the wholesale fixed access markets, in the draft notifications at Annex 11 to this consultation.

8.28 For the avoidance of doubt, we are not proposing to revoke the current ISDN30 charge control conditions imposed in the 2012 ISDN30 Charge Control Statement on the basis that the obligations imposed pursuant to these are either time limited or need to subsist beyond the end of the charge control period for the purposes of compliance monitoring.

Section 9

Remedies: Quality of service

Introduction

9.1 As part of our review of the fixed access markets we have also been undertaking an examination of matters relating to the QoS delivered by BT (through Openreach) in the supply of regulated wholesale fixed access services. This is not the first time that we have considered quality of service issues. In 2008 we undertook a review of the existing Service Level Guarantee ('SLG') arrangements in terms of the scale of and the process for compensatory payments. This led to a set of Directions covering WLR, MPF and Ethernet products (the 'SLG Directions').[235]

9.2 Over the past few years, CPs that are wholesale customers of Openreach have raised a regular series of issues regarding Openreach's performance in fixed access markets; in particular, in relation to the lead times given for engineer appointments for the provision of new lines and the period of time taken to repair faults. These issues came to the fore most recently in late spring 2012, when service levels markedly deteriorated.[236]

9.3 Openreach also experienced a period of poor performance in the second half of 2010, which led to Ofcom writing formally to the Office of the Telecoms Adjudicator ('OTA2') in March 2011 tasking it to *"review the effectiveness of the SLG process that catered for lead times with Openreach and the CP community."*[237] This ultimately led to a new contractual agreement, but the process was not finally concluded until December 2012.[238,239] This delay in negotiations also encouraged TalkTalk to raise a dispute over the service they received during those negotiations.[240]

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[235] Ofcom, *Service level guarantees: incentivising performance: Statement and Directions,* 20 March 2008, www.stakeholders.ofcom.org.uk/binaries/consultations/slg/statement/statement.pdf.
[236] It is arguable, however, that this was the culmination of a longer term trend accentuated by particularly adverse weather conditions.
[237] *OTA2 update for March 2011*, www.offta.org.uk/updates/otaupdate20110405.htm.
[238] *OTA2 update for January 2012*, www.offta.org.uk/updates/otaupdate20120207 htm.
Industry continued to negotiate the details of the SLA/SLG arrangements and, in its December 2012 update, the OTA2 announced that a Memorandum of Understanding ('MoU') had been agreed between Sky, BT and TalkTalk. On 18 December 2012, Openreach published an updated LLU contract reflecting the detail of the MoU, which includes an SLA appointment lead time target of 13 working days (reducing to 12 working days over a year), and an SLG of £2 per day if lead times are 14-16 days, and £4 per day if a lead time is 17 or more days. These SLGs are tied to an agreed forecasting requirement with a tolerance of 15% (reducing to 10% over a year subject to Openreach showing a sustained level of acceptable performance).
[239] The length and nature (involving only part of the industry) of these negotiations are themselves a cause for concern. There is clearly a risk that extended negotiations reflect imbalances in the negotiating positions of the parties.
[240] TalkTalk contended that the average time taken for Openreach to provide appointment availability for MPF (new provide) between 1 June 2012 and 31 August 2012 increased significantly, such that the level of service provided was not acceptable. TalkTalk argued that the terms and conditions on which the service was supplied were therefore not fair and reasonable on the basis that compensation should have been payable where the level of service provided fell below acceptable levels. Openreach, however, argued that TalkTalk was not entitled to that compensation as they had not signed the contract. Our current provisional conclusion is that TalkTalk had been offered fair and reasonable terms.
(Ofcom, *CW/01098/12/12*: *Dispute relating to whether Openreach offered MPF New Provide to TalkTalk Telecom Group PLC on fair and reasonable terms and conditions*, www.stakeholders.ofcom.org.uk/enforcement/competition-bulletins/open-cases/all-open-cases/cw_01098/).

2012 FAMR Call for Inputs

9.4 As part of the 2012 FAMR Call for Inputs we sought stakeholders' comments on their experience of Openreach's QoS, the current incentives facing Openreach and its customers regarding service quality and the potential implications for future regulation.

9.5 We received comments from a number of CPs, including BT Retail, Vodafone, EE, the FCS, KCOM, Sky, SSE, TalkTalk, Virgin and Verizon.[241] We discuss some of the specific comments raised by CPs in more detail in the relevant parts of our analysis. The key points raised by CPs were that:

- CPs have suffered reputational and financial damage as a result of Openreach's failings;
- Service Level Agreements ('SLAs'), that is the contractually agreed service levels committed by Openreach, do not cover all necessary products or processes and are negotiated from unequal positions (and the negotiation process takes too long);
- SLGs, that is the compensation payable by Openreach for a failure to meet the terms of its SLAs, offer insufficient incentive for adequate performance;
- in the absence of sufficient financial incentives, price regulation makes cost and investment cutting the rational profit-maximising response; Sky in particular provided a detailed paper which highlighted, inter alia, what it considered to be the potentially negative incentive aspects of RPI-X controls;
- force majeure clauses included in SLAs are abused to evade SLG obligations; and
- some CPs argued that BT Group may ultimately benefit from poor service by Openreach because switching is deterred or because BT Retail benefits from a default reliance on a 'safe brand'.

9.6 Openreach emphasised in its response to the CFI that QoS was an equation that must balance standards, contingency, investment and regulated prices. It argued that the "extreme weather" in 2012 drove poor performance, which should be placed in the context of significant recent improvements in QoS. In addition it said that its customers needed incentives as well as Openreach, in particular accurate forecasting and reducing cancellations.

Ofcom's review of quality of service

9.7 Our work in the fixed access market review is linked to a wider review of Openreach's QoS being undertaken by Ofcom, which is supported by the OTA2 and with the cooperation of industry:

- The OTA2 is facilitating discussions between BT and its customers in the provision of Ethernet services. This work has identified the need for changes in

[241] The non-confidential responses are available on our website: http://stakeholders.ofcom.org.uk/consultations/fixed-access-markets/?showResponses=true.

customer management processes employed by BT, which in some cases have been insufficiently flexible. It has also identified the need for changes to the way in which CPs work with BT to arrange the delivery of new services.

- There is also an OTA2 facilitated programme of work considering Openreach service to business focused CPs. Again, this is considering the specific demands of business customers and the processes on both sides (Openreach and the CPs) needed to address these requirements. While the issues have been identified, it is still too early to determine what progress has been made – we note some of this work in Annex 10.

9.8 Accordingly, while our focus in this present consultation is on QoS issues arising out of BT's SMP in the UK excluding the Hull area provisionally identified in the fixed access markets covered by this review, we consider that much of the analysis and proposals will be of relevance in the context of any future consideration of QoS issues for a wider range of markets and consequently services.

9.9 We have set out our research and analysis on quality of service issues in Annexes 9 and 10.

9.10 In Annex 9, we firstly set out the statistical information we have obtained on Openreach performance over the past few years. We then summarise the results of our market research on the Consumer and SME impacts of poor service and their expectations of what constitutes a reasonable level of service[242], and consider what standard of service might be expected of the regulated products.

9.11 In Annex 10, we consider the possible causes of reduced quality of service, the degree to which BT, and in particular Openreach, can manage these causes and likely future impacts on service delivery. We also consider the level of support that Openreach needs from CPs to maintain service quality – in particular forecasting of demand.

9.12 As we have identified in Annex 10, since the end of 2009, and particularly from the summer of 2010, Openreach's service performance deteriorated significantly, particularly with respect to the provision (i.e. installation) of new copper lines and fault repair. While service levels have fluctuated over time, the evidence shows that service levels have been consistently lower since 2009 for both MPF and WLR. As noted above, 2012 saw major deterioration in service leading to industry pressure on Openreach to devote significantly more resources to this area. While our evidence shows that service levels have improved since the start of 2013, we remain concerned that given our provisional findings regarding BT's SMP in the affected markets, there are insufficient incentives for Openreach to maintain what we consider to be an appropriate standard of service quality.

9.13 Therefore, given that we consider that the QoS issues identified arise out of the SMP we have provisionally identified BT as having in the various wholesale fixed access markets in the UK excluding the Hull Area, we have considered what the appropriate regulatory remedies are to address these QoS issues. In this regard we have reviewed the effectiveness of the existing regulatory framework insofar as it impacts on QoS (SLA/SLG requirements, transparency obligations and the SLG Directions)

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[242] Ofcom, *Fixed line installations and fault repair quality of service research*, 3 July 2013, http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/telecoms-market-data/fault-repair-research.pdf.

with a view to determining whether additional regulatory measures are appropriate to ensure that BT has the right incentives to deliver the QoS its customers and, importantly, end users require. We discuss this further where we set out our proposed remedies as part of Section 10 (General Remedies).

9.14 While all of the fixed access products being considered within this market review are within the scope of our consideration of QoS issues, we have focused in more detail on fault repair and provisioning for WLR and MPF given that these products have the highest volumes and therefore the greatest impact on competition in the market (i.e. consumers and businesses rely on them to a significant extent). Nevertheless, if it appears at future reviews that the remedies we propose are not successful in addressing BT's SMP, it may be appropriate in the future to consider the extension of our proposals to other services to the extent that QoS issues continue to arise.

Other service issues raised by stakeholders

9.15 There are some QoS issues raised during the 2012 FAMR Call for Inputs which are not directly addressed in the Annexes and the remedies section, nor in the current work programmes being undertaken by the OTA2 relating to business needs and Ethernet.

9.16 Several respondents argued that, once the current QoS problems have been addressed, there is a need to make changes to Openreach's processes to improve customers' experience. In particular, BT Retail suggested a range of improvements, including:

- shorter appointment slots e.g. 2 hour windows rather than just AM and PM;
- greater flexibility to modify appointments when customers' plans change;
- a more proactive approach to customer communication for orders that do not proceed normally; and
- other innovations such as doorstep re-appointing and proactive communication about cable thefts.

9.17 We agree that such improvements warrant consideration by Openreach. We would encourage Openreach to engage with their customers on options to address these concerns. However we do not consider that we can meaningfully address these issues within this review.

9.18 We also note that in its response to the 2012 FAMR Call for Inputs, BT Retail said that parity between MPF and WLR/SMPF was its number one priority. BT Retail maintained that MPF was originally highly priced and therefore was used as a niche business product with priority fault repair levels, but as the market has matured and MPF is now a mass-market product, it is critical that there is product equivalence from Openreach as well as customer equivalence. It considered that today's position, whereby faults from MPF users are placed ahead of the repair queue and in front of Retail WLR repairs, is an unacceptable distortion of the competitive playing field and one that Ofcom should address. Similarly, it considered that the lack of a simultaneous WLR and SMPF provision product set drives high levels of breakage and reduces its ability to expedite or amend orders for its customers.

9.19 The differing Service Levels for MPF and WLR arise from differences in the product. In the early days of the development of the MPF product, it was considered appropriate to use a higher service level than that of WLR due to the differing nature of the product. WLR includes both the copper line and the connection to BT's network, while MPF is limited to the copper line only. Accordingly, a repair on WLR could include engineer effort from the premise to the line card, while for MPF there is potentially a requirement for the MPF operator to carry out work at the exchange once Openreach has repaired a fault on the physical line.

9.20 While with improved service systems this concern about the need for a higher level of care for MPF may not be appropriate, it is not clear that there is a need for regulatory change. Both MPF and WLR operators are able to request alternative service levels for their product. Currently there is no Care Level 1 for MPF so MPF operators requiring slower repair times, at a reduced price, would need to raise an SoR for an alternative product set at Service Level 1. In the case of WLR, there is already a Care Level 2 service available and many lines (typically business lines) are already provided at Service Level 2 (WLR Premium). Therefore, BT Retail could today ensure that it has the same priority for all its lines as MPF.

9.21 As there has been no interest expressed by MPF operators to lower the service level they have, it would appear inconsistent with our aims to ensure service levels reflect customer demand to require that the service level be lowered. While the Ofcom survey data suggests consumers are comfortable with a service level 1 equivalent fault repair timetable, we are cautious to suggest that MPF is over-specified, given the need for both Openreach and the MPF operator to be involved in any repair.

9.22 Given that WLR operators are free to choose a higher service level, the key point of concern is therefore whether the existing charge differentials between MPF and WLR reflect the differences in cost in delivering the different service levels. If they are not, then this would be a cause of competitive concerns and would also undermine the ladder of substitution that we expect to control the charging for higher service levels (which are not currently subject to a cost orientation obligation).

9.23 Accordingly, given that our assessment is that this is essentially a cost and charge control issue we will address this within the charge control review.

9.24 With respect to simultaneous WLR and SMPF provision, we are aware that, at the moment, Openreach does undertake simultaneous provisioning on request. However, at present the charge for the services does not appear to reflect the costs savings of simultaneous provision. We are also addressing this as part of the 2013 Charge Control Consultation.

Discussion and proposals contained in Section 10

9.25 In Section 10, we set out our discussion and proposals for QoS as follows:

- we discuss the adequacy of SLAs and SLGs in paragraphs 10.44-10.59;
- we set out our proposals to change the RO requirements imposed on BT relating to SLAs and SLGs in paragraphs 10.157-10.185;
- we set out our proposals to impose an SMP condition on BT requiring it to provide transparency in respect of quality of service and Directions requiring BT to publish certain KPIs in paragraphs 10.246-10.284; and we set out our

proposal to impose a new condition on BT, which puts in place minimum delivery standards for provisioning and repairs for WLR and LLU in paragraphs 10.281-10.332.

Section 10

Remedies: General Remedies for wholesale fixed access markets

Introduction

10.1 In this section we set out our proposals for imposing a number of general remedies on BT and KCOM.

10.2 By general remedies, we mean those which apply generally to address the competition problems associated with SMP across each of the wholesale fixed access markets (in particular general network access, non-discrimination, quality of service and transparency requirements) and do not relate to requirements to provide specific forms of access such as VULA, LLU and WLR. Our proposals regarding specific access remedies, the pricing of specific access products and services and associated cost accounting requirements are discussed in the subsequent sections. Table 10.1 summarises the general remedies that we propose to impose on BT and KCOM in each market.

Table 10.1: Summary of proposed general remedies by wholesale market

Wholesale market	Proposed general remedies	
	BT (in the UK excluding the Hull Area)	**KCOM (in the Hull Area only)**
WLA	- Provide network access on reasonable request - Publish a process for new network access - Requirement not to unduly discriminate and EOI - Accounting separation - Publish a reference offer - Specified services subject to SLA/SLGs - Notify changes to charges, terms and conditions - Notify technical information - Transparency obligations including specified KPIs - Minimum service levels - Cost accounting	- Provide network access on reasonable request - Publish a process for new network access - Requirement not to unduly discriminate - Publish a reference offer - Notify changes to charges, terms and conditions - Notify technical information
WFAEL	- Provide network access on reasonable request - Publish a process for new network access - Requirement not to unduly discriminate and EOI - Accounting separation - Publish a reference offer - Specified services subject to SLA/SLGs - Notify changes to charges - Notify technical information - Transparency obligations including specified KPIs - Minimum service levels - Cost accounting	- Provide network access on reasonable request - Publish a process for new network access - Requirement not to unduly discriminate - Accounting separation - Publish a reference offer - Notify changes to charges - Notify technical information
ISDN30	- Provide network access on reasonable request - Publish a process for new network access - Requirement not to unduly discriminate and EOI - Accounting separation - Publish a reference offer - Specified services subject to SLA/SLGs - Notify changes to charges - Notify technical information - Transparency obligations including specified KPIs - Cost accounting	- Provide network access on reasonable request - Requirement not unduly to discriminate - Accounting separation - Publish a reference offer - Notify changes to charges - Notify technical information
ISDN2	- Provide network access on reasonable request - Publish a process for new network access - Specified services subject to SLA/SLGs - Requirement not to unduly discriminate	- Provide network access on reasonable request - Requirement not to unduly discriminate - Accounting separation - Publish a reference offer

	and EOI - Accounting separation - Publish a reference offer - Notify changes to charges - Notify technical information - Transparency obligations including specified KPIs - Cost accounting	- Notify changes to charges - Notify technical information

10.3 In summary, our proposed changes from existing remedies currently imposed on BT and KCOM in the wholesale fixed access markets are:

- to require BT and KCOM to ensure that their SoR guidelines meet a further principle that the reasons for rejecting SoRs are clear and transparent;
- to impose a requirement on BT to provide network access on an EOI basis but only to the extent that BT already provides wholesale products and services on an EOI basis including through its agreement with Ofcom (the BT Undertakings[243]);
- to impose an accounting separation requirement on KCOM in wholesale ISDN30;
- to reduce the 90 day notice period currently imposed on BT and KCOM for changes to the ISDN2 WLR charge down to 28 days;
- to require BT to at least offer SLA/SLGs for specified services within WLA, WFAEL, ISDN2 and ISDN30 market;
- to require BT to provide specified key performance indicators ('KPIs') for WLA, WFAEL, ISDN2 and ISDN30;
- to require BT to meet minimum standards for specified services in WLA and WFAEL market; and
- to provide for reductions in charges (including special offers) for WLA network access products and services to be made with 28 days notice.

Approach to general remedies

10.4 In this subsection we discuss our approach to general remedies. We set out the existing general remedies for each of the wholesale markets under review, any responses we received to the 2012 FAMR Call for Inputs[244] about our approach to general remedies and our provisional considerations.

[243] Ofcom, *Undertakings given to Ofcom by BT pursuant to the Enterprise Act 2002 – consolidated version,* 23 March 2010, www.stakeholders.ofcom.org.uk/binaries/telecoms/policy/bt/consolidated.pdf.
[244] Ofcom, *Fixed access market reviews; wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 Call for inputs*, 9 November 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/summary/condoc.pdf.

Existing general remedies in the wholesale fixed access markets

10.5 Table 10.2 below summarises the current general remedies imposed on BT and KCOM in the wholesale fixed access markets.

Table 10.2: Summary of current general remedies[245]

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[246]), KCOM	BT, KCOM	BT, KCOM	BT, KCOM
Basis of charges – cost orientation	BT (excluding VULA), KCOM	BT, KCOM		BT, KCOM
Publish a reference offer	BT, KCOM	BT,KCOM	BT, KCOM	BT, KCOM
Notify changes to charges, terms and conditions	BT, KCOM	BT, KCOM	BT, KCOM	BT, KCOM
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
Charge control	BT (LLU)	BT (WLR)	BT (ISDN30)	

2012 FAMR Call for Inputs

10.6 In Section 3 of the 2012 FAMR Call for Inputs, we provided a summary of the current general remedies for each of the wholesale fixed access markets under review. We asked stakeholders the following question:

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.

10.7 We also set out the current periods imposed on BT and KCOM for notifying changes to certain wholesale charges in each of the wholesale markets under review. We asked:

[245] Table 7.2 also shows the existing basis of charges, charge control and cost accounting requirements. These remedies are discussed further in the following sections.
[246] VULA is subject to an EOI obligation (a stricter form of anti-discrimination remedy).

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

10.8 We set out below the general views expressed by stakeholders about whether changes in the wholesale fixed access markets mean we should alter our approach to general remedies.

10.9 Most stakeholders also made representations either in respect of notification periods in response to our specific question and/or in relation to other issues of concern to them such as the SoR process etc. We discuss these issues in our consideration of specific remedy proposals later in this section.

Stakeholder comments on our approach to general remedies

10.10 [✂] considered that the existing set of remedies had been beneficial in promoting effective competition and that there was no reason for Ofcom to remove them. [247] However, [✂] believed that the general remedies were not working to their full effect; we address [✂] specific points in our consideration of proposals for general remedies below.

10.11 Sky[248] considered that, in broad terms, the current regulatory remedies were appropriate and proportionate and would remain so over the period covered by the FAMR.

10.12 Verizon[249] did not consider that there have been any changes which warranted any relaxation of regulation. [✂]

10.13 Virgin[250] considered that there had been no significant changes within the markets under review that would justify a radically different approach to general remedies. It highlighted that the obligation to provide network access (including new network access) was particularly important as NGA developed, and that Ofcom should review the effectiveness of these remedies.

10.14 KCOM[251] considered that, given the deployment of alternative infrastructure in the Hull Area, it was timely for Ofcom to assess the appropriateness and proportionality of the current wholesale general remedies.

Ofcom's considerations

10.15 Most stakeholders did not consider that there had been significant changes in the wholesale fixed access markets that suggested that we should alter our overall

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[247] [✂]
[248] Paragraphs 3 and 9, *Sky response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BSkyB_plc.pdf.
[249] P.2, *Verizon response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Verizon_Enterprise_Solutions.pdf.
[250] Pp.6-7, *Virgin response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Virgin_Media.pdf.
[251] P.4, *KCOM response to the 2012 FAMR Call for Inputs,* www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/KCOM_Group_PLC.pdf.

approach to general remedies, or otherwise considered that the general remedies remained broadly appropriate for the period of this market review.

10.16 Our initial analysis of competition in each of the wholesale fixed access markets, detailed in the preceding sections, indicates that there has not been significant change in the relevant markets. In broad terms, we have therefore taken a similar approach in considering appropriate general remedies to that taken in previous market reviews. We have however proposed some changes, summarised at paragraph 0, which we consider are appropriate; these are set out in detail below.

Proposed general remedies for the wholesale fixed access markets

10.17 In this subsection, we set out our proposed general remedies for the wholesale fixed access markets. In all cases the aim and effect of our proposed regulation is common to each of BT and KCOM and in respect of each of the wholesale markets under review[252], unless otherwise identified.

10.18 Where there are differences, we set these out in relation to the aim and effect of the regulation we specifically propose to impose on BT or KCOM and/or the aim and effect of the regulation we consider is appropriate particular to the competition problems we have identified in a specific market.

10.19 We assess each proposed general remedy in turn by setting out:

- any existing requirements;
- any relevant 2012 FAMR Call for Inputs responses;
- the aim and effect of the proposed regulation;
- our proposals, including our consideration of relevant responses to the 2012 FAMR Call for Inputs; and
- our initial consideration of the relevant legal tests for imposing the proposed regulation.

Requirement to provide network access on reasonable request

<u>Current remedies</u>

10.20 BT and KCOM are currently required to provide network access on reasonable request and to provide such access as soon as it is reasonably practicable and on fair and reasonable terms, conditions and charges. BT and KCOM are also required to comply with any Direction Ofcom may make regarding the provision of network access. Table 10.3 details the relevant current SMP conditions.

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[252] This is because the competition issue arising from BT's or KCOM's SMP that we are seeking to address is the same in each of the wholesale fixed access markets.

Table 10.3: Current SMP conditions to provide network access on reasonable request

Wholesale market	Existing SMP conditions	
	BT (in the UK excluding the Hull Area)	**KCOM (in the Hull Area only)**
WLA	SMP condition FAA1	SMP condition FBB1
WFAEL	SMP condition AAAA1(a)	SMP condition AAAB1(a)
ISDN30	SMP condition AAA(IS)1(a)	SMP condition AAB(IS)1
ISDN2	SMP condition AAA1(a)	SMP condition AAB1

2012 FAMR Call for Inputs

10.21 KCOM strongly supported the continuation of a general access remedy which it considers has been effective in affording KCOM the flexibility to develop access solutions for competitors in the Hull Area which fulfil the service and functionality required and which are less burdensome than requirements imposed by product specific regulation. KCOM did not consider that imposing specific forms of network access on it such as WLR would provide efficient solutions for either KCOM or its competitors.[253]

Aim and effect of regulation

10.22 As our analyses in the preceding sections shows, the level of investment required by a third party, in each of the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets under consideration in this review, to replicate BT and KCOM's networks and build sufficiently large access networks to compete is a significant barrier to entry. In our view, an obligation requiring dominant providers to make access[254] to their network facilities available to third parties on reasonable request is fundamental to promoting competition in downstream markets. We consider that, in the absence of such a requirement, BT and KCOM would have an incentive and the ability to refuse access at the wholesale level thereby favouring their own retail operations with the effect of hindering sustainable competition on the corresponding downstream markets, ultimately against end users' interests.

Proposals

10.23 Section 87(3) of the CA03 authorises Ofcom to set SMP services conditions requiring the dominant provider to provide network access as Ofcom may from time to time direct. These conditions may, pursuant to section 87(5), include provision for securing fairness and reasonableness in the way in which requests for network access are made and responded to and for securing that the obligations in the conditions are complied with within periods and at times required by or under the conditions. Section 89(9) of the CA03 also authorises SMP services conditions imposing on the dominant provider such rules as they may make in relation to matters connected with the provision of network access about the recovery of cost and cost orientation.

10.24 We are proposing to impose an SMP obligation requiring BT to provide network access where a third party reasonably requests it in respect of each of the WLA,

[253] P.4, *KCOM response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/KCOM_Group_PLC.pdf.
[254] Network access is defined in sections 151(3) and (4) of the CA03. We consider that a requirement to provide network access would, therefore, include any ancillary services as may be reasonably necessary for a third party to use the services.

WFAEL, wholesale ISDN30 and wholesale ISDN2 markets in the UK excluding the Hull Area in which we are proposing to find that BT has SMP. We are also proposing to impose an equivalent obligation on KCOM in the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets for the Hull Area in which we are proposing to find that KCOM has SMP.

10.25 The proposed condition will require BT and KCOM to provide network access on fair and reasonable terms and conditions. We also propose that this obligation apply to charges, except in relation to those services where we propose in this consultation either a charge control (certain LLU, WLR, ISDN2, ISDN30 services and the VULA CP-CP migration charge) or a basis of charges obligation (certain other LLU, WLR, PIA and SLU services). In the case of both BT and KCOM, we consider that a fair and reasonable charges obligation (where applied) is necessary to address in each of the WLA, WFAEL, wholesale ISDN2 and wholesale ISDN30 markets our concerns of a relevant risk of adverse effects arising from a price distortion if BT or KCOM (as applicable) fixes and maintains its prices at an excessively high level for these existing and future services in these markets. We also set out below that we provisionally consider that there is also a risk that BT imposes a price squeeze during the period of the market review. We are not proposing this condition to apply to BT where we either propose a charge control or Basis of charges obligation since in our view this is sufficient to address our competition concerns in relation to excessive pricing such that additional price regulation is not required.

10.26 KCOM is currently subject to a Basis of charges obligation in respect of WLA, WFAEL and wholesale ISDN2. However, we propose not to re-impose this obligation on KCOM as part of this review. We consider that a requirement on KCOM for fair and reasonable charges is sufficient to deal with our concerns regarding excessive pricing for its wholesale services in each of the wholesale fixed access markets (WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 in the Hull Area), and so we consider that a Basis of charges obligation is therefore unnecessary.

10.27 We propose that it is appropriate for this SMP condition to include the power for Ofcom to make directions in order that we can secure the supply of services and, where appropriate, fairness and reasonableness in the terms and conditions (and, as discussed above, in certain circumstances also charges) for providing third parties with network access. The proposed condition includes a requirement for the dominant provider to comply with any such direction(s), so any contravention of a Direction would constitute a contravention of the condition itself and would therefore be subject to enforcement action under sections 94-104 of the CA03.

10.28 The proposed SMP conditions for BT in each of the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets outside the Hull Area also include provision for the directions of 20 March 2008 relating to quality of service[255] to apply for the forward look period of this market review. This is set out in more detail in paragraph 10.42.

10.29 We note, for the avoidance of doubt, that provisions in the existing SMP services conditions AAAA1(a).4 in respect of WFAEL and AAA1(a).4 in respect of wholesale ISDN2 that BT's Use of Cancel Other Direction dated 28 July 2005 shall continue to have force, are no longer applicable. We refer to Ofcom's 2009 Statement on

[255] Ofcom, *Service level guarantees: incentivising performance: Statement and Directions*, 20 March 2008, http://stakeholders.ofcom.org.uk/binaries/consultations/slg/statement/statement.pdf.

protecting consumers from mis-selling[256] in which we notified the withdrawal of the 2005 Cancel Other Direction and imposed General Condition 24 imposing requirements on CPs with regard to sales and marketing of fixed line telephony services in the circumstances set out in the condition (including the circumstances in which 'Cancel Other' may be applied). We therefore have removed these existing provisions from our proposed requirement to provide network access condition at Annex 11.

10.30 With regard to KCOM's comments in the 2012 FAMR Call for Inputs regarding wholesale network access regulation, we consider that imposing specific forms of remedies on KCOM in the same form as BT, in the absence of clear evidence of demand for either the particular access products currently supplied by BT[257] or access more generally, to be disproportionate and inappropriate at this time. Requiring KCOM to develop such specific forms of network access now would impose costs on KCOM which might be passed onto its customers without our being clear that, in doing so, Hull Area consumers would derive competition benefits. We therefore consider that opportunities for competition are best met by continuing to rely instead on general and new access obligations.[258] However, we will keep this under review.

10.31 We propose that a general network access condition should apply to BT and KCOM in the following markets as shown in Table 10.4 below:

Table 10.4: Proposed general network access obligations

Wholesale market	Proposed general network access obligations	
	BT (in the UK excluding the Hull Area)	**KCOM (in the Hull Area only)**
WLA	Yes including fair and reasonable charges where no charge control or Basis of charges obligation applies	Yes including fair and reasonable charges
WFAEL	Yes including fair and reasonable charges where no charge control or Basis of charges obligation applies	Yes including fair and reasonable charges
ISDN30	Yes including fair and reasonable charges where no charge control or Basis of charges obligation applies	Yes including fair and reasonable charges
ISDN2	Yes including fair and reasonable charges where no charge control or Basis of charges obligation applies	Yes including fair and reasonable charges

Legal tests

10.32 For the reasons set out below, we are satisfied that the proposed conditions for BT in respect of each of the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets in the UK but excluding the Hull Area and for KCOM in the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets for the Hull Area (respectively at Annex 11) meet the various tests set out in the CA03.

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[256] Ofcom, *Protecting consumers from mis-selling of fixed line telecommunications services*, 18 December 2009, http://stakeholders.ofcom.org.uk/binaries/consultations/protecting_consumers_misselling/statement/statement.pdf

[257] Noting in particular that it is not clear whether any requested access products would necessarily be the same as in other parts of the UK.

[258] We propose that KCOM should be subject to a new network access requirement and other general remedies concerning non-discrimination and transparency as discussed later in this section.

10.33 Section 87(3) of the CA03 authorises Ofcom to set SMP services conditions requiring the dominant provider to provide network access as Ofcom may from time to time direct. These conditions may, pursuant to section 87(5), include provision for securing fairness and reasonableness in the way in which requests for network access are made and responded to and for securing that the obligations in the conditions are complied with within periods and at times required by or under the conditions. Section 87(9) of the CA08 also authorises SMP services conditions imposing on the dominant provider such rules as they may make in relation to matters connected with the provision of network access about the recovery of costs and cost orientation, subject to the conditions of section 88 of the CA03 being satisfied.

10.34 In proposing these conditions, we have taken into account the factors set out in section 87(4) of the CA03. When considering the imposition of such conditions in a particular case, we must take into account the following six factors set out in section 87(4):

- the technical and economic viability (including the viability of other network access products, whether provided by the dominant provider or another person), having regard to the state of market development, of installing and using facilities that would make the proposed network access unnecessary;
- the feasibility of the provision of the proposed network access;
- the investment made by the person initially providing or making available the network or other facility in respect of which an entitlement to network access is proposed (taking account of any public investment made);
- the need to secure effective competition (including, where it appears to Ofcom to be appropriate, economically efficient infrastructure based competition) in the long term;
- any rights to intellectual property that are relevant to the proposal; and
- the desirability of securing that electronic communications services are provided that are available throughout the Member States.

10.35 In reaching our proposal that BT and KCOM should be subject to a requirement to provide network access on reasonable request, we have taken all of the above six factors into account. In particular, having considered the economic viability of building access networks to achieve ubiquitous coverage that would make the provision of network access unnecessary, we consider that the SMP condition is required to secure effective competition, including economically efficient infrastructure based competition, in the long term in each of the wholesale access markets. The requirements for BT to meet only reasonable network access requests also ensure that due account is taken of the feasibility of the proposed network access, and of the investment made by BT and KCOM initially in providing the network.

10.36 We are also required to ensure that the proposed condition satisfies the tests set out in section 88 of the CA03 as the requirement places controls on network access pricing, insofar as charges are required to be fair and reasonable. Section 88(1) of the CA03 requires that Ofcom must not impose pricing conditions unless it appears from the market analysis carried out for the purpose of setting that condition that there is a relevant risk of adverse effects arising from price distortion. We have discussed above that we consider that, in the absence of price regulation requiring prices to be ‘fair and reasonable,’ BT and KCOM may price excessively. For the reasons set out below, we also consider that there is a risk that BT will impose a price squeeze. [259] Therefore we consider that there is a relevant risk of adverse effects arising from a price distortion.

10.37 Section 88(1)(b) of the CA03 requires that the pricing condition should be appropriate for the purposes of promoting efficiency, promoting sustainable competition and conferring the greatest possible benefits on the end users of public electronic communications services.

10.38 We consider that fair and reasonable charges will prevent BT and KCOM from passing on any inefficiently incurred costs to other wholesale providers through excessively high prices (in the case of BT, where we do not propose to impose another form of pricing obligation). In this way, this condition supports the aim of improved efficiency.

10.39 We also consider that the provision of network access on fair and reasonable terms will promote sustainable competition by ensuring that other CPs can effectively compete at the retail level. We consider this to be the appropriate approach for the purposes of conferring the greatest benefits on end users of the services.[260]

10.40 We are also required, under Section 88(2) of the CA03, to consider BT’s and KCOM’s investment. We believe that fair and reasonable charges will allow BT’s and KCOM’s costs to be taken into account and will also provide for common cost recovery. This condition is therefore an appropriate basis upon which to control BT’s and KCOM’s prices.[261]

10.41 We have considered our duties under section 3 and all the Community requirements set out in section 4 of the CA03. In particular, in each of the wholesale access markets the condition is aimed at promoting competition and securing efficient and sustainable competition for the maximum benefit of consumers by facilitating the development of competition in downstream markets.

10.42 Section 47(2) requires conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. The proposed condition is:

- objectively justifiable, in that in each of the wholesale access markets it facilitates and encourages access to BT’s and KCOM’s networks and therefore promotes competition to the benefit of consumers;

- not unduly discriminatory, in that it is proposed on both BT and KCOM and it is proposed that no other CP has been found to hold a position of SMP in these markets in the UK excluding the Hull Area and the Hull Area respectively;

- proportionate, in that it is targeted at addressing the market power that we propose BT and KCOM hold in these markets and does not require them to provide access if it is not technically feasible or reasonable; and

- transparent, in that the condition is clear in its intention to ensure that BT and KCOM provide access to their networks in order to facilitate effective competition.

[259] See discussion on VULA margin squeeze in Section 10.
[260] Ibid.
[261] Ibid.

10.43 For the reasons set out above, we consider that the proposed condition is appropriate to address the competition concerns identified, in line with section 87(1) of the CA03.

Consultation question(s)

10.1 Do you agree with our proposals regarding requirements on BT and KCOM to provide network access on reasonable request? Please provide reasons in support of your views.

SLAs and SLGs

10.44 In light of the comments from stakeholders raised in response to the 2012 FAMR Call for Inputs and the matters that we have identified in Annexes 9 and 10 regarding Openreach's quality of service, we have considered whether the current SLA/SLG provisions in Openreach's contracts with wholesale customers are sufficient to ensure that network access requirements are not undermined. As part of this we have considered whether it would be appropriate to make a direction under our proposed network access conditions as to the SLA/SLG terms and conditions on which BT provides network access. We consider below the adequacy of existing SLAs and SLGs, in terms of ensuring appropriate incentives on service delivery, in each case with reference to the key WLR and MPF services.

10.45 We also consider the appropriate scope of the existing obligations imposed on BT to provide SLA/SLGs and the existing arrangements for the negotiation of SLA/SLGs alongside our consideration of reference offer requirements (see paragraphs 10.14-10.18).

Adequacy of existing SLAs

10.46 As we discuss in Section 9, while we have considered the issue of quality of service widely, we have specifically focused on WLR and MPF with respect to some of the more detailed assessments. As part of this assessment we have considered the SLAs currently in place for WLR and MPF provisioning appointment availability and repair with a view to assessing whether it would be appropriate at this time to propose directions in relation to their terms. We would also welcome stakeholders' views on the existing SLAs for GEA.

10.47 We have reviewed the current SLA targets in light of the analysis presented in Annex 9. Table 10.5 below sets out the existing SLAs.

Table 10.5: Existing Service Level Agreements for WLR and MPF

SLA	Current Target
Appointment availability	From 1/11/12 to 31/10/13 the first available appointment offered needs to be within 13 working days From 1/11/13 the first available appointment needs to be within 12 working days
Completion of Provision Work	For provision and transfer orders completion of work by midnight on date provided in KCI2.
Completion of Repair Work	Completion of repair work within contractual timescales set out in the relevant service maintenance level the CP has specified for the service
Missed appointment	For orders requiring an end user engineering visit, requirement for engineer to arrive during the appointment period (AM/PM)

10.48 In relation to repair for WLR and LLU, the current SLAs reflect the contractual repair timescales for each of BT's repair care levels, namely: care level 1 for WLR – repair by day of reporting plus 2 days and care level 2 for MPF – repair by day of reporting plus 1 day. We have no evidence to suggest that these timescales are outside the expectations of CPs and consumers. We therefore do not consider that there is a basis for alteration of the current SLA targets in relation to repairs. We have discussed in Section 9 BT Retail's views on the difference in service levels between WLR and MPF and how we will address that issue.

10.49 As discussed in Annex 9, while our survey evidence suggested that, absent any consideration of price, consumers and SMEs would consider shorter provisioning timescales of the order of five working days to be optimal, we do not consider that this means it would be appropriate to intervene to move the SLA target closer to five working days. This is because this target (five working days) is likely to more closely reflect consumer and SME expectations of the mean delivery outcomes (including both provisioning with and without appointments) rather than a view that every provisioning delivery should be at five working days. Moreover, our survey evidence suggested that consumers and SMEs place less importance on provisioning times compared to other factors (including that appointments are met). Furthermore, this preference was expressed absent any consideration of price. It is therefore not obvious that consumers would want shorter provisioning timescales if they had to pay a higher price for it.[262]

10.50 The question is therefore whether it is appropriate to consider changes to the appointment availability lead time. We noted that the SLA including the proposed reduction from 13 to 12 working days has been very recently agreed within industry. However, our market research found that only around 10-15% of consumers and SMEs consider an appointment time of 10 days as acceptable for provisioning a new line[263] and a majority would start considering switching to an alternative provider if they are offered appointment times over seven working days.[264]

10.51 Whilst our market research suggests that consumers and SMEs would not consider it optimal to have a SLA set which accepts provisioning delivery at a time beyond 10 days, we are conscious that the consumer preferences also indicated limited willingness to pay for better provisioning outcomes and that we did not specifically ask consumers to trade off faster provisioning times against the additional costs that could incur.[265] We are also conscious that current average quality of service experience, i.e. the general experience of consumers, is determined as much by Openreach's capacity to deliver services within the existing SLA as it is by the actual level at which the SLA is set.

10.52 Therefore we are not minded at this time to propose regulatory intervention to reduce the lead time in the current SLA for provisioning appointments. We consider that the priority for this market review period is to ensure that Openreach is properly incentivised and resourced to meet its existing obligations. That said, we are open to

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[262] For example in the 2013 QoS research Q1A, 'speed of installation' was not ranked as an important factor when selecting a CP by either consumers or SMEs. For consumers the most important factor was 'price', whereas for SMEs it was 'responsiveness to faults.'
[263] Q1/2 of the 2013 QoS research. See Annex 9 for further details of the results.
[264] Q9b of the 2013 QoS research. See Annex 9 for further details of the results.
[265] Q12 and Q15 of the 2013 QoS research. Only 18% of consumers said they would be willing to pay extra for faster installation times. A slightly higher proportion (24%) of SMEs indicated a willingness to pay. In addition as discussed in Annex 9 both consumers and SMEs indicated that installations being completed within the first appointment was more important than the speed of the appointment availability (see Annex 9).

stakeholders' views as to whether it would be appropriate and proportionate for Ofcom to intervene in relation to the SLA for the first available appointment at 12 days. We would in this regard note that it is likely that any reduction would come at additional cost – we will be in a position to consider such costs in the context of the separate consultation on quality of service costs we propose for later this year – see paragraph 10.321 below.

Adequacy of existing SLGs

10.53 We have also considered the level of compensation set in those agreements for a failure to meet the agreed SLA, i.e. the level of the corresponding SLGs. The present SLGs, paid on a per event basis, have been negotiated between Openreach and the CPs with the intention that they provide both a) a pre-estimate of the financial loss suffered by CPs due to breach of the SLA by Openreach; and b) some incentive for Openreach to meet its obligations rather than breach them.

10.54 In response to the 2012 FAMR Call for Inputs, CPs raised two significant concerns with the present SLGs, both of which are used to argue that they should increase. Firstly, a number of CPs indicated that they do not feel fully compensated for the losses they incur as a result of Openreach's failure to meet its SLA commitments; some CPs have supplied estimates of 'consequential loss' which include such variables as brand value losses and the opportunity cost of lost business. Secondly, almost all CPs which have expressed a view on the matter believe that SLGs are too low to create a meaningful incentive for Openreach to deliver its contractual obligations. In the face of challenging operational situations, they feel it is more profitable for Openreach to pay the SLG than to strive to deliver.

10.55 As SLGs are a matter of contract between Openreach and CPs purchasing network access, it is important to recognise that the level of SLGs must adhere to basic contractual principles. One such principle is that compensation clauses in contracts, such as the SLGs, should represent a genuine pre-estimate of the direct and reasonably foreseeable consequential losses likely to be suffered by the party to the contract. As a matter of contract law, this is referred to as a "liquidated damages" clause, which English law generally regards as enforceable. If a compensation clause seeks to set a different, much higher level of payment, for reasons other than to compensate for expected loss, this could then be viewed as a penalty clause, which are generally not enforceable as a matter of contract law. Therefore, whilst we have a power of direction in respect of these contracts related to ensuring that the terms agreed are fair and reasonable, we do not consider that it would be appropriate to depart from the basis that SLGs are set so as to form a pre-estimate of CPs loss arising from the breach of the SLA. On this basis we do not consider that it would be appropriate to seek to increase the level of SLGs so as to, in effect, penalise BT. We are proposing alternative regulatory measures to address this issue – see paragraph 10.285 where we consider the condition requiring a minimum service level.

10.56 We also do not consider that it is appropriate in this review to consider whether the existing SLGs are fully commensurate with CP loss. This is appropriately a matter for commercial negotiation.

10.57 We also think that seeking to set SLGs at a significantly higher level through some other regulatory mechanism would create unintended consequences giving rise to the potential for gaming the system from both BT and the CPs. This may include:

- over compensation of losses to CPs. This may result in CPs benefiting financially from BT poor performance, which in turn could result in the reverse incentive for CPs not to work with BT on ways of improving service performance;

- increasing the incentive on BT to only meet the SLA rather than incentivising best delivery. BT may reallocate resources to achieve this to the detriment of other important aspects of service;

- a very strong incentive for BT to declare “force majeure” more frequently and in situations which are not appropriate.

10.58 Accordingly, we do not consider that it is appropriate to propose changes to SLGs as part of this review. We do not currently see any basis for changes to the SLGs, which have been determined by commercial negotiations and are, therefore, likely to reflect appropriate compensation levels.

10.59 While we do not consider that it is appropriate to modify existing SLA/SLGs as part of this review, we consider that the existing Directions on SLG structure and payment obligations originally set in 2008 remains appropriate. These require that SLGs are paid automatically and that the levels set are commensurate with identified concerns over compensation. We have therefore included a provision in our proposed legal instrument in Annex 11 that would have the effect of continuing the 2008 SLG Directions for LLU, WLR, ISDN30 and ISDN2 (until otherwise modified or withdrawn).[266] Those Directions require BT to make amendments in relation to the SLGs that it offered for LLU, WLR, ISDN30 and ISDN2. The SLGs include requirements for Openreach to pay compensation to OCPs proactively for service failures. We consider that it is important for these SLG requirements to continue, as they give Openreach incentives to maintain a good quality LLU service.

<u>Consultation question(s)</u>

10.2 Do you agree with our conclusion not to seek to modify SLAs or SLGs as a mechanism for quality of service improvement? If not, how would you modify the SLAs and or SLGs and on what basis and how would you ensure that such changes did not have unintended incentive consequences? Specifically do you consider that the existing SLA for provisioning appointments (12 days from next year) is adequate? Please provide reasons in support of your views.

Request for new forms of network access

<u>Current remedies</u>

10.60 BT and KCOM are currently required to, amongst other things, publish and follow a process by which they will address requests for new forms of network access (its SoR process) in the WLA and WFAEL markets. BT, but not KCOM, is also subject to a new network access obligation in both the wholesale ISDN30 and wholesale ISDN2 markets. Table 10.6 details the relevant current SMP conditions.

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[266] Ofcom, *Service level guarantees: incentivising performance,* 20 March 2008, www..ofcom.org.uk/consult/condocs/slg/statement/statement.pdf.

Table 10.6: Current SMP conditions concerning the handling of request for new network access

Wholesale market	Existing SMP conditions	
	BT (in the UK excluding the Hull Area)	**KCOM (in the Hull Area only)**
WLA	SMP condition FAA2	SMP condition FBB2
WFAEL	SMP condition AAAA1(b)	SMP condition AAAB1(b)
ISDN30	SMP condition AAA(IS)1(b)	
ISDN2	SMP condition AAA1(b)	

2012 FAMR Call for Inputs

10.61 EE raised a number of concerns, summarised below, about the way in which BT's current SoR process works:[267]

- maximum time frames in which Openreach can consider and respond to SoRs needed to be clear and transparent and Openreach's compliance needed to be monitored and non-compliance explained if not sanctioned;
- a clear and separate process was required for "regulatory SoRs" which EE considered should not be required to meet any test of creating a commercial benefit to BT; and
- accepted "regulatory SoRs" should be fast-tracked within BT's EMP[268] system.

10.62 EE believed that Ofcom needs to be more involved to drive necessary changes to the SoR process.

10.63 TalkTalk considered that the current SoR process is unsatisfactory and warranted our attention because:

- Openreach's consideration of whether an SoR is accepted or rejected was made in light of Openreach's own business case, whereas TalkTalk believed that SoRs should be assessed on a society-wide basis; and
- additional transparency of the SoR process and Openreach's decisions was required.[269]

Aim and effect of regulation

10.64 Vertically integrated CPs have the ability to favour their own downstream business over third party CPs by differentiating on price or terms and conditions. One form of discrimination is in relation to the handling of requests for new types of network access. This has the potential to distort competition at the retail level by placing third party CPs at a disadvantage compared with the downstream retail business of the vertically integrated operator in terms of their ability to introduce new services to meet

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[267] Pp.14-15, EE r*esponse to 2012 FAMR Call for Inputs*.
[268] Equivalence Management Platform – an Openreach organised system designed to handle the majority of transactions for Equivalence of Inputs (EOI) products.
See www..openreach.co.uk/orpg/home/helpandsupport/help_support/downloads/emp__high_level_view.pdf.
[269] P.33, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.

their customers' needs and in terms of their ability to offer innovative services in order to compete more effectively.

10.65 Therefore, the aim of this regulation is to support access seekers in ensuring that there is a fair, reasonable and transparent process for assessing reasonable requests for new forms of network access. To make such a request, the CP should provide the dominant provider with an SoR against which the reasonableness of the request can be assessed.

10.66 As our analysis in the preceding sections shows, in the absence of such a requirement, BT and KCOM, in each of the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets, have an incentive and ability to refuse to provide new forms of network access at the wholesale level, thereby favouring their own retail operations with the effect of hindering sustainable competition in the corresponding downstream markets, ultimately against the interests of end users.

Ofcom's proposals

10.67 Section 87(3) of the CA03 authorises Ofcom to set SMP services conditions requiring the dominant provider to provide network access as it may, from time to time, direct. These conditions may, pursuant to section 87(5) of the CA03, include provision for securing fairness and reasonableness in the way in which requests for network access are made and responded to, and for securing that the obligations in the conditions are complied with within the periods and at the times required by or under the conditions.

10.68 We propose to impose a condition regarding the process by which BT and KCOM will address requests for new forms of network access (the SoR process). In general, we consider the obligations imposed on BT and KCOM determining how requests for new types of network access should be handled have been effective in mitigating the risk of them discriminating in favour of their own retail businesses.

10.69 We propose that this condition should continue to be imposed on BT in each of the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets in the UK excluding the Hull Area. We further propose that an equivalent condition should be imposed on KCOM in respect of the WLA and WFAEL markets in the Hull Area only. We consider that this requirement remains an appropriate and proportionate *ex ante* measure to complement the general network access requirement discussed in paragraphs 10.24-10.32.

10.70 In light of our provisional analyses of both wholesale ISDN markets in the Hull Area (set out Sections 4 and 5), we continue to consider that imposing a new network access remedy on KCOM in these legacy markets would have little (if any) effect insofar as we consider that there is little prospect of third party CP demand for new forms of wholesale ISDN2 or ISDN30 network access within the Hull Area over the period of this review. We do not therefore consider it appropriate to propose a new network access remedy on KCOM in these markets.

10.71 We agree with EE that the timescales in which Openreach handles SoRs should be clear and transparent. The obligation requires BT and KCOM, for the explicit purposes of transparency, to publish reasonable guidelines which, *inter alia*, detail timescales in which they will handle requests for new network access and that such timescales for each stage of the SoR process are required to be reasonable. Furthermore, on receipt of a request for new network access, BT and KCOM are required to deal with the request in accordance with their guidelines including, therefore, such reasonable timescales which are mandated to be published in the guidelines. We consider that these requirements concerning reasonable timescales are appropriate and proportionate in addressing the concern expressed by EE. In circumstances where third parties consider that BT is not complying with these provisions, it is a matter for them to consider making appropriate representations to us in accordance with our Enforcement Guidelines[270] and Dispute Resolution Guidelines.[271]

10.72 We note EE's view that there should be a clear and separate process for what it terms 'regulatory' SoRs and that accepted 'regulatory' SoRs should be expedited in BT's EMP system. The SoR guidelines which BT is required to publish in relation to requests for new forms of network access are intended to set out the process for SoRs for new products falling within regulated markets. We consider that whether BT adopts the same or similar guidelines for handling 'non-regulatory' SoRs is a matter for BT. 'Fast-tracking' accepted SoRs onto BT's EMP system appears to us to be a question of detailed implementation which may be better addressed in the relevant industry fora.

10.73 EE and TalkTalk expressed similar concerns as regards the appropriate basis with which BT assesses and accepts/rejects SoRs. We have previously set out our position in this regard and refer, in particular, to our Access Guidelines. In these guidelines, and with reference to the Access Directive[272], we clarify at paragraph 2.22 that:

> "If matters are not resolved during a commercial negotiation and the Director is presented with a dispute over the "reasonableness" of a request, he must follow the relevant dispute resolution provisions set out in the new Directives. In doing so, assuming that the request is technically feasible, the Director is likely to consider whether a request is reasonable by considering whether it represents an "undue burden" on the operator supplying it (taking account of any specific action and expense that may be incurred in providing the product). In other words, the Director is likely to consider that a request, which is technically feasible, is reasonable if the SMP operator can reasonably expect to receive at least a reasonable rate of return, on any necessary investments made to supply a product at a price the requesting operator is willing to pay."

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[270] Ofcom, *Enforcement Guidelines – Ofcom's guidelines for the handling of competition complaints and complaints concerning regulatory rules*, 25 July 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/draft-enforcement-guidelines/annexes/Enforcement_guidelines.pdf.

[271] Ofcom, *Dispute Resolution Guidelines – Ofcom's guidelines for the handling of regulatory disputes*, 7 June 2011, www.stakeholders.ofcom.org.uk/binaries/consultations/dispute-resolution-guidelines/statement/guidelines.pdf.

[272] *Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities, as amended by Directive 2009/140/EC of the European Parliament and of the Council of 25 November 2009 amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, and 2002/20/EC on the authorisation of electronic communications networks and services,* www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:337:0037:0069:EN:PDF.

10.74 The current SoR guidelines[273], which may only be changed by agreement between BT and industry and which BT must apply when dealing with a request for new network access, state that Openreach must give its reasons for rejecting such requests. We understand, however, that Openreach may consider itself constrained from providing its reasons for rejecting a request for new network access due to commercial confidentiality.

10.75 We consider that, in principle, BT should be clear and transparent as to its reasons for rejecting requests for new network access and that it should make every reasonable effort in this regard. We believe that such transparency is important in securing fairness and reasonableness in the way in which requests for new network access are responded to. Moreover, we consider that transparency of BT's decisions is in the interests of both BT and its competitors in avoiding unnecessary recourse to our dispute resolution process. Therefore, we propose that the new network access SMP condition should require that the guidelines that BT is required to publish and follow must meet the principle that the reasons for the rejection of any request should be clear and transparent.

10.76 We recognise that the protection of commercially confidential information is a legitimate concern. One possibility might be for BT to consider whether it is appropriate to share confidential information relevant to its decisions with independent third parties such as OTA2 – whose role includes facilitating the industry Copper Product Commercial Group (CPCG) which works with Openreach in managing the SoR process – or a suitable consultant agreed between the parties.

10.77 While we make this specific proposal in response to concerns raised in respect of the Openreach SoR process, we consider that the inclusion of a principle as regards transparency of reasons for rejecting a request for new network access is equally appropriate and applicable in the case of KCOM. In this regard we note KCOM's published SoR process[274] states that where the request is rejected on the basis that it is not reasonable, "…*full details will be provided by the Requested Party [KCOM] of the reasons for that rejection*." We do not consider the effect of this proposal is likely to be unduly onerous or unreasonable, but we welcome comments from stakeholders on this point.

10.78 We propose that new network access conditions should apply to BT and KCOM in the following markets as shown in Table 10.7 below:

Table 10.7: Proposed new network access obligations

Wholesale market	Proposed new network access conditions	
	BT (in the UK excluding the Hull Area)	**KCOM (in the Hull Area only)**
WLA	Yes	Yes
WFAEL	Yes	Yes
ISDN30	Yes	No
ISDN2	Yes	No

[273] Openreach, *How to raise a Statement of Requirement for Openreach Products*, Issue 7, 18 April 2013
[274] KCOM, *New Services Manual*, *Part 2,* January 2011, www..kcomplc.com/docs/regulatory-pdf/reg_rio_knsm.pdf.

Legal tests

10.79 For the reasons set out below, we are satisfied that the proposed conditions for BT in respect of each of the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets in the UK but excluding the Hull Area and for KCOM in the WLA and WFAEL markets for the Hull Area (respectively at Annex 11), meet the various tests set out in the CA03.

10.80 Section 87(3) of the CA03 authorises the setting of SMP services conditions in relation to the provision of network services. We consider that the proposed condition will assist in securing fairness and reasonableness in the way in which requests for network access are made and responded to, as provided for under section 87(5)(a).

10.81 In reaching our proposal, we have also taken into account the factors set out in section 87(4) of the CA03. In particular, having considered the economic viability of building access networks to achieve ubiquitous coverage that would make the provision of network access unnecessary, we consider that the SMP condition is required to secure effective competition, including economically efficient infrastructure-based competition, in the long term in each of the wholesale access markets.

10.82 We have considered our duties under section 3 of the CA03. We consider that, in ensuring access seekers are able to make requests for new forms of network access based on an agreed SoR process, the proposed condition would in particular further the interests of consumers in relevant markets by the promotion of competition.

10.83 We have considered the Community requirements as set out in section 4 of the CA03. We consider that the proposed condition will promote competition in relation to the provision of electronic communications networks and encourage the provision of network access for the purpose of securing efficient and sustainable competition in the markets for electronic communications networks and services.

10.84 We also consider that the proposed condition meets the criteria set out in section 47(2) of the CA03. The proposed condition is:

- objectively justifiable, in that its purpose is to support the provision of access to BT's and KCOM's networks and non-discrimination obligations in the processing of requests for new network access;

- not unduly discriminatory, in that it applies to both BT and KCOM, which are the only CPs which we have provisionally found have SMP in the relevant markets in the UK excluding the Hull Area and the Hull Area respectively;

- proportionate, in that it sets out the high level principles that the process for requests for new forms of network access should conform to and thus encourages competition at the retail level, while allowing the detail of the process to be agreed between the dominant provider and industry; and

- transparent, in that it is clear the intention is to support the provision of access to BT's and KCOM's networks in order to facilitate competition. For the reasons set out above, we consider that the proposed condition is appropriate to address the competition concerns identified, in line with section 87(1) of the CA03.

Consultation question(s)

> *10.3 Do you agree with our proposals regarding requirements on BT and KCOM in relation to handling requests for new network access? Please provide reasons in support of your views.*

Requirement not to unduly discriminate and Equivalence of Inputs (EOI)

Current remedies

10.85 BT and KCOM are currently prohibited from unduly discriminating in relation to the provision of network access in each of the wholesale fixed access markets. BT is also subject to a specific requirement to provide VULA on an EOI basis. Table 10.8 details the relevant current SMP conditions.

Table 10.8: Current SMP conditions concerning the requirement not to unduly discriminate

Wholesale market	Existing SMP conditions	
	BT (in the UK excluding the Hull Area)	**KCOM (in the Hull Area only)**
WLA	SMP condition FAA3 SMP condition FAA11.3 (EOI for VULA)	SMP condition FBB3
WFAEL	SMP condition AAAA2	SMP condition AAAB2
ISDN30	SMP condition AAA(IS)2	SMP condition AAB(IS)2
ISDN2	SMP condition AAA2	SMP condition AAB2

2012 FAMR Call for Inputs

10.86 BT believed that the Undertakings it gave to Ofcom pursuant to the Enterprise CA03 2002[275] still have an important role to play in the regulation of these markets and we should be mindful of the flexibility gained from these Undertakings when considering whether further intervention is required.[276]

10.87 We note BT's comments and take them into consideration in our discussion of the aim and effect of regulation below and also in Section 8 where we consider its Undertakings in our consideration of the sufficiency of national competition law remedies.

Aim and effect of regulation

10.88 Article 8(1) of the Access Directive[277] requires Member States to ensure that national regulatory authorities are empowered to impose certain obligations where an operator is designated as having SMP. These include, under Article 10 of the Access Directive, obligations of non-discrimination. Article 10(1) provides that a national regulatory authority may: "*impose obligations of non-discrimination, in relation to*

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[275] Ofcom, *Undertakings given to Ofcom by BT pursuant to the Enterprise Act 2002 – consolidated version,* 23 March 2010, www.stakeholders.ofcom.org.uk/binaries/telecoms/policy/bt/consolidated.pdf.
P.9, *BT response to 2012 FAMR Call for Inputs,* www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BT.pdf.
[277] *Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities,* www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2002:108:0007:0020:EN:PDF.

interconnection and/or access". Article 10(2) further provides "[o]*bligations of non-discrimination shall ensure, in particular, that the operator applies equivalent conditions in equivalent circumstances to other undertakings providing equivalent services, and provides services and information to others under the same conditions and of the same quality as it provides for its own services, or those of its subsidiaries or partners*".

10.89 Article 10 of the Access Directive is implemented into UK law by section 87(6)(a) of the CA03 which gives us a power to impose "*a condition requiring the dominant provider not to discriminate unduly against particular persons, or against a particular description of persons, in relation to matters connected with network access to the relevant network or with the availability of the relevant facilities*". We consider any conditions imposed pursuant to this power require equivalence as per Article 10(2).[278]

10.90 A non discrimination obligation is intended as a complementary remedy to the network access obligation, principally to prevent the dominant provider from discriminating in favour of its own downstream divisions and to ensure that competing providers are placed in an equivalent position. Without such an obligation, the dominant provider is incentivised to provide the requested wholesale network access service on terms and conditions that discriminate in favour of its own downstream divisions.

10.91 Non-discrimination can have different forms of implementation. A strict form of non discrimination – i.e. a complete prohibition of discrimination – would result in the SMP operator providing exactly the same products and services to all CPs (including its own downstream divisions) on the same timescales, terms and conditions (including price and service levels), by means of the same systems and processes and by providing the same information. Essentially, the inputs available to all CPs (including the SMP CPs' own downstream divisions) would be provided on a truly equivalent basis, an arrangement which has become known as EOI. An EOI obligation removes any degree of discretion accorded to the nature of the conduct.

10.92 On the other hand, a less strict interpretation of non-discrimination may allow for flexibility and result in a more practical and cost-effective implementation of wholesale inputs. For example, equivalence of outcome (EOO) implies that the wholesale products that BT offers to its wholesale customers should be comparable to those that it offers to its own retail activities, but the product and processes need not be exactly the same so long as any differences are not material. However, an undue discrimination remedy would, by its very nature (taking into account our Discrimination Guidelines[279] and its application to a vertically integrated provider with SMP) allow for certain discriminatory conduct – compliance with that obligation needs to establish in particular whether the discrimination in question is undue.

10.93 Article 10 of the Access Directive, as implemented by section 87(6)(a) of the CA03, provides a basis for imposing both EOI and a less strict interpretation of non-discrimination which prevents discrimination that is undue.

[278] This position is supported by our 2005 guidance on Undue discrimination by SMP CPs where we state at paragraph 1.1 that "*in wholesale markets Requirements not to unduly discriminate (under the Act) have the same meaning, and describes the same concept, as an obligation of non-discrimination (under the [Access] Directive)*" (Ofcom, *Undue discrimination by SMP providers*, 15 November 2005, www.stakeholders.ofcom.org.uk/binaries/consultations/undsmp/statement/contraventions4.pdf).

[279] Ofcom, *Undue discrimination by SMP providers – How Ofcom will investigate potential contraventions on competition grounds of requirements not to unduly discriminate imposed on SMP providers*, 15 November 2005, http://stakeholders.ofcom.org.uk/binaries/consultations/undsmp/statement/contraventions4.pdf

EOI

10.94 We consider that EOI is the most effective form of non-discrimination. The concept of EOI was identified in Ofcom's 2004-2005 Strategic Review of Telecommunications[280] as one of our key policy principles to ensure that regulation of the telecommunication markets is effective. In principle, EOI delivers many advantages over EOO. It generates better incentives to BT to improve the products it offers to its competitors, it increases transparency, it is easier to monitor compliance, and it would require less on-going intervention by Ofcom. It therefore offers greater potential to address the issue of inequality of access in a sustainable fashion. However, we recognise it is costly to introduce for some existing products.

10.95 We have assessed whether it is appropriate for EOI to apply in each of the wholesale fixed access markets.

10.96 There are two key factors in our assessment:

- the importance of ensuring a level playing field in downstream markets; and
- proportionality.

The importance of ensuring a level playing field in downstream markets

10.97 All the services provided across WFAEL, wholesale ISDN2, wholesale ISDN30 and WLA markets are essential components for many downstream products and services used by business and residential consumers in particular for voice calls and broadband services (internet access, email etc). These wholesale services are essential for CPs to deliver their own services to customers, as the majority remain reliant on BT's network in doing so.

10.98 The impact of poor performance in developing, providing, maintaining or repairing relevant fixed access products is, alongside pricing, likely to play a part in the choices made by purchasers. Consumers, particularly businesses, are likely to choose a supplier that is reliable in delivering them a service on time and of the quality required. We are concerned that BT is incentivised to provide the requested wholesale network access service, in each of the four wholesale fixed access markets in which we consider it holds a position of SMP, on terms and conditions that discriminate in favour of its own downstream divisions. For example, it might decide to charge competing providers more than the amount charged to its own downstream divisions or it might strategically provide the same services but within different delivery timescales. Both these behaviours could have an adverse effect on competition. Equally, we consider that BT has the ability and incentive to supply products with different levels of quality – e.g. different SLAs and SLGs, providing fault repair of products on different timescales, creating new variants to fulfil the requirements of its downstream divisions, prioritising the needs of its downstream divisions in developing improvements and enhancements, and taking longer to address, or avoiding addressing, the requirements of competitors.

10.99 In addition, NGA (e.g. fibre-based investment supporting the roll-out of SFBB) in particular is characterised by significant product development and we do not consider

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[280] Ofcom, *Strategic Review of Telecommunications – Phase 2 consultation document*, Section 6, 18 November 2004,
http://stakeholders.ofcom.org.uk/binaries/consultations/telecoms_p2/summary/maincondoc.pdf

this will change over the forward-look period of this review. In this respect we are particularly concerned that, in the absence of a strict EOI requirement, BT has the ability and incentive to favour meeting the requirements of its downstream divisions over those of other CPs in developing wholesale products. As a result, the products it provides to its downstream divisions may therefore be superior to those it provides to other CPs in respect of quality, performance and features, and may well involve superior processes and systems for their development, delivery, maintenance and repair. We consider that EOI consumption provides the right incentives on BT to implement the changes and make product variants available equally and simultaneously to both its downstream divisions and to its competitors.

10.100 Therefore, we consider that discriminatory behaviour by BT in the supply of WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 services could undermine a level playing field in the related downstream markets to the detriment of competition and consumers. The need for the most effective non-discrimination remedy (as part of a wider package of remedies) to address the impact of BT's SMP in each of the wholesale fixed access markets is crucial to maintaining a level playing field between BT's downstream businesses and CPs over the course of the forward-look of our review.

Proportionality

10.101 As part of our assessment, we need to determine whether imposing EOI is proportionate to address the competition concerns we have described.

10.102 There are likely to be significant costs involved in re-engineering systems to provide existing services in the wholesale fixed access markets on an EOI basis where BT does not already do so. Therefore, we do not consider that it would be proportionate to require BT to do this.

10.103 However, BT already provides a number of key wholesale services in these markets on an EOI basis. We note in particular that in view of the Undertakings given to Ofcom by BT pursuant to the Enterprise Act 2002, BT currently supplies, for example, MPF[281], SMPF and wholesale line rental (analogue, ISDN30 and ISDN2) on an EOI basis by means of its access division Openreach. We therefore consider it proportionate for BT to continue to provide these on an EOI basis.

10.104 For these services, BT's compliance costs of meeting an EOI obligation, would not outweigh potentially significant competition benefits and the potential disbenefits in the downstream markets if this EOI obligation was not imposed.

10.105 Whereas in the case of BT we consider that the imposition of EOI is proportionate in the circumstances described above, we consider that imposing an EOI obligation on KCOM would be disproportionate and unjustified in respect of the scale and competitive conditions in the wholesale fixed access markets in the Hull Area which we have reviewed in Sections 3-5 and 7. We also refer, in particular, to the consideration and reasoning we have given at paragraph 10.23 *et seq.* in which we propose to impose a general network access remedy (and not specific forms of access remedies) on KCOM in each of the wholesale fixed access markets in the Hull

[281] Noting that BT is not required to provide MPF as a wholesale input for the provision of WLR whether to itself or to other CPs (section 3.1.3 of BT's Undertakings).

Area. We therefore consider that the compliance costs of imposing EOI on KCOM[282] at this time would likely outweigh any competition benefits that might be accrued over the course of this review.

No undue-discrimination

10.106 Having set out above our reasoning for imposing an SMP EOI requirement on BT which applies in respect of those wholesale services which it currently provides on an EOI basis, we consider that it also remains appropriate to impose a no undue-discrimination requirement on both BT and KCOM. This is to ensure that there is appropriate non-discrimination protection to remedy the incentive and ability for BT and KCOM to engage in discriminatory pricing and/or non-pricing practices for those services provided currently that will not be subject to an EOI obligation, for new services and also in specific circumstances such as where we consider there is a risk that an EOI requirement may not be effective in preventing discrimination. This may arise, for example, where BT's downstream divisions do not consume the same product variants such as wires-only and self-install GEA.[283]

10.107 Chapter 3 of our Access Guidelines is relevant to the application of this provision. In this chapter, we explain that the aim of a no undue-discrimination condition is to ensure that a vertically integrated SMP operator does not treat itself in a way that benefits itself, its subsidiaries or its partners in such a way as to have a material adverse effect on competition. Furthermore, we explain that:

> "In order to ensure compliance with its obligations as regards non-discrimination under the AID [Access and Interconnection Directive], in general, an SMP operator should ensure that:
>
> a) it applies equivalent conditions in equivalent circumstances to other undertakings providing equivalent services and provides services and information to others under the same conditions and of the same quality as it provides for its own services, or those of its subsidiaries or partners; and
>
> b) it can objectively justify any differentiation."

10.108 In proposing to impose a no undue discrimination condition on BT and KCOM, we have considered the Draft EC Recommendation on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment.[284] The Draft EC Recommendation seeks to establish consistent non-discrimination obligations to be applied by NRAs in circumstances where EOI is disproportionate. There are two parts to this aspect of the Draft EC Recommendation:

- that NRAs should ensure that the SMP operator provides wholesale inputs on at least an EOO basis; and

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[282] In particular where such a requirement required KCOM to re-design and/or re-engineer its existing systems associated with the provision of existing wholesale network access products and services.
[283] See Section 11.
[284] *Commission recommendation of XXX on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment, draft of 7 December 2012,* www.ec.europa.eu/digital-agenda/en/news/draft-commission-recommendation-consistent-non-discrimination-obligations-and-costing.

- that, as a minimum, technical replicability of the SMP operator's new retail offers should be ensured.

EOO

10.109 We consider that our proposed no undue discrimination obligation, as described above and with reference to the Access Guidelines, is consistent with the Draft EC Recommendation.

10.110 EOO requires the provision of all wholesale inputs to access seekers in a manner which is comparable, in terms of functionality and price, to those the SMP operator provides to its own downstream businesses, albeit using potentially different systems and processes. It is our view that our proposed no undue discrimination obligation is consistent with EOO in that it requires the SMP operator to provide wholesale inputs to third parties in a manner which is comparable in terms of functionality and price to those the SMP operator provides to itself. While no undue discrimination does allow for the possibility of objectively justifiable differences, this is more consistent with allowing different systems and processes to be used whereas the circumstances in which an objective justification could be raised to justify the SMP operator providing wholesale inputs in a manner which is not comparable in terms of functionality and price to those the SMP operator provides to itself would be very limited. This is reinforced by the fact that the Access Guidelines make clear that there is a rebuttable presumption that a vertically integrated SMP operator discriminating in favour of its own downstream business would have a material adverse effect on competition.

Technical replicability

10.111 We note that Draft EC Recommendation envisages the application of a technical replicability test, whether undertaken by the SMP operator and provided to the NRA or undertaken by the NRA itself, to ensure that access seekers can technically replicate new retail offers of the downstream business of the SMP operator. It recommends provision for such a test where EOI is not, or not yet fully implemented (Recommendation 15) but also in conjunction with EOI where NRAs decide not to maintain or impose price control obligations on active NGA wholesale inputs.

10.112 In this review, we are proposing to impose EOI requirements on products and services supplied in the wholesale fixed access markets, which is consistent with Recommendation 15. Further, given that our proposals for EOI include VULA and we have no evidence to suggest that CPs are unable to technically replicate BT Retail's superfast broadband offerings, we do not consider it appropriate or proportionate to apply a technical replicability test to VULA alongside our proposal not to impose price control obligations

10.113 With regard to KCOM, we observe that currently there is little interest amongst providers in seeking network access in the Hull Area notwithstanding that KCOM has been and (as we propose here) continues to be subject to general network access obligations. We therefore consider that it is premature to consider imposing detailed technical replicability requirements on KCOM and, to do so, would increase the regulatory burden without any significant prospect that it would result in benefits to competition.

10.114 We will take utmost account of any finalised EC Recommendation in reaching our final decisions on appropriate general remedies.

Proposals

10.115 Section 87(6)(a) of the CA03 authorises the setting of an SMP services condition requiring the dominant provider not to discriminate unduly against particular persons, or against a particular description of persons, in relation to matters connected with the provision of network access. As explained above, this obligation has different forms of implementation:

- a strict form of non discrimination which would result in the SMP operator providing exactly the same products and services to all CPs (including its own downstream divisions) on the same timescales, terms and conditions (including price and service levels), by means of the same systems and processes and by providing the same information, known as EOI; and

- a less strict interpretation of non discrimination allowing for flexibility and resulting in a more practical and cost-effective implementation of wholesale inputs in cases where it is economically justified which we refer to as no undue discrimination.

10.116 We further propose that BT should be subject to a requirement to provide network access on an EOI basis and that this should apply where:

- BT is currently required under a SMP services condition to do so (i.e. in respect of the VULA network access remedy in the WLA market); and

- BT currently provides network access on an EOI basis in accordance with the Undertakings given to Ofcom by BT pursuant to the Enterprise Act 2002.

10.117 We consider that imposing EOI in these circumstances would not be onerous as it would not require BT to re-engineer existing systems and processes. We refer specifically to Condition 5.2(c) of the draft Legal Instrument at Annex 11, wherein we exclude from the scope of the EOI obligation network access which BT is not providing on an EOI basis as at the date on which the proposed condition comes into force. This means that the obligation does not add any material compliance costs for BT. Furthermore, in Condition 5.2(d) of the draft Legal Instrument at Annex 11 wherein we make provision for Ofcom to consent in writing to the provision of network access on a non-EOI basis, this provides a mechanism which affords flexibility in the application of EOI where circumstances warrant it.

10.118 We also propose to retain the condition on BT and KCOM not to unduly discriminate in relation to the provision of network access.

10.119 We therefore propose that no undue discrimination and EOI conditions should apply to BT and/or KCOM in the following markets as shown in Table 10.9 below:

Table 10.9: Proposed no undue discrimination and EOI obligations

Wholesale market	Proposed no undue discrimination (NUD) and EOI conditions	
	BT (in the UK excluding the Hull Area)	**KCOM (in the Hull Area only)**
WLA	Yes – NUD and EOI where applicable	Yes – NUD only
WFAEL	Yes – NUD and EOI where applicable	Yes – NUD only
ISDN30	Yes – NUD and EOI where applicable	Yes – NUD only
ISDN2	Yes – NUD and EOI where applicable	Yes – NUD only

Legal tests

10.120 For the reasons set out below, we are satisfied that the proposed conditions for BT in respect of each of the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets in the UK excluding the Hull Area and for KCOM in the WLA, WFAEL wholesale ISDN30 and wholesale ISDN2 markets for the Hull Area (respectively at Annex 11) meet the various tests set out in the CA03.

10.121 Section 87(6)(a) of the CA03 authorises the setting of an SMP services condition requiring the dominant provider not to discriminate unduly against particular persons, or against a particular description of persons, in relation to matters connected with the provision of network access.

10.122 We have considered our duties under section 3 and all the Community requirements set out in section 4 of the CA03. In particular, the conditions are aimed at promoting competition and securing efficient and sustainable competition for the maximum benefits for consumers by preventing BT and KCOM from leveraging their SMP through discriminatory behaviour into related downstream markets.

10.123 We also consider that the propose conditions meet the criteria in Section 47(2) of the CA03 which require conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. The proposed conditions are:

- objectively justifiable, in that they provide safeguards to ensure competitors, and hence consumers, are not disadvantaged by BT or KCOM discriminating in favour of its own downstream activities or between competing providers;

- not unduly discriminatory, in that the no undue discrimination condition is proposed to apply to both BT and KCOM, which are the only CPs which we propose to find have SMP in the relevant markets in the UK excluding the Hull Area and the Hull Area, and in that EOI is not proposed to apply to KCOM as it would not be proportionate given the conditions in the wholesale fixed access markets in the Hull Area;

- proportionate, in that it seeks to prevent discrimination that would adversely affect competition and ultimately cause detriment to consumers and in relation to the requirement on BT to provide services on an EOI basis, that requirement only applies where BT is already providing services on the basis of EOI; and

- transparent, in that the conditions are clear in what they are intended to achieve.

10.124 For the reasons set out above, we consider that the proposed condition is appropriate to address the competition concerns identified, in line with section 87(1) of the CA03.

The EC recommendations and BEREC common positions

10.125 We have also taken utmost account of the BEREC Common Position. In relation to achieving the objective of a level playing field,[285] the BEREC Common Position identifies, amongst other things, as best practice that:

[285] In this respect, the BEREC Common Position identifies the following competition issues which arise frequently: SMP players having an unfair advantage; having unmatchable advantage, by virtue of their economies of scale and scope, especially if derived from a position of incumbency; discriminating in favour of their own group

"**BP19** NRAs should impose an obligation on SMP CPs requiring equivalence, and justify the exact form of it, in light of the competition problems they have identified.

BP19a NRAs are best placed to determine the exact application of the form of equivalence on a product-by-product basis. For example, a strict application of EOI is most likely to be justified in those cases where the incremental design and implementation costs of imposing it are very low (because equivalence can be built into the design of new processes) and for certain key legacy services (where the benefits are very high compared to the material costs of retro-fitting EOI into existing business processes. In other cases, EOO would still be a sufficient and proportionate approach to ensure non-discrimination (e.g. when the wholesale product already shares most of the infrastructure and services with the product used by the downstream arm of the SMP operator)."

10.126 In making our proposals, we have also taken into consideration the Draft EC Recommendation on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment[286] in which, in particular, the EC proposes that effective non-discrimination is best achieved by the application of EOI where proportionate. We have also taken account of the BEREC Opinion on the draft recommendation (BoR (13) 41).[287] We will take due account of the final EC Recommendation in reaching our decision.

Consultation question(s)

10.4 Do you agree with our proposals regarding requirements on BT and KCOM in relation to remedying discriminatory conduct? Please provide reasons in support of your views.

Requirements for accounting separation

Current remedies

10.127 BT and KCOM are currently subject to accounting separation obligations as set out in Table 10.10 below.

business (or between its own wholesale customers), either on price or non-price issues; exhibiting obstructive and foot-dragging behaviour.

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

[287] BoR (13) 41, *BEREC Opinion on Commission draft Recommendation on non-discrimination and costing methodologies*, 26 March 2013, www.berec.europa.eu/eng/document_register/subject_matter/berec/opinions/?doc=1244.

Table 10.10: Current Accounting Separation obligations

Wholesale market	Existing Accounting Separation obligations	
	BT (in the UK excluding the Hull Area)	**KCOM (in the Hull Area only)**
WLA	Yes	No
WFAEL	Yes	Yes
ISDN30	Yes	No
ISDN2	Yes	Yes

Aim and effect of regulation

10.128 The accounting separation obligation requires dominant providers to account separately for internal and external 'sales', which allows Ofcom and third party CPs to monitor the activities of BT and KCOM to ensure that they do not discriminate in favour of their own downstream businesses.

10.129 We have set out above why and in which wholesale fixed access markets we propose to impose certain non-discrimination remedies on BT and KCOM.

Proposals

10.130 Sections 87(7) and 87(8) of the CA03 authorise Ofcom to impose appropriate accounting separation obligations on dominant providers in respect of the provision of network access, the use of the relevant network and the availability of relevant services.

10.131 We propose that it is appropriate to re-impose an accounting separation obligation on BT in each of the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets in which we propose that it is has SMP. We consider that this obligation is necessary to monitor BT's activities with regard to its non-discrimination obligations.

10.132 With respect to KCOM, we consider that this complementary obligation would be disproportionate in the WLA market in the Hull Area, as there is currently no demand for the supply of copper loop-based[288] and fibre-based local access at a fixed location in the Hull Area. We would reconsider this position should KCOM commence providing wholesale loop or fibre-based local access, at which point we consider an accounting separation requirement could become important to complement any non-discrimination obligation.

10.133 However, we do consider that it is appropriate that KCOM is subject to an accounting separation obligation in relation to services provided in each of the WFAEL, wholesale ISDN30[289] and wholesale IDSN2 markets in the Hull Area. In contrast to the WLA market, in each of the WFAEL, wholesale ISDN30 and wholesale IDSN2 markets KCOM provides wholesale services which compete against its own retail services. We consider that this obligation is necessary to monitor KCOM's activities

[288] We note that KCOM has published a draft Reference Offer for LLU at www..kcomplc.com/regulatory-information/reference-offers/kc-local-loop-unbundling/, but that, as at 18 December 2012, no Hull Area exchanges had been unbundled. KCOM reported (KCOM response to s.135 notice of 26 November 2012).

[289] In relation to ISDN30 services, we note that KCOM has published its internal and external sales of wholesale ISDN30 exchange line services in the Hull Area in its RFS for the year ending 31 March 2012: KCOM, *Regulatory Financial Statements for the year ending 31 March 2012*, 27 July 2012, www..kcomplc.com/docs/regulatory-pdf/final_statements_2012.pdf.

with regard to its non-discrimination obligations. For the avoidance of doubt, we are proposing to impose an accounting separation obligation on KCOM in the wholesale ISDN30 market in respect of which an accounting separation obligation is not currently imposed.

10.134 We therefore propose that accounting separation conditions should apply to BT and KCOM in the following markets as shown in Table 10.11 below. This proposal is implemented in the notification set out in Annex 11 which proposes to make certain amendments to the SMP conditions imposing cost accounting requirements set out in Annexes 2 and 3 to the 2004 Accounting Statement.

Table 10.11: Proposed Accounting Separation obligations

Wholesale market	Proposed Accounting Separation obligations	
	BT (in the UK excluding the Hull Area)	**KCOM (in the Hull Area only)**
WLA	Yes	No
WFAEL	Yes	Yes
ISDN30	Yes	Yes
ISDN 2	Yes	Yes

Legal tests

10.135 For the reasons set out below, we are satisfied that imposing accounting separation requirements for BT in respect of each of the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets in the UK excluding the Hull Area and for KCOM in the WFAEL, wholesale ISDN30 and wholesale ISDN2 markets for the Hull Area (respectively at Annex 11) meet the various tests set out in the CA03.

10.136 Section 87(7) and 87(8) of the CA03 authorises Ofcom to impose appropriate accounting separation obligations on dominant providers in respect of the provision of network access, the use of the relevant network and the availability of relevant services.

10.137 We consider that this proposal meets our duties under sections 3 and 4 of the CA03. We consider that the imposition of an accounting separation obligation promotes competition in relation to the provision of electronic communications networks and services, ensuring the provision of network access and service interoperability for the purposes of securing efficient and sustainable competition and the maximum benefit for the persons who are customers of CPs. This is because the imposition of the obligation would ensure that other obligations designed to curb potentially damaging leveraging of market power, in particular the requirement not to unduly discriminate, can be effectively monitored and enforced. With regard to the Community requirements set out in section 4 of the CA03, we believe that the proposed condition meets the requirements. Specifically, we believe section 4(8) is met, where the obligation has the purpose of securing efficient and sustainable competition in the markets for electronic communications networks and services, by helping to ensure that dominant providers comply with other obligations in particular non discrimination requirements.

10.138 We also consider that this proposal meets Section 47(2) of the CA03 which requires conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. We consider the proposed condition is:

- objectively justifiable, it relates to the need to ensure competition develops fairly to the benefit of consumers;

- not unduly discriminatory, it is only imposed on BT, which is the only CP which we propose to find has SMP in the relevant markets in the UK excluding the Hull Area, while for KCOM, which we propose to find has SMP in the Hull Area, we consider that there are objective reasons as to why the obligation is not appropriate;

- proportionate, in that it is the least onerous obligation necessary as a mechanism to allow us and third parties to monitor potentially discriminatory behaviour by dominant providers, except for KCOM in the WLA market in the Hull Area where we consider that the obligation is unnecessary; and

- transparent, in that it is clear the intention is to monitor compliance with specific remedies and the particular accounting separation requirements of BT and KCOM are clearly documented.[290]

10.139 For the reasons set out above, we consider that the proposed condition is appropriate to address the competition concerns identified, in line with section 87(1) of the CA03.

Consultation question(s)

10.5 Do you agree with our proposals regarding requirements on BT and KCOM in relation to accounting separation? Please provide reasons in support of your views.

Transparency

10.140 Section 87(6)(b) of the CA03 authorises the setting of SMP services conditions which require a dominant provider to publish, in such manner as Ofcom may direct, all such information as they may direct for the purpose of securing transparency. Section 87(6)(c) of the CA03 authorises the setting of SMP services conditions requiring the dominant provider to publish, in such a manner as Ofcom may direct, the terms and conditions on which it is willing to enter into an access contract (referred to in this consultation as a reference offer). Section 87(6)(d) also permits the setting of SMP services conditions requiring the dominant provider to include specified terms and conditions in the reference offer. Finally, section 87(6)(e) permits the setting of SMP services conditions requiring the dominant provider to make such modifications to the reference offer as may be directed form time to time.

10.141 The requirements for the transparency of charges, terms and conditions in markets in which one operator is dominant are complementary remedies to ensure that third party CPs are able to make effective use of the dominant providers' network access.

10.142 BT and KCOM are currently subject to three transparency obligations in respect of their SMP in each of the wholesale fixed access markets. They are:

- a requirement to publish a Reference Offer;

[290] Ofcom, *The regulatory financial reporting obligations on BT and Kingston Communications, Final Statement and notification: Accounting separation and cost accounting*, 22 July 2004, www.stakeholders.ofcom.org.uk/binaries/consultations/fin_reporting/statement/finance_report.pdf.

- a requirement to notify changes to charges in advance and, in relation to WLA network access products and services, also notify changes to terms and conditions; and

- a requirement to notify technical information.

10.143 In the following subsections, we discuss each of these three remedies in turn.

Requirement to publish a Reference Offer (RO)

Current remedies

10.144 BT and KCOM are currently required to publish an RO in relation to the provision of network access in each of the wholesale fixed access markets. Table 10.12 details the relevant current SMP conditions.

Table 10.12: Current SMP conditions concerning the requirement to publish a RO

Wholesale market	Existing SMP conditions	
	BT (in the UK excluding the Hull Area)	**KCOM (in the Hull Area only)**
WLA	SMP condition FAA5	SMP condition FBB5
WFAEL	SMP condition AAAA5	SMP condition AAAB4
ISDN30	SMP condition AAA(IS)5	SMP condition AAB(IS)4
ISDN2	SMP condition AAA5	SMP condition AAB4

10.145 In each of the wholesale fixed access markets, BT and KCOM are currently subject to a requirement to publish an RO including terms and conditions for provisioning, technical information, SLAs and SLGs, and availability of co-location.

10.146 However, in respect of the WLA market, BT is also subject to a requirement to publish additional information in its RO concerning the LLU and PIA network access remedies which it is currently required to provide. Our consideration of the requirement on BT to provide these specific forms of network access are set out in Sections 11 and 12.

Aim and effect of regulation

10.147 A requirement to publish an RO has two main purposes:

- to assist transparency for the monitoring of potential anti-competitive behaviour; and

- to give visibility to the terms and conditions on which other providers will purchase wholesale services.

10.148 This helps to ensure stability in markets and, without it incentives to invest might be undermined and market entry less likely.

10.149 The publication of an RO would potentially allow for speedier negotiations, avoid possible disputes and give confidence to those purchasing wholesale services that they are being provided on non-discriminatory terms. Without this, market entry might be deterred to the detriment of the long term development of competition and hence consumers.

10.150 We consider that imposing a requirement to publish an RO is necessary to achieve these aims and effects in each of the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets where we provisionally find BT and KCOM to hold SMP. This remedy complements our proposals to impose network access and non-discrimination requirements on BT and KCOM to address the competition concerns arising from their SMP in each of the wholesale markets.

Proposals

10.151 Section 87(6)(c) of the CA03 authorises the setting of SMP services conditions requiring the dominant provider to publish, in such a manner as Ofcom may direct, the terms and conditions on which it is willing to enter into an access contract. Section 87(6)(d) also permits the setting of SMP services conditions requiring the dominant provider to include specified terms and conditions in the RO. Finally, section 87(6)(e) permits the setting of SMP services conditions requiring the dominant provider to make such modifications to the reference offer as may be directed form time to time.

10.152 We consider that the requirement to publish ROs imposed in previous markets reviews has been effective in meeting the aims of the regulation detailed above. Therefore we consider it appropriate to re-impose similar requirements on BT and KCOM in this market review. Therefore, we propose that BT and KCOM should be required to publish a RO for wholesale network access products in each of the wholesale fixed access markets.

10.153 The proposed condition requires the publication of an RO and specifies the information to be included in that RO (set out below) and how the RO should be published. It prohibits the dominant provider from departing from the charges, terms and conditions in the RO and requires it to comply with any directions Ofcom may make from time to time under the condition. The published RO must set out (as a minimum) such matters as:

- a clear description of the services on offer including technical characteristics and operational processes for service establishment, ordering and repair;
- the locations of points of network access and the technical standards for network access;
- conditions for access to ancillary and supplementary services associated with the network access including operational support systems and databases etc;
- contractual terms and conditions, including dispute resolution and contract negotiation/renegotiation arrangements;
- charges, terms and payment procedures;
- service level agreements and service level guarantees; and
- to the extent that BT uses the service in a different manner to CPs or uses similar services, BT is required to publish a reference offer in relation to those services.

10.154 We further consider it appropriate to retain, for the purposes of transparency, the existing additional RO requirements in respect of the provision by BT of LLU services and PIA which we propose, as set out in Sections 11 and 12, that BT should continue to be required to provide. These requirements are set out in the draft SMP services condition at Annex 11. They require, amongst other things, details to be included in a RO about LLU co-location arrangements and, in relation to PIA, conditions for the installation and recovery of cables and associated equipment.

10.155 We propose, as we did in the 2013 Narrowband Consultation[291], removing the requirement on BT and KCOM to include in their RO an amount applied to each network component with the relevant usage factors for each network component or combination of such components, reconciled in each case to the charge payable by a CP. We no longer consider that this information is required in order to assist CPs in monitoring potential discriminatory behaviour by BT or KCOM, or to provide transparency that would allow CPs to make better informed purchasing decisions. However, we welcome the views of stakeholders in relation to this proposal.

10.156 In light of the practice of both BT and KCOM of publishing ROs on their respective company websites, we do not consider it appropriate to continue to require BT and KCOM to additionally send ROs to Ofcom.

Quality of service

10.157 We have also considered whether the RO requirements in respect of SLAs and SLGs remain appropriate. As a result of this work we are proposing some changes to the RO requirements imposed on BT relating to SLAs and SLGs.

10.158 At present, the requirement to publish a RO in each of the wholesale fixed access markets is expressed in generic terms as an obligation to include in the RO:

> "service level commitments, namely the quality standards that each party must meet when performing its contractual obligations;
>
> the amount of compensation payable by one party to another for failure to perform contractual commitments."

10.159 As we note above, there is a concern expressed by CPs that this obligation is insufficiently clear and precise. In the recent dispute between TalkTalk and Openreach relating to whether Openreach offered MPF New Provide to TalkTalk on fair and reasonable terms and conditions, Openreach has argued that there is no regulatory requirement to have an SLA or SLG in place in relation to MPF New Provide.[292] This suggests that the current requirement as set out in the existing SMP conditions is unclear. Consequently, in our view it is desirable to specify more clearly the services for which SLAs and SLGs are required on the face of the SMP Condition. This will address, for the future period, any alleged ambiguity in BT's regulatory obligations regarding the provision of SLAs and SLGs. We also consider that it is consistent with the BEREC Common Position, which provides, at BP32a, that SLAs should cover specific service areas.[293] We are therefore proposing to specify more

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[291] Ofcom, *Review of the fixed narrowband services markets*, 5 February 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/nmr-2013/summary/NMR_Consultation.pdf.

[292] *CW/01098/12/12*: *Dispute relating to whether Openreach offered MPF New Provide to TalkTalk Telecom Group PLC on fair and reasonable terms and conditions*, www.stakeholders.ofcom.org.uk/enforcement/competition-bulletins/open-cases/all-open-cases/cw_01098/.

[293] BoR (12) 127, *BEREC common position on best practice in remedies on the market for wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location imposed as a consequence of a position of significant market power in the relevant market*, 8 December 2012,

particularly the extent to which the RO made by BT must include SLAs and SLGs for specified services.

10.160 While it remains our intention not to specify in detail the terms under which BT should offer its services, believing this properly to be the role of commercial negotiations, we consider that adding a further requirement to the RO whereby BT is required to provide as part of that RO SLA/SLGs specifically linked to services will provide greater clarity and certainty to industry on the scope of BT's obligations. We are proposing that the services to which this requirement applies is based on the services for which BT already has SLAs and SLGs in place (bar one exception set out below). Condition 8 in Annex 11 sets out the list of the minimum set of services for which a SLA/SLG should apply.

10.161 We would also welcome stakeholder views as to whether there are services not currently covered by SLAs and/or SLGs that should be incorporated within this provision.

10.162 With respect to GEA, we note that SLAs are already in place for the completion of provision work, completion of repair work and missed appointments, in line with what is currently in place for WLR and LLU. However, there is currently no SLA in place for appointment availability. As GEA requires a telephone line to be already in place at the premises, to the extent that a new telephone line is required this will be covered by the SLAs for WLR and MPF appointment availability. Where the telephone line is already in place and a customer requests an upgrade to superfast broadband, there is, at present, a need for an Openreach engineer to attend the street cabinet and the customer's premises (though it is expected that in the future self install and wires-only solutions will reduce, if not eliminate, visits to the premise). If Openreach resources are stretched, then potentially there is a risk that Openreach diverts resource to copper line provisioning and that appointment lead times for GEA are extended as a consequence. However, we note that no stakeholder has raised this issue as a concern to us.

10.163 On balance we consider that the absence of an SLA and associated SLG for provisioning appointments for GEA appears to be inconsistent with the approach for WLR and MPF and as demand increases this could be a future point of service failure. We are minded to require that such an SLA/SLG be established but welcome the views of stakeholders on this point, including the timescales on which BT should be required to introduce such an SLA/SLG in the event that such an obligation is imposed.

10.164 We are also aware of concerns around the absence of SLA/SLGs on LLU point of presence establishment. We consider that it could be difficult to establish SLA/SLGs in this area given the more bespoke nature of this service and it is not as clear to us which aspects of the service would be suitable for SLAs to be established. Again we would welcome stakeholder views.

SLA/SLG negotiations

10.165 Concern has also been expressed by CPs regarding the process for industry negotiations with Openreach on the terms of SLAs and SLGs, either when BT or its customers consider the existing terms should be changed or when new SLA/SLGs

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www.berec.europa.eu/files/document_register_store/2012/12/20121208163628_BoR_(12)_127__BEREC__COMMON_POSITION_ON_BEST_PRACTICE_IN_REMEDIES_ON_THE_MARKET_FOR_WHOLESALE.pdf.

are required for an element of a service. CPs have stated that they hold a weak negotiating position when seeking to reach agreement on the content, leaving SLAs short on detail, liable to change at short notice, and potentially non-existent for long periods of time while both parties refuse to alter their position.

10.166 Where all parties are negotiating from a broadly similar position of market power, we consider that commercial negotiation without the involvement of the industry regulator is the preferred method for reaching conclusions on the SLA/SLG terms. However, BT is the SMP provider for services in the fixed access markets and, therefore, Openreach naturally holds a more powerful negotiating position. The recent negotiations over a new SLA/SLG for appointed provisioning demonstrate how protracted (over 12 months) such discussions can become. In this instance negotiations failed to reach agreement and in the end required mediation OTA2 and Ofcom. The lack of clarity and agreement relating to those discussions contributed in part to the dispute between TalkTalk and BT referred to above, with the former asserting that BT had failed to provide access on fair and reasonable terms as a consequence.

10.167 Another feature of those recent negotiations was the limited set of participants (Sky, TalkTalk and BT) despite the fact that the services under discussion are used by the whole industry.

10.168 We consider that it is unsatisfactory that the determination of critical SLA/SLG terms does not have a more predictable process and that there is insufficient visibility of negotiations that impact on a wide variety of stakeholders.

10.169 Our clear preference remains that the particular terms of SLAs and SLGs are the subject of discussions and agreement within industry, rather than being imposed by Ofcom. We consider that industry participants are best placed to negotiate the appropriate contractual terms, with regulatory intervention remaining the last resort. We are not therefore proposing a specific regulatory condition to address these concerns. However, we do consider that there should be a clear set of principles for such negotiations and that there is benefit in our setting this out as a framework within which industry can conduct negotiations. While these will not amount to formal regulatory obligations placed on any party, they do outline the principles which we would expect to be followed. In the event of the failure of any negotiations in the future, adherence to these principles is likely to form one of the factors to which we have regard when considering any further regulatory measures or adjudicating on any disputes between stakeholders on this subject.

10.170 We note that Sky, in its response to the 2012 FAMR Call for Inputs, has called for any negotiated SLA/SLG to apply from the point that the negotiations commence. We consider that such an approach may risk distorting the negotiation process as it will lead to a disproportionate focus on the performance in that period and does not allow Openreach to respond to the SLA proposed. We consider that by setting a time limit on negotiations that the imbalance of negotiation power is addressed.

10.171 Our proposed principles are set out in Table 10.13 below:

Table 10.13: Proposed principles for SLA/SLG negotiation process

	Principles
Principle 1	That OTA2 should facilitate all negotiations to create or change an SLA/SLG and that this negotiation allow input from all affected parties;
Principle 2	That OTA2 carries out an initial assessment of whether a request for a new SLA/SLG or change to an existing SLA/SLG is broadly appropriate, reasonable in scope and clear in the problem it is trying to address and agrees with Ofcom that the request should be investigated further;
Principle 3	That no negotiations over the content of an SLA/SLG should extend beyond 6 months. If at the end of that period negotiations have not been successfully concluded, Ofcom would invite OTA2 to report to us as to whether we should initiate a review.
Principle 4	That provision should continue according to the terms of an appropriate, pre-existing SLA/SLG until such time as a new SLA/SLG can be agreed.

10.172 The intention of these principles is to shorten negotiations, make the process more collaborative and less adversarial, and provide parties with confidence that any agreed terms will hold for a period of time sufficient for planning purposes and – in any case – for as long as it takes until new terms are agreed to replace them.

10.173 We would note that it is essential that parties to the negotiation are responsive to OTA2 requests for performance and other relevant information and that those parties allocate an appropriate level of resources. Failure to support the negotiation process will be one aspect of Ofcom's consideration with respect to a further review in the event that the negotiation fails.

10.174 In the event that parties fail to reach agreement within this period and the issue is raised with us, we may then consider whether it was appropriate to initiate our own investigation as to the reasonableness of the terms offered by Openreach. In any such investigation we would be mindful of the negotiations that had occurred previously and would seek the advice of OTA2 as to the appropriate approach or set of actions we should consider. At this stage, we are inviting comments on these principles and their adequacy in addressing the problem identified.

10.175 We propose that RO conditions should apply to BT and KCOM in the following markets as shown in Table 10.14 below:

Table 10.14: Proposed RO obligations

Wholesale market	Proposed RO conditions	
	BT (in the UK excluding the Hull Area)	**KCOM (in the Hull Area only)**
WLA	Yes	Yes
WFAEL	Yes	Yes
ISDN30	Yes	Yes
ISDN2	Yes	Yes

Legal tests

10.176 For the reasons set out below, we are satisfied that the proposed conditions for BT in respect of each of the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets in the UK but excluding the Hull Area and for KCOM in the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets for the Hull Area (respectively at Annex 11) meet the various tests set out in the CA03. As explained above, sections 87(6)(c), (d) and (e) authorise the SMP condition we propose to make.

10.177 We consider that the proposed condition meets our statutory obligations and the Community requirements under sections 3 and 4 of the CA03.

10.178 The requirement to publish an RO would, in combination with a requirement not to discriminate unduly, facilitate service interoperability and allow CPs to make informed decisions about future entry into the relevant market. Further, the proposed obligation would enable purchasers to adjust their downstream offerings in competition with BT, in response to changes in BT's terms and conditions. Finally, the proposed obligation would make it easier for Ofcom and other CPs in the relevant market to monitor any instances of discrimination. Therefore, we consider that the proposed condition in particular furthers the interests of consumers in relevant markets by the promotion of competition in line with section 3 of the CA03.

10.179 Ofcom considers that the proposed condition meets the Community requirements set out in section 4 of the CA03. In particular, the proposed condition promotes competition and encourages the provision of network access and service interoperability for the purpose of securing efficient and sustainable competition for the maximum benefit for consumers. The publication of an RO would mean that other CPs would have the necessary information readily available to allow them to make informed decisions about entry into the market.

10.180 We also consider that this proposal meets section 47(2) of the CA03 which requires conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. We consider the proposed condition is:

- objectively justifiable, in that it requires that terms and condition are published in order to encourage competition, provide stability in markets and monitor discriminatory behaviour;

- not unduly discriminatory, in that it is proposed only for BT and KCOM in respect of those markets in which we propose to find that they hold a position of SMP and no other CP;

- proportionate, in that only information that is considered necessary to allow CPs to make informed decisions about competing in downstream markets is required to be provided; and

- transparent, in that the condition, is clear in its intention that BT and KCOM publish details of their wholesale service offerings.

10.181 Article 9(4) of the Access Directive requires that where network access obligations are imposed, NRAs shall ensure that the publication of a reference offer containing at least the elements set out in Annex II to that Directive – we are satisfied that this requirement is met.

10.182 For the reasons set out above, we consider that the proposed condition is appropriate to address the competition concerns identified, in line with section 87(1) of the CA03.

The Draft EC Recommendation and BEREC common positions

10.183 In forming these proposals we have also taken utmost account of the BEREC Common Position.[294] In relation to the objective of achieving a reasonable quality of access products (operational aspects),[295] the BEREC Common Position identifies, among other things, as best practice that:

> "**BP32** NRAs should require SMP operators to provide a reasonable defined level of service.
>
> **BP32a** Service Level Agreements (SLAs) should cover specific service areas. Services areas when SLAs are most likely to be necessary are ordering, delivery, service (availability) and maintenance (repair).
>
> **BP32b** SLAs should be made available to wholesale operators. To ensure maximum transparency and comparability of the terms provided by SMP operators to alternative operators and their downstream arm, all SLAs could be made available to all relevant wholesale customers (including those outside from a specific Member State). For example, SMP operators could make them available on demand or automatically publish these on their web-site (as part of their RO).
>
> **BP32c** NRAs should take oversight for the process of setting SLAs. NRAs should determine the level of their involvement in this process by taking into account specific market circumstances and particular concerns for discriminatory behaviour.
>
> **BP33** NRAs should impose a generic requirement on SMP operators to provide Service Level Guarantees (SLGs).
>
> **BP33a** SLGs should cover all necessary specific service areas. Service areas where SLGs are most likely to be necessary are ordering, delivery, service (availability) and maintenance (repair).
>
> **BP33b** SLG payments should be made without undue delay and should be proactive in nature. That is, with a pre-established process for the payment and billing of the SLGs among operators and without the need for alternative operators to request the intervention of any third party i.e. NRAs or courts.
>
> **BP33c** NRAs should take oversight for the process of setting SLGs. NRAs should determine the level of their involvement in this process by taking into account specific market circumstances and particular concerns for discriminatory behaviour."

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[294] BoR (12) 127, *BEREC common position on best practice in remedies on the market for wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location imposed as a consequence of a position of significant market power in the relevant market*, 8 December 2012, www.berec.europa.eu/files/document_register_store/2012/12/20121208163628_BoR_(12)_127__BEREC__COMMON_POSITION_ON_BEST_PRACTICE_IN_REMEDIES_ON_THE_MARKET_FOR_WHOLESALE.pdf.

[295] In this respect the BEREC Common Position identifies the following competition issues: SMP operators may have an incentive to discriminate in favour of their own downstream operations in relation to the quality of wholesale access products. As a result, access products may not be of reasonable quality and service levels may not be comparable with those provided by the SMP operators to their own downstream businesses.

10.184 We consider that our proposals are consistent with the best practice set out in the BEREC Common Position.

10.185 We have also taken into consideration the Draft EC Recommendation. In relation to SLAs and SLGs, the Draft EC Recommendation provides that NRAs should require SMP operators to implement SLAs alongside KPIs, which should include SLGs in the case of a breach of the SLA. The Draft EC Recommendation also indicates that payment of financial penalties should, in principle, be made automatic and be sufficiently dissuasive, which is consistent with our proposal to continue the application of the 2008 SLG Direction. We will take utmost account of the final EC Recommendation in reaching out final decision on this issue.

Consultation question(s)

10.6 Do you agree with our proposals regarding requirements on BT and KCOM to publish a reference offer? Please provide reasons in support of your views.

10.7 Do you agree with the proposal to specify the services for which BT is to provide SLA/SLGs? Also do you consider that we have identified all appropriate services that should be subject to an SLA/SLG requirement at this time? If not, please set out what services should be included and provide reasons in support of your views.

10.8 What are your views on whether you consider a need for Ofcom to require BT to offer an SLA in relation to GEA appointment availability? Please provide reasons in support of your views.

10.9 What are your views on the principles for negotiations on SLA/SLGs? Please provide reasons in support of your views.

Requirement to notify charges (and terms and conditions where specified)

Current remedies

10.186 BT and KCOM are currently required to give advanced notice before making changes to their charges for the provision of existing or new network access in each of the wholesale fixed access markets. In the WLA market, BT and KCOM are also required to notify changes to their terms and conditions. Table 10.15 details the relevant current SMP conditions.

Table 10.15: Current SMP conditions concerning the requirement to notify charges [* also terms and conditions]

Wholesale market	Existing SMP conditions	
	BT (in the UK excluding the Hull Area)	**KCOM (in the Hull Area only)**
WLA	SMP condition FAA6*	SMP condition FBB6*
WFAEL	SMP condition AAAA6(a)	SMP condition AAAB5(a)
ISDN30	SMP condition AAA(IS)6(a)	SMP condition AAB(IS)5(a)
ISDN2	SMP condition AAA6(a)	SMP condition AAB5(a)

10.187 The notice period requirements of the above existing SMP conditions is the same for BT and KCOM in each of the wholesale fixed access markets but the specifics of the notification requirements are different between each of WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets. Table 10.16 below details the specific notice periods imposed on BT and KCOM under the current SMP conditions by each of the wholesale fixed access markets.

Table 10.16: Notice periods imposed under current SMP conditions by market

Wholesale market	Relevant notice periods by market
	Requirements on BT (in the UK excluding the Hull Area) and KCOM (in the Hull Area only)
WLA	- a requirement to give **90 days' notification** for changes to charges, terms and conditions for **existing** products and services; and - a requirement to give **28 days' notification** for changes to charges, terms and conditions for **new** products and services.
WFAEL	- a requirement to give **90 days' notification** for changes to charges to the **WLR Charge**; and - a requirement to give **28 days' notification** for changes to charges in **any other case**.
ISDN30	- a requirement to give **28 days' notification** for changes to **any charges**.
ISDN2	- a requirement to give **90 days' notification** for changes to charges to the **WLR (ISDN2) Charge**; - a requirement to give **28 days' notification** for changes to charges in **any other case**.

2012 FAMR Call for Inputs

10.188 In the 2012 FAMR Call for Inputs we invited stakeholders to provide their views on appropriate notice periods for changes to charges, terms and conditions for the services covered by this market review.[296] BT set out that it believed that long notice periods were bad for competition and consumers, and that there could be benefits in allowing more flexibility. BT considered that changes could be implemented through shorter notice periods being set for both existing and new services. BT considered that the current notification requirements were now unnecessary and that we should consider other options including:

- reduced notice periods for the rapidly growing and evolving superfast broadband market (applied via the VULA remedy); and
- a shorter notice period (e.g. 60 days) where 90 days is currently the default (with a longer period only applying in the case of a reasoned objection).[297]

10.189 In relation to notification periods, the Bit Commons argued that shorter notice periods resulted in more frequent price increases. It considered that longer notice periods were appropriate for legacy products whereas greater flexibility should be afforded to new forms of network access.[298]

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[296] Question 3.2 of the 2012 FAMR Call for Inputs.
[297] P.11, *BT response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BT.pdf.
[298] P.8, *The Bit Commons response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/The_Bit_Commons_Limited.pdf.

10.190 In relation to notice periods, the FCS did not see any need to change from the current 90 days for changes to rental services. While appreciating that affording Openreach flexibility to notify special offers at short notice was generally beneficial, the FCS noted that the 28 days' notice provided in relation to an increase in the supplementary charge for WLR Short Duration Lines was not appropriate, citing the impact that this would have on one of its members.[299]

10.191 MCL considered that BT should be required to provide notice periods of 6 to 12 months.[300]

10.192 TalkTalk commented that, while it was generally supportive of allowing price changes to be introduced quickly, even a 90 day notification period could be inadequate in certain circumstances. [301]

10.193 Verizon did not consider that the current notice periods should be reduced, noting that it was important that CPs have sufficient time to allow price changes to be managed through the reseller supply chain.[302]

10.194 Virgin considered that 90 day notice periods remained important for CPs and that Ofcom should ensure that its consideration of such regulation reflects the differing nature of individual products and services and the needs of competitors in SMP markets. Virgin cautioned against seeking a "one size fits all" approach on notice periods.[303]

10.195 In relation to notification periods, Vodafone considered that 90 day notice periods for new wholesale products and price increases were particularly important.[304]

10.196 [✂] continued to support the 90 day notification period for changes to charges, terms and conditions which were likely to cause detriment to end-consumers, as this period provided sufficient time to implement any change and for [✂] to meet its legal responsibilities to provide adequate notification to its customers. However, it considered that where changes enabled [✂] to bring benefits to end-consumers such as lower charges, more beneficial terms and conditions and/or new products, [✂] was supportive of a shorter notification period. For example, a notice period of 28-30 days for WLA and WLR service price reductions would be unlikely to give rise to competition concerns and all downstream providers (including BT Retail) should be stimulated to adopt efficient processes to pass through price reductions to customers more quickly.[305]

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[299] P.3, *The FCS response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/fcs.pdf.

[300] P.2, *MCL response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Modern_Communications_Ltd.pdf.

[301] Paragraph 6.1, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.

[302] P.2, *Verizon response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Verizon_Enterprise_Solutions.pdf.

[303] P.7, *Virgin response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Virgin_Media.pdf.

[304] P.5, *Vodafone response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Cable_Wireless_Worldwide.pdf.

[305] [✂]

Aim and effect of regulation

10.197 Notification of changes to charges at the wholesale level has the joint purpose of assisting transparency for the monitoring of potential anti-competitive behaviour and giving advance warning of charge changes to competing providers who purchase wholesale access services. The latter purpose ensures that competing providers have sufficient time to plan for such changes as they may want to restructure the prices of their downstream offerings in response to charge changes at the wholesale level. Notification of changes therefore helps to ensure stability in markets, without which incentives to invest might be undermined and market entry made more difficult.

10.198 There may be some disadvantages to notifications, particularly in markets where there is some competition. It can lead to a 'chilling' effect where other CPs follow BT's or KCOM's prices rather than act dynamically to set competitive prices. We do not consider, on balance, that this consideration undermines the rationale for imposing a notification of charges condition.

10.199 Each of WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets, whether in the UK excluding the Hull Area or the Hull Area, is characterised by a high level of reliance by competitors on the provision of wholesale access products and services to enable them to compete in downstream markets. We therefore consider that the advantages of notifying charges are likely to outweigh any potential disadvantages.

10.200 In certain circumstances it may also be appropriate to require the notification of changes to terms and conditions where this will also ensure transparency and provide advanced warning of changes to allow competing providers sufficient time to plan for them. Again this assists in providing stability in markets, without which incentives to invest might be undermined and market entry made more difficult.

Proposals

10.201 As set out above, section 87(6)(b) of the CA03 authorises the setting of SMP services conditions which require a dominant provider to publish, in such manner as Ofcom may direct, all such information, for the purpose of securing transparency. Section 87(6)(d) also permits the setting of SMP services conditions requiring the dominant provider to include specified terms and conditions in the reference offer.

10.202 We propose that it is appropriate for BT and KCOM to be subject to an obligation to notify (by means of a written notice – an Access Charge Change Notice (ACCN)) changes to charges for wholesale network access products and services and, in the case of the provision of network access in the WLA market only, also changes to their terms and conditions.

10.203 Our provisional view is that changes to terms and conditions around the provision of, in particular, NGA and CGA regulated wholesale inputs in the WLA markets (such as VULA and LLU) could have material impacts on competitors. We therefore consider that it is appropriate to re-impose a requirement on BT and KCOM to give advanced notice of changes to terms and conditions (as well as charges) in relation to WLA only.

10.204 We propose that an ACCN must include the following:

- a description of the network access in question;

- a reference as to where the terms and conditions associated with the network access in question can be found in the dominant provider's RO;
- the date on which the new charges take effect (or the period over which the new charges will apply);
- the current and proposed charge; and
- other charges for services that would be directly affected by the proposed charge.

10.205 For the same reasons explained above in relation to the requirement to publish an RO, we also propose removing the requirement on BT and KCOM to include in their ACCNs an amount applied to each network component with the relevant usage factors reconciled in each case to both the existing and proposed charge payable by a CP.

10.206 In light of the practice of both BT and KCOM of publishing notifications (ACCNs) of changes to prices and, where relevant, terms and conditions on their respective company websites, we do not consider it appropriate to continue to require BT and KCOM to additionally send ACCNs to Ofcom.

10.207 However, we consider it appropriate that BT and KCOM continue to be required to send Ofcom internal ACCNs to provide us with transparency with particular regard to the non-discrimination remedies which we propose to impose in wholesale fixed access markets. We have reflected this in our proposed legal instrument at Annex 11. We note that this is consistent with the approach we have proposed in our 2013 Narrowband Consultation.

Notice periods in WLA

10.208 We believe that prior notification of changes to charges, and in respect of WLA network access[306] also terms and conditions, remain important to ensure that competing providers have sufficient time to plan for such changes.

10.209 We consider that the notification period should allow sufficient time for downstream providers to make necessary changes to their downstream products and services. We believe that 90 days would ordinarily be an appropriate notification period for existing products and services.

10.210 However, we also recognise that the industry and end users could benefit from shorter notification periods when prices are being reduced and note that some stakeholders appeared to indicate that this might be the case in their responses to the CFI. We consider that, for example, there may be advantages in having a shorter notification period for price incentives to encourage migration to newer or more efficient NGA services in the WLA market in particular. There should also not be a risk of financial exposure for CPs where prices are being reduced.

10.211 We therefore provisionally consider 28 days to be an appropriate notification period for price reductions for access products and services in the WLA market. Often price reductions can be part of a special offer to which conditions are attached so the shorter notice period would also apply to such conditions. We further consider that

[306] Noting, in particular, that investment decisions in connectivity to the dominant provider's access network relies on certainty and stability of such forms of regulated network access as LLU, SLU and VULA.

this proposed approach to the notice periods for price reductions/special offers is likely to be limited in relevance to the WLA market.[307]

10.212 Finally, we consider that the prior notification period for new products and services should reflect the lesser administrative impact of changes to charges for new products and services. We consider that 28 days remains an appropriate notification period for new products and services in WLA markets.

Notice periods in WFAEL

10.213 In light of our review of the WFAEL market, we consider that the existing notification periods remain appropriate. A 90 day notification period for BT and KCOM's WLR charge provides CPs with the protection they need in respect of the ongoing monthly charge while a reduced notification of 28 days for all other services provides flexibility.

Notice periods in wholesale ISDN30

10.214 With regard to the wholesale ISDN30 market we note that we have imposed a notice period of 28 days since 2003. Our provisional review of this declining market does not provide any basis for considering any change to this requirement. We therefore consider that the existing notification periods remain appropriate.

Notice periods in wholesale ISDN2

10.215 In common with ISDN30, ISDN2 is also a declining market and, in the course of this review, we have considered whether it may be appropriate to reduce the notice periods imposed on BT and KCOM from 90 days to 28 days.

10.216 In this respect, we have had particular regard to our proposals for addressing excessive pricing. Whereas charges for wholesale ISDN2 access products are currently subject to a cost orientation requirement, we now propose imposing a charge control on BT that will hold charges at their current level as detailed in Section 15. We consider that in addition to addressing the incentive and ability of dominant providers to charge excessive wholesale prices, this remedy would bring greater pricing certainty, predictability and stability over the period of this review noting stakeholders' concerns about past price changes. We consider that greater pricing certainty is one reason why it may be appropriate to reduce the regulatory requirement to give notice of price changes from 90 days to 28 days.

10.217 We therefore propose to reduce the notice period imposed on BT and KCOM for notifying changes to wholesale ISDN2 charges from 90 days to 28 days and invite views from stakeholders.

2012 FAMR Call for Inputs

10.218 We agree with Virgin's comments that our consideration of notice periods should not be motivated by a desire to apply a "one size fits all" approach to regulation and we

[307] We further consider that a 28 day notice period should apply to any increase in prices that may occur at the end of a special offer (where the price immediately following the end of the special offer is no higher than the price immediately before the start of the special offer).

have applied the approach set out in the Access Guidelines[308] that we will generally set periods of notice for access products at 90 days or 28 days, dependent upon what is appropriate, following analysis of competition in the relevant market.

10.219 In the 2013 Narrowband Consultation we proposed to reduce the notification period for wholesale call origination charges from 90 days to 56 days. However, we made this proposal in the light of a general consensus in industry that this shorter period was appropriate in the specific case of wholesale call origination. We do not consider that such an approach is appropriate in the wholesale fixed access markets not least because the responses to the 2012 FAMR Call for Inputs (summarised above) do not suggest any such consensus.

10.220 The responses made by market participants reflect, on the one hand, BT's arguments for more flexibility and shorter notice periods and, on the other, most of BT's competitors' continued support for 90 day notice periods where appropriate and, in particular, in the case of price increases as noted by [✂] and Vodafone.

10.221 In general terms, our review of competition in each of the wholesale fixed access markets discussed in the previous sections does not find that the competitive conditions have or are likely to change over the three year period of this review to the extent that would suggest to us that the existing notice periods are no longer appropriate. Based on our provisional assessment of the competitive conditions in the wholesale fixed access markets, we do not agree with BT's view that the current notification periods are now unnecessary.

10.222 We therefore propose that notification conditions should apply to BT and KCOM in the following markets as shown in Table 10.17 below:

[308] Annex 3, Oftel, *Imposing access obligations under the new EU Directives*, 13 September 2002, www..ofcom.org.uk/static/archive/oftel/publications/ind_guidelines/acce0902.pdf.

Table 10.17: Proposed notification obligations

Wholesale market	Proposed notification conditions	
	BT (in the UK excluding the Hull Area)	**KCOM (in the Hull Area only)**
WLA	Yes **90 days** notice for prices, terms and conditions relating to existing network access; **28 days** notice for prices, terms and conditions relating to new service introductions; and **28 days** notice for price reductions and associated conditions (for example conditions applied to special offers)	Yes **90 days** notice for prices, terms and conditions relating to existing network access; **28 days** notice for prices, terms and conditions relating to new service introductions; and **28 days** notice for price reductions and associated conditions (for example conditions applied to special offers)
WFAEL	Yes **90 days** notice for changes to the WLR charge; and **28 days** notice for changes to charges for all other services	Yes **90 days** notice for changes to the WLR charge; and **28 days** notice for changes to charges for all other services
ISDN30	Yes **28 days** notice for changes to charges for all services	Yes **28 days** notice for changes to charges for all services
ISDN2	Yes **28 days** notice for changes to charges for all services	Yes **28 days** notice for changes to charges for all services

Legal tests

10.223 For the reasons set out below, we are satisfied that the proposed SMP conditions for BT in respect of each of the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets in the UK but excluding the Hull Area and for KCOM in the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets for the Hull Area (respectively at Annex 11) meet the various tests set out in the CA03.

10.224 As explained above, sections 87(6)(b) and (d) authorise the SMP condition we propose to make.

10.225 We have also considered our duties under the CA03, including our general duties under section 3, and all the Community requirements set out in section 4, of the CA03. We note, in particular, that the condition is aimed at promoting competition and securing efficient and sustainable competition for the maximum benefits for consumers by ensuring that CPs have the necessary information about changes to terms, conditions and charges sufficiently in advance to allow them to make informed decisions about competing in downstream markets.

10.226 Section 47(2) of the CA03 requires SMP conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. The SMP condition is:

- objectively justifiable, in that there are clear benefits from the notification of changes in terms of ensuring that providers are able to make informed decisions within an appropriate time frame about competing in downstream markets;

- not unduly discriminatory, in that it is proposed only for BT and KCOM in respect of those markets in which we propose to find that they hold a position of and no other CP;

- proportionate, in that only information that other CPs would need to know in order to adjust for any changes would have to be notified. Periods are proposed to be the minimum required to allow changes to be reflected in downstream offers which are appropriate to the competitive conditions we find in each wholesale market; and

- transparent, in that the condition is clear in its intention and implementation.

10.227 For the reasons set out above, we consider that the proposed condition is appropriate to address the competition concerns identified, in line with section 87(1) of the CA03.

Consultation question(s)

10.10 Do you agree with our proposals regarding requirements on BT and KCOM to notify changes to charges? Please provide reasons in support of your views.

Requirement to notify technical information

Current remedies

10.228 BT and KCOM are currently subject to a requirement to publish, in advance, changes to technical information in each of the wholesale fixed access markets.

10.229 Table 10.18 details the relevant current SMP conditions.

Table 10.18: Current SMP conditions concerning the requirement to notify technical information

Wholesale market	Existing SMP conditions	
	BT (in the UK excluding the Hull Area)	**KCOM (in the Hull Area only)**
WLA	SMP condition FAA7	SMP condition FBB7
WFAEL	SMP condition AAAA6(b)	SMP condition AAAB5(b)
ISDN30	SMP condition AAA(IS)6(b)	SMP condition AAB(IS)5(b)
ISDN2	SMP condition AAA6(b)	SMP condition AAB5(b)

Aim and effect of regulation

10.230 Complementary to the above requirement to publish a RO which includes technical information, the aim of this regulation is to provide advanced notification of technical characteristics to ensure that competing providers have sufficient time to respond to changes that may affect them. For example, a competing provider may need to introduce new equipment or modify existing equipment or systems to support a new or changed technical interface. Similarly, a competing provider may need to make changes to their network in order to support changes in the points of network access or configuration.

10.231 We consider this remedy is important in each of the wholesale fixed access markets to ensure that providers who compete in downstream markets are able to make effective use of existing or, where applicable, new wholesale services provided by BT and KCOM. Technical information therefore includes new or amended technical characteristics, including information on network configuration, locations of the points of network access and technical standards (including any usage restrictions and other security issues). Relevant information about network configuration is likely to include information about the function and connectivity of points of access, for example, the connectivity of exchanges to end users and other exchanges. Technical information also includes the information provided currently in the Network Information Publication Principles (NIPP) and Access Network Facilities (ANF) agreement and also includes any other additional information necessary to make use of services provided, in particular, in the WLA market.

10.232 The existing condition requires the notification of new technical information within a reasonable period of time but not less than 90 days in advance of providing new wholesale services or amending existing technical terms and conditions.

10.233 The requirement to give notification within a reasonable time period may mean that a period of notification in excess of 90 days may also be appropriate in certain circumstances. For example, if BT or KCOM were to make a major change to their technical terms and conditions, a period of more than the 90 day minimum notification period may be necessary in order to enable competing providers, who purchase effected wholesale services, sufficient time to prepare and support such changes without disruption and detriment to their businesses and customers.

Proposals

10.234 As set out above, section 87(6)(b) of the CA03 authorises the setting of SMP services conditions which require a dominant provider to publish, in such manner as Ofcom may direct, all such information, for the purpose of securing transparency. Section 87(6)(d) also permits the setting of SMP services conditions requiring the dominant provider to include specified terms and conditions in the RO.

10.235 We propose to impose the conditions on BT and KCOM to notify technical information in advance of providing new wholesale services or amending existing technical terms and conditions. We consider that it is appropriate to impose this requirement on both BT and KCOM in each of the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets in which we provisionally find them to have SMP because it enables providers who compete in downstream markets to make effective use of BT and KCOM's wholesale services. This requirement compliments our proposal to require BT and KCOM to publish a RO in respect of each of the wholesale fixed access markets.

10.236 We continue to believe that 90 days is the minimum time that competing providers would need to make modifications to their network to support changes in each of the wholesale fixed access markets under review.

10.237 We note that all CPs (irrespective of markets and market power) are required to comply with General Condition 2 of the general conditions of entitlement.[309] This general condition obliges CPs to apply compulsory standards, or in the absence of these, to take full account of any relevant voluntary standards. Where appropriate UK

[309] Ofcom, *Consolidated version of the General Conditions as at 22 November 2012 including annotations*, 22 November 2012, www.stakeholders.ofcom.org.uk/binaries/telecoms/ga/general-conditions22nov12.pdf.

technical interoperability issues should be developed and agreed through the Network Interoperability Consultative Committee (NICC).[310] Where the NICC process applies to network changes notified under this condition, this should take place before the 90 day notification. For clarity, we have therefore proposed including a provision in the draft SMP services condition at Annex 11 which exempts the application of this obligation in respect of NICC technical specifications.

10.238 We therefore propose that technical notification conditions should apply to BT and KCOM in the following markets as shown in Table 10.19 below:

Table 10.19: Proposed technical notification obligations

Wholesale market	Proposed technical notification conditions	
	BT (in the UK excluding the Hull Area)	**KCOM (in the Hull Area only)**
WLA	Yes	Yes
WFAEL	Yes	Yes
ISDN30	Yes	Yes
ISDN2	Yes	Yes

Legal tests

10.239 For the reasons set out below, we are satisfied that the proposed SMP conditions for BT in respect of each of the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets in the UK but excluding the Hull Area and for KCOM in the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets for the Hull Area (respectively at Annex 11) meet the various tests set out in the CA03.

10.240 As explained above, sections 87(6)(b) and (d) authorise the SMP condition we propose to make.

10.241 We have also considered our statutory obligations and the Community requirements under sections 3 and 4 of the CA03.

10.242 We consider that, by ensuring that other CPs are given sufficient time to make any changes to technical specifications that might affect their businesses, the proposed condition in particular furthers the interests of consumers in relevant markets by the promotion of competition in line with section 3 of the CA03.

10.243 Further, we consider that, in line with section 4 of the CA03, the proposed condition in particular promotes competition in relation to the provision of electronic communications networks and encourages the provision of network access and service interoperability for the purposes of securing efficiency and sustainable competition in downstream markets for electronic communications networks and services, resulting in the maximum benefit for retail consumers.

10.244 We consider that the proposed condition meets the criteria set out in section 47(2) of the CA03. It is:

[310] NICC is a technical forum for the UK communications sector that develops interoperability standards for public communications networks and services in the UK. See http://www.niccstandards.org.uk/

- objectively justifiable, in that it enables competing CPs to make full and effective use of network access. The period allows CPs time to react to proposed changes without imposing an unnecessarily long notification period on BT and KCOM that may restrict their ability to develop and deploy new features or products;

- not unduly discriminatory, in that it is only imposed on BT and KCOM, which are the only CPs which we propose to find hold SMP in the relevant markets and those CPs are subject to the same obligation;

- proportionate, in that 90 days is considered the minimum period necessary to allow competing CPs to modify their networks; and

- transparent, in that it is clear in its intention that BT and KCOM notify technical information. For the reasons set out above, we consider that the proposed condition is appropriate to address the competition concerns identified, in line with section 87(1) of the CA03.

10.245 For the reasons set out above, we consider that the proposed condition is appropriate to address the competition concerns identified, in line with section 87(1) of the CA03.

<u>Consultation question(s)</u>

10.11 Do you agree with our proposals regarding requirements on BT and KCOM to notify technical information? Please provide reasons in support of your views.

Transparency as to quality of service

<u>Current remedies</u>

10.246 At present in each of the wholesale fixed access markets outside the Hull Area there is a requirement on BT to “publish all such information for the purposes of securing transparency as to the quality of service in relation to network access provided by the Dominant Provider in such manner and form as Ofcom may from time to time direct”.[311]

10.247 Pursuant to this requirement, in the 2010 WFAEL Statement, we required:

- the provision of a set of KPIs enabling the effective monitoring of any instances of service level discrimination;

- BT to provide CPs with information on industry average performance across those same KPIs; and

- the availability of a key set of KPIs that we identified on an individual CP basis, to enable each CP buying WLR services to evaluate the service performance they received from BT via a confidential link to an appropriate website.

[311] Quoted from existing Condition FAA8 of the WLA Statement

10.248 We similarly have imposed specific KPI directions on BT with respect to the ISDN2 and ISDN30 wholesale markets.[312]

10.249 In the case of the 2010 WLA Consultation, we proposed that we should continue the quality of service requirement applied in the previous market review to address the continuing potential for a vertically integrated provider, BT, to unduly discriminate against competing providers to its own advantage. We also proposed to make a Direction formalising an obligation to publish KPIs relating to LLU that BT already provided through OTA2 and its Openreach reporting tool. Our objective was to provide a level of certainty to industry that a minimum level of KPI reporting would continue.

10.250 However, following 2010 WLA Consultation, and discussions with industry and OTA2, we considered that a different approach with regard to LLU KPIs would be more appropriate given the arrangements already in place. We considered that the development of new KPIs and the removal of outdated KPIs was an evolutionary decision best undertaken by industry in conjunction with OTA2, but noted that we could still elect to introduce a direction in the future if we deemed it necessary. [313]

Table 10.20: Current SMP conditions and directions concerning KPIs

Wholesale market	Existing SMP conditions	Existing SMP Directions
WLA	SMP condition FAA8	None
WFAEL	SMP condition AAAA7	Yes
ISDN 30	SMP condition AAA(IS)7	Yes
ISDN 2	SMP condition AAA7	Yes

10.251 As a result of this differing regulatory treatment, the KPIs that BT provides vary significantly between the access products. For WLA they are based on voluntary provision of information to OTA2 which publishes high level summaries of a set of statistics related to provisioning and repair and total volumes.[314] However, these are not directly matched by the KPIs required for WLR, which are provided in a password protected area on the Openreach website for its customers. CPs also have access to their data on Openreach specific performance on services given to an individual CP in the same terms as the KPIs for the WLR products. Openreach has recently begun providing other provisioning and quality of service data to CPs in response to CPs' concerns via various industry fora; however, the definition of some KPIs has changed over time (for example on appointment speed[315]) which makes it difficult to track any long term trends in performance and therefore in our view undermines the ability of the present sets of KPIs to enable an effective means of identifying potential discrimination.

[312] Ofcom, *Fixed Narrowband Retail Services Markets, 15 September 2009,* www.stakeholders.ofcom.org.uk/binaries/consultations/retail_markets/statement/statement.pdf; Ofcom, *Review of retail and wholesale ISDN30 markets, 20 August 2010,* www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30/statement/statement.pdf

[313] Paragraphs 6.21-6.25, *Review of the wholesale local access market*, 7 October 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf.

[314] See http://www.offta.org.uk/charts.htm

[315] The current preferred Openreach measure for speed of provisioning appointments is the First Available Date (FAD), however until late 2012 it was using a different metric 1+4 which was a measure of the time until there was a window of 5 days in which appointments would be available in each of those days.

2012 FAMR Call for Inputs

10.252 While there was no specific discussion of the general quality of service transparency requirement, or the specific KPIs, several CPs responding to the 2012 FAMR Call for Inputs commented on the importance of quality of service generally, while Sky and Virgin also commented specifically on the importance of transparency obligations with respect to quality of service.

10.253 Sky, for example, expressed concern about the actual quality of service provided by Openreach.[316] It considered that this issue was as important as pricing remedies in terms of the role of regulation in delivering benefits to consumers. Sky believed that addressing quality of service should be at the centre of our current market reviews and encouraged Ofcom to examine the issue in detail, welcoming our proposal to undertake a separate review of Openreach's quality of service.

10.254 In terms of specific comments on the transparency obligations, Virgin observed that potential transparency obligations (such as KPIs) could be effective in dis-incentivising discriminatory behaviour, depending on how they were imposed.[317] Sky also said KPIs should be seen as an inherent component of service delivery and not characterised as a regulatory imposition, because regular measurement of any service program was necessary to support improvement.[318]

10.255 Several CPs also raised concerns regarding the use of force majeure clauses in contracts by Openreach (which are referred to by Openreach as "Matters beyond Openreach's Control" or "MBORC" clauses). TalkTalk, in particular, raised a concern about the use of MBORC as a way of reducing exposure to contractual liabilities.[319]

Ofcom's considerations

10.256 We consider that it is appropriate to impose an obligation on BT to provide transparency as to quality of service in each of the wholesale fixed access markets in the UK excluding the Hull area. We propose that this obligation requires BT to publish such quality of service information in the manner and form as Ofcom may from time to time direct.

10.257 As regards more specific transparency provisions by way of direction, our view is that differing requirements for KPI publication across the various markets covered by this review works against the key objective of maintaining them, which is to seek to ensure non-discrimination between various competing wholesale services provided by Openreach. This is particularly the case in these markets where BT downstream uses different input products from some of Openreach's larger customers to deliver the same retail services (e.g. WLR and SMPF versus MPF). We consider that the publication of a wide range of metrics is helpful in identifying possible causes of particular variations in service quality and performance trends – an important support to any attempt to establish whether or not apparent discrimination has actually

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[316] Pp.2-3, *Sky response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BSkyB_plc.pdf.

[317] P.7, *Virgin response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Virgin_Media.pdf.

[318] P.4, *Sky second additional submission in response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BSkyb_Additional_Paper_2.pdf.

[319] P.31, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.

occurred. We are pleased that Openreach provides and publishes this data and has expressed no intention to cease doing so. We are also encouraged by the progress made by Openreach and industry over the past few months in establishing a new set of KPIs relevant to business focused CPs.

10.258 We consider that these industry KPI developments are important and, to the extent that they are progressing satisfactorily, we are not seeking to impose specific regulations to ensure the industry initiated KPIs' continued availability or development. In the light of the experience in the intervening period since the WFAEL and WLA Reviews, we do now, however, consider that the lack of a consistent set of metrics across access products where such products are potential substitutes raises competition and non-discrimination risks and we consider that this needs to be addressed.

10.259 In previous market reviews we have imposed this general obligation on BT in each of the wholesale fixed access markets. We have directed BT to publish certain KPIs in each of the WFAEL, ISDN30 and ISDN2 markets, but have not done so in the WLA market. For the reasons set out in more detail below, we are now proposing to impose specific data publication obligations in each of the markets covered by this review, including for products in the WLA market. The existing Directions covering WFAEL, ISDN2 and ISDN30 will be revoked as a consequence of revocation of the quality of service conditions imposed in each of these markets also being withdrawn.

10.260 We do not propose to introduce a transparency as to quality of service requirement on KCOM in any of the wholesale fixed access markets. In light of our analysis of the competitive conditions in the Hull Area in respect of each of the markets covered in this review, in particular the size of the market in the Hull Area and the limited demand for wholesale products and services, we consider that it would be disproportionate to impose such a condition in addition to other remedies to address KCOMs incentive and ability to engage in discriminatory behaviour (e.g. requirement not to unduly discriminate, publish a RO etc).

Aim and effect of regulation

10.261 Vertically integrated operators have the ability to favour their own downstream business over third party CPs by differentiating on price or terms and conditions. This discrimination could also take the form of variations in quality of service (either in service provision and maintenance or in the quality of network service provided by the dominant provider to external providers compared to its own retail operations). This has the potential to distort competition at the retail level by placing third party CPs at a disadvantage in terms of the services they can offer consumers to compete with the downstream retail business of the vertically integrated operator.

10.262 We set out above our provisional view that, in each of the WLA, WFAEL, ISDN2 and ISDN30 markets outside the Hull Area, BT has the incentive and ability to discriminate in favour of their own retail businesses by offering more favourable terms which would give them a competitive advantage over other CPs and have a material adverse effect on competition. In order to support the proposed non-discrimination requirements and to further mitigate the risk of discrimination we consider that, for each of the wholesale fixed access markets outside the Hull Area, BT should be subject to an obligation to publish information as directed by Ofcom about the quality of service of the network access it provides. The main benefit of this in wholesale markets is that other CPs can ensure that the service they receive from BT is equivalent to that provided by BT to its own retail divisions. The obligation will require

BT to publish information as directed by Ofcom (see Table 10.22 below). We are also proposing to direct BT to publicise a set of KPIs for each of the wholesale fixed access markets in which we have provisionally found BT to have SMP.

10.263 We consider that it is important that there is a consistent minimum set of high level KPIs across all access services where such services can act as alternative options for the provision of a given service – e.g. WLR and SMPF, MPF and GEA. This will allow Ofcom and industry to compare relative standards of service over time, which might otherwise be obscured by differences in metrics or other changes in the KPIs over time. The purpose of this requirement is complementary to, but distinct from, CPs' broader need for any operational KPIs which they might mutually determine and which they require to ensure that industry processes are optimised to reduce inefficiency and ensure a good customer experience. We consider that the latter is best dealt with through various industry fora with facilitation by OTA2.

10.264 With respect to the scope of the KPIs, we are largely proposing to continue the existing requirements on WLR analogue and digital services with the extension of these as appropriate to the WLA market in respect of LLU and VULA (GEA). However there are a few additional KPIs we consider would be important, reflecting both a need to ensure the capture of Openreach data that may be subject to deletion in future as per Openreach's operational data retention policy as well as current service concerns.

10.265 Openreach has begun to collect statistics on the first available appointment for provisioning appointments – this is the earliest available date when that provisioning can occur. This seems to us to be a good indicator of availability and in some ways a better measure of Openreach performance than average provisioning periods (which by their nature include delays caused by customers). We propose to include this statistic in the WLR, GEA and LLU KPIs. We also observe, as discussed in above, that there are CP concerns about the use of MBORC declarations by Openreach. We consider that it is important that Openreach use of MBORC declarations is open to scrutiny and that there is visibility of any trends or biases in its use. We are therefore proposing that Openreach reports on the number of services affected by MBORC declarations where such declarations have led to the delivery of the service outside the SLA. Overall, the information we propose to include within the KPIs is summarised in Table 10.21 below (and set out in detail in Annex 11):

Table 10.21: Summary of KPIs

Orders and appointments
The KPIs which relate to installation orders and appointments will require the total volume of orders submitted, the percentage of orders rejected, and what the average appointment time is (the first available date). We also require information on the availability of the service ordering gateway.
Installations
The KPIs which relate to the installation of products will require the volume of completed orders and the volume of installed base. For some products information such as the percentage of on-time provisioning visits, the percentage of orders provisioned on time, and what the average installation time was (under different circumstances) will also be required. The volume of installations which are impacted by MBORCs will be required where appropriate.
Faults and repairs
The KPIs surrounding product faults and repairs will include the volume of faults reported, along with the percentage of new provisions reported as faulty and the percentage of installed base reported as faulty. Some products may also have KPIs which will require the average time taken to restore service (by care level), the percentage of faults which are repaired on time, the distribution of fault repairs, and the percentage of repeat faults. The volume of repairs which are impacted by MBORCs will also be included where appropriate.

10.266 We are also proposing to direct BT to publish a small set of service KPIs intended to provide transparency to customers as to the outcomes achieved by Openreach in terms of service delivery which we consider to be an important part of the support for the non-discrimination obligations that we are proposing. We propose that these KPIs demonstrate outcomes that non-CP stakeholders can identify with based on their experience of consuming communication services. Specifically, we are proposing that BT publish KPIs relating to the installation of new lines and the repair of faults. The advantages of such publication are:

- It would provide transparency to customers about Openreach's service performance. The quality of service issues experienced in the last twelve months (explained in more detail in Annex 9) have raised concerns in the industry so we therefore consider that it is important to have publicly available data series available to address, identify and track such concerns now and in the future; and

- It will enable customers understand how their experience compares with the industry average. This will allow them to make informed choices about the support they are getting from their supplier but also to avoid misconceptions about relative differences in care between CPs when, in effect, they are relying on the same underlying wholesale services from Openreach (see Annex 9, paragraphs A9.102 to A9.105), giving an inappropriate bias to their selection of supplier.[320]

10.267 Whilst we recognise that Openreach KPIs will not necessarily map onto the ultimate consumer experience (as Openreach only operates at the wholesale level) and that a consumer's experience will in large part be driven by the actions of his / her retail CP (for instance, faults can be due to something going wrong in the CP's network rather than Openreach's and that CP may take more or less time than Openreach to repair an "average" fault), we nevertheless consider that they will be a useful means of making consumers aware of Openreach's underlying performance and potentially remove any misconceptions that BT Retail is a "safer" option.

10.268 The proposed KPIs for publication are set out in Table 10.22:

Table 10.22: Proposed KPIs for Open Publication

KPI Direction	KPI requirement for WLR	KPI requirement for MPF
KPI(iii)	**Percentage of orders provisioned on time** the percentage of Completed Orders that were completed by the Contract Delivery Date during the Reporting Period for all Orders;	**Percentage of orders provisioned on time** the percentage of Completed Orders that were completed by the Contract Delivery Date during the Reporting Period for all Orders;
KPI(iv)	**Percentage of orders reported as faulty** the percentage of Completed Orders that were reported as having a Fault during the Reporting Period whereby that Fault was reported within 30	**Percentage of orders reported as faulty** the percentage of Completed Orders that were reported as having a Fault during the Reporting Period whereby that Fault was reported within 30

320 For example, 28% of SMEs and 35% of consumers agreed with the statement "You are less likely to have a problem with service installation or repair from BT than with its competitors" – Q24b of the 2013 QoS research.

KPI Direction	KPI requirement for WLR	KPI requirement for MPF
	calendar days of the date that it became a Completed Order;	calendar days of the date that it became a Completed Order;
KPI(vi) *For the UK as a whole, and split by reference to each Forecasting Region.*	**Appointment availability** in relation to Appointed Orders that become Completed Orders during the Reporting Period, the average number of days (in working days) between the date on which the appointment was made and the first available date offered by the Dominant Provider for the appointment;	**Appointment availability** in relation to Appointed Orders that become Completed Orders during the Reporting Period, the average number of days (in working days) between the date on which the appointment was made and the first available date offered by the Dominant Provider for the appointment;
KPI(vii) *For the UK as a whole, and split by reference to each Forecasting Region.*	**Average installation time (requiring an engineering visit)** the average number of days (in working days) from an Order becoming a Committed Order until that order becomes a Completed Order during the Reporting Period, for Appointed Orders;	**Average installation time (requiring an engineering visit)** the average number of days (in working days) from an Order becoming a Committed Order until that order becomes a Completed Order during the Reporting Period, for Appointed Orders;
KPI(viii) *For the UK as a whole, and split by reference to each Forecasting Region.*	**Average installation time (not requiring an engineering visit)** the average number of days (in working days) from an Order becoming a Committed Order until that Order becomes a Completed Order during the Reporting Period, for those Orders not requiring an engineering visit by the Dominant Provider to the end user premise;	**Average installation time (not requiring an engineering visit)** the average number of days (in working days) from an Order becoming a Committed Order until that Order becomes a Completed Order during the Reporting Period, for those Orders not requiring an engineering visit by the Dominant Provider to the end user premise;
KPI(ix) *For the UK as a whole, and split by reference to each Forecasting Region.*	**Average installation time (for all order types)** the average number of days (in working days) from an Order becoming a Committed Order until that Order becomes a Completed Order during the Reporting Period for all order types;	**Average installation time (all order types)** the average number of days (in working days) from an Order becoming a Committed Order until that Order becomes a Completed Order during the Reporting Period for all order types;
KPI(x)	**Average time to restore service** the average time (in working hours) during the Reporting Period for the Dominant provider to achieve Restored Service after a Fault has been registered in relation to each of: (a) Service Maintenance Level 1; (b) Service Maintenance Level 2; and (c) Service Maintenance Level 3;	**Average time to restore service** the average time (in working hours) during the Reporting Period for the Dominant provider to achieve Restored Service after a Fault has been registered in relation to each of: (a) Service Maintenance Level 2; and (b) Service Maintenance Level 3;
KPI(xi) *For the UK as a whole, and split by reference to*	**Percentage of faults restored on time for services subject to Service Maintenance Level 1**	**Percentage of faults restored on time for services subject to Service Maintenance Level 2**

KPI Direction	KPI requirement for WLR	KPI requirement for MPF
each Forecasting Region.	for services subject to Service Maintenance Level 1, the percentage of Faults during the Reporting Period whereby the Dominant Provider achieved a Restored Service within the timescales for Service Maintenance Level 1 specified in the Dominant Provider's contract for that service;	for services subject to Service Maintenance Level 2, the percentage of Faults during the Reporting Period whereby the Dominant Provider achieved a Restored Service within the timescales for Service Maintenance Level 2 specified in the Dominant Provider's contract for that service;
KPI(xii) *For the UK as a whole, and split by reference to each Forecasting Region.*	**Percentage of faults restored on time for services subject to Service Maintenance Level 2** for services subject to Service Maintenance Level 2, the percentage of Faults during the Reporting Period whereby the Dominant Provider achieved a Restored Service within the timescales for Service Maintenance Level 2 specified in the Dominant Provider's contract for that service;	**Percentage of faults restored on time for services subject to Service Maintenance Level 3** for services subject to Service Maintenance Level 3, the percentage of Faults during the Reporting Period whereby the Dominant Provider achieved a Restored Service within the timescales for Service Maintenance Level 3 specified in the Dominant Provider's contract for that service;
KPI(xiii) *For the UK as a whole, and split by reference to each Forecasting Region.*	**Percentage of faults restored on time for services subject to Service Maintenance Level 3** for services subject to Service Maintenance Level 3, the percentage of Faults during the Reporting Period whereby the Dominant Provider achieved a Restored Service within the timescales for Service Maintenance Level 3 specified in the Dominant Provider's contract for that service;	**N/A**

10.269 We have considered where these publicly accessible KPIs should be published. Options include:

- Openreach's website;
- retail CP websites (e.g. providing a link to the Openreach site);
- OTA2's website; or
- Ofcom's website.

10.270 We consider that it would not be appropriate for Openreach to engage in direct dialogue with end customers, something the BT Undertakings prohibit Openreach from doing in any event. Additionally, publication through the Openreach website would raise the risk of consumers seeking to follow-up with Openreach directly. Publication through retail CP websites may be suitable but there are likely to be wide differences between CPs in terms of how their websites are structured and how easily accessible this information could be. There could also be lack of consistency in messaging. Publication through the Ofcom website is another option. However, as the data would be sourced directly from Openreach's operational and management information systems, publication on Ofcom's website may suggest that Ofcom has somehow "approved" this information, which will not be the case. It is generally not our practice to publish consumer information on our website which we have not collected directly ourselves or commissioned through a third party but with Ofcom oversight and review of the methodology for compiling the statistics. Our suggestion is for this information to be published through OTA2's website, which already publishes other Openreach information. We could assist consumers with a link from the Ofcom website. We would welcome stakeholder views on this.

Proposals

10.271 Section 87(6)(b) of the CA03 authorises the setting of SMP services conditions which require a dominant provider to publish, in such manner as Ofcom may direct, all such information, for the purpose of securing transparency.

10.272 For the reasons set out above, we propose to impose an SMP condition on BT in the WLA, WFAEL, ISDN30 and ISDN2 markets requiring it to provide transparency in respect of quality of service.

10.273 We further propose to make a number of Directions pursuant to these proposed conditions requiring BT to publish certain KPIs in respect of LLU, VULA, WLR analogue and digital (ISDN30 and ISDN2). In respect of LLU and VULA, these directions will impose new requirements. In respect of WLR analogue, ISDN2 and 30 the proposed requirements will implement a modified set of KPIs to those currently required. These directions are set out in Annex 11.

10.274 While, with respect to LLU, we recognise that the arguments for flexibility and cooperation still exist and would expect BT to continue to work with OTA2 to develop and adapt KPIs going forward to reflect CPs' operational requirements, we note that this approach whilst helpful to CPs in some respects has not been effective in ensuring confidence in a common standard of service.

Legal tests

10.275 For the reasons set out below, we are satisfied that the proposed SMP condition for BT in respect of each of the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets in the UK but excluding the Hull Area meets the various tests set out in the CA03.

10.276 As set out above, section 87(6)(b) of the CA03 authorises the setting of SMP services conditions which require a dominant provider to publish, in such manner as Ofcom may direct, all such information, for the purpose of securing transparency.

10.277 Secondly, we have considered our duties under the CA03, including our general duties under section 3, and all the Community requirements set out in section 4, of the CA03. We note, in particular, that the proposed SMP condition is aimed at promoting competition and securing efficient and sustainable competition for the maximum benefits for consumers by ensuring that providers have visibility of the quality of service that BT provides to itself and to other providers.

10.278 Thirdly, section 47 of the CA03 requires SMP conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. We consider that the proposed SMP condition is:

- objectively justifiable, in that it aims to prevent undue discrimination in the provision of service by requiring BT to publish quality of service information about the service it provides to itself and to other providers;

- not unduly discriminatory, in that it is imposed only on BT and no other operator has provisionally been found to hold a position of SMP in these markets in the UK excluding the Hull Area;

- proportionate, in that it only requires BT to publish information as directed by Ofcom in the event we consider such information is required to monitor BT's compliance with its other obligations, which is the minimum condition to ensure the desired objective; and

- transparent, in that it is clear in its intention that BT is required to publish quality of service information.

10.279 We further consider that the KPI Directions that we are proposing to make in each of the WLA, WFAEL, ISDN30 and ISDN2 markets excluding the Hull Area meet the requirements in section 49 of the CA03. We consider that the proposed directions are:

- objectively justifiable, in that we have identified a need to publish specific KPIs to ensure that we can monitor any undue discrimination in the market;

- not unduly discriminatory, in that it only applies to BT and it is only BT that is subject to the SMP transparency condition;

- proportionate, in that BT is only required to publish specific KPI data related to key business processes. Further, BT is already supplying such data and therefore has systems and procedures in place; and

- transparent, in that it is clear from the Direction as to what information would be required to be published and supplied by BT.

The Draft EC Recommendation and the BEREC common positions

10.280 In forming these proposals we have also taken utmost account of the BEREC Common Position. In relation to the objective of achieving a reasonable quality of access products (operational aspects),[321] the BEREC Common Position identifies, among other things, as best practice that:

> "**BP34** NRAs should impose a generic requirement on SMP operators to provide Key Performance Indicators (KPIs) as a means to monitor compliance with a non-discrimination obligation and ensure that SMP operators fulfil their

[321] In this respect the BEREC Common Position identifies the following competition issues: SMP operators may have an incentive to discriminate in favour of their own downstream operations in relation to the quality of wholesale access products. As a result, access products may not be of reasonable quality and service levels may not be comparable with those provided by the SMP operators to their own downstream businesses.

SLAs (unless there is evidence that this is unnecessary or would not be cost effective).

BP34a KPIs should cover all necessary specific service areas. Service areas where KPIs are most likely to be necessary are ordering, delivery, service (availability) and maintenance (repair).

BP34b The results of monitoring KPIs should be made available to all operators in the market. To determine whether they could have been discriminated against, alternative operators would need to be able to compare the levels of service they have received to those provided by the SMP player a) to their downstream businesses and b) the industry average.

BP34c NRAs should take oversight for the process of setting KPIs. NRAs should determine the level of their involvement in this process by taking into account specific market circumstances and particular concerns for discriminatory behaviour."

10.281 We consider that our proposals are consistent with the best practice set out in the BEREC Common Position.

10.282 We have also taken into consideration the Draft EC Recommendation on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment. The Draft Recommendation states that NRAs should impose on the SMP operator the use of KPIs in order to monitor effectively compliance with non-discrimination obligations. It indicates that such KPIs should:

- cover the following key elements of the provision of regulated wholesale services: (i) ordering process; (ii) provision of service; (iii) quality of service, including faults; (iv) fault repair times; and (v) migration; and
- allow for comparison of services provided internally and externally by the SMP provider.

10.283 Moreover, the Draft EC Recommendation provides that NRAs should:

- Supervise the agreement of KPIs between the SMP operator and third party access seekers;
- take account of existing performance measures in imposing KPIs;
- ensure that KPIs are published in a manner that allows for early discovery of potential discriminatory behaviour (the Draft EC Recommendation recommends quarterly publication on the NRA's website); and
- ensure that the KPIs are regularly audited.

10.284 We explain above why we do not consider it appropriate to publish these KPIs on the Ofcom website, but they will be available both to the industry and for a smaller subset publically. We will take utmost account of the final version of the Draft EC Recommendation in reaching our decision.

Consultation question(s)

10.12 Do you agree with our proposal to impose conditions on BT for the provision of information for quality of service purposes in each of the WLA, WFAEL, ISDN30 and ISDN2 markets excluding the Hull Area? Please provide reasons in support of your views.

10.13 Do you agree with our proposal to extend the direction for specific KPIs to LLU and GEA services? Please provide reasons in support of your views.

10.14 Do you agree that it is appropriate to include a common core set of KPIs across WLR analogue, LLU and GEA given the competition between these services? Please provide reasons in support of your views.

10.15 Do you agree with our proposals to include a record of the number of services affected by MBORC in the KPIs? Please provide reasons in support of your views.

10.16 Do you agree that it is appropriate to require Openreach to prepare some of these KPIs for presentation in the public domain? Do you consider that there are any issues with this publication that we should be aware of? Do you agree that the OTA2 website is the best location for such publication? Please provide reasons in support of your views.

Minimum service levels

Current remedies

10.285 The provision of network access on fair and reasonable terms is critical to addressing SMP at the wholesale level which in turn ensures that the effectiveness of downstream retail competition. This is recognised in the BEREC Common Position which identifies as a competition issue that arises frequently that SMP operators may haven an incentive to favour their own downstream operations in relation to the quality of wholesale access products with the effect that access products may not be of reasonable quality and service levels may not be comparable with those provided to the SMP operator's downstream businesses. If the standard of provision is below that expected by end users it has the potential to directly impact competition in the access markets.

10.286 As noted above, BT is currently obliged to enter into contracts with third parties for network access on the basis of a reference offer that includes details of service level commitments and service level guarantees. Further, in 2008 we set Directions[322] covering, inter alia WLR (analogue and digital) and LLU, which required BT to amend certain SLGs that it offered and to pay compensation to CPs proactively for service failures.

10.287 We have explained above our proposal to add greater clarity to this provision by the inclusion of specific products for which SLAs and SLGs are required. There is, however, currently no regulatory condition that addresses the expected service standard that Openreach is to achieve in aggregate. We therefore consider that it is

[322] Ofcom, *Service level guarantees: incentivising performance: Statement and Directions*, 20 March 2008, http://stakeholders.ofcom.org.uk/binaries/consultations/slg/statement/statement.pdf.

important that we address quality concerns in the context of this market review. We are therefore proposing the imposition of a new condition on BT, which puts in place minimum delivery standards for a small number of key services which are integral for the provision of network access.

2012 FAMR Call for Inputs

10.288 All respondent CPs raised their concerns with respect to the quality of service provided by Openreach, and particularly the problems with incentives on Openreach with respect to service.

10.289 While some CPs, such as TalkTalk, stressed the value of better aligning SLG payments to Openreach's costs of delivering the service[323], others, such as Sky, identified in their paper "*Regulating for Quality: Delivering service performance in UK telecoms*" (attached to their response) the inherent problem with setting a charge control with a structure that assumes year on year cost savings while not specifying the level of service associated with the regulated price. The risk they identified was that the incentive on Openreach was to reduce costs associated with service delivery.[324]

10.290 Openreach suggested that the achievement of SLA targets should be set at a realistic level rather than the universal 100% target and that the SLA should be regarded as a worst case 'back-stop' level of performance rather than the performance that should be typically achieved. It said it was absolutely committed to delivering service above SLA level as a standard offering.[325]

Ofcom's considerations

10.291 As the SMP provider, BT controls the quality as well as the nature of the network access services. It is clear from our consumer and SME research set out in Annex 9 that there is a direct impact from quality of service on the effectiveness of network access as a competition remedy. Accordingly, we consider it is inherent in requiring network access that we are confident that this access is provided with a sufficient quality of service to ensure that the remedy is effective.

10.292 We consider that there are inherent limits to the existing remedies in place affecting QoS in terms of ensuring Openreach has the right incentive to consistently maintain its service quality. Moreover, we consider that maintaining an appropriate level of quality of service is a key facet of providing network access.

10.293 We have been concerned about the level of service provided by Openreach on a number of occasions over the last few years. While performance in 2012 may be considered due in part to exceptional circumstances, as evidenced in Annex 9 there has been a steady decline in the level of service provided by Openreach since at least 2009. For example, in 2009 MPF fault repairs between 85-90% of all faults were repaired within the SLA, but subsequently the percentage repairs has never exceeded 80% and frequently been nearer 70%. Provisioning had also been

[323] Pp.25-28, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.
[324] Pp.3-4, *Sky first additional submission in response to 2012 FAMR Call for Inputs,* www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BSkyb_Additional_Paper_1.pdf.
[325] .13, *Openreach response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Openreach.pdf.

inconsistently supported. It was as a reaction to this decline that CPs began negotiations in 2010-11 for the new SLA/SLG on appointments for provisioning (the agreement of which required the involvement of OTA2 and Ofcom – see Annex 9).

10.294 As we summarise in Annex 10 the reasons why there may have been issues with Openreach's service levels are mixed. The evidence we have gathered suggests that there was a period from 2009 to around mid 2010 when Openreach steadily reduced service resources devoted to the access products. This coincided with the drop in service outcomes observed. However, there were other factors at play including changes in demand (higher fault rates from broadband services linked to the nature of service), weather conditions and changes in the mix of services which also contributed to service difficulties.

10.295 While we would expect to see an increase in faults reported on the network, and increased repair times, with a possible knock-on impact on provisioning work, in the face of extreme weather conditions, it is not clear whether the adverse weather seen in 2012 would have had such an the impact on quality of service if Openreach had more resources available.

Incentives on Openreach

10.296 It is clear that at certain points when Openreach experienced service challenges it reacted to increased resource demands, but its response does not appear to have succeeded in ensuring that service levels returned to 2009 levels. In addition, it is likely that Openreach was not resourced adequately to meet the particular challenges of periods of adverse climate conditions. While it would be inefficient to resource to meet all circumstances, the evidence raises the question as to whether Openreach was resourced below reasonable contingency levels.

10.297 In response to Sky's comment, highlighted above in paragraph 10.289, we recognise that the incentives on Openreach to ensure it delivers services at a constant level have been weak. We have previously relied on contractually agreed SLA/SLGs and regulatory obligations of transparency to ensure service quality but the evidence on service level decline presented in Annex 9 suggests that these factors on their own have not been sufficient. For example, given the cost of maintaining service quality it is not apparent that SLG payment levels can be set at a level that would, on their own, maintain service standards.

10.298 Moreover, while transparency has led to periodic pressure on Openreach by Ofcom, OTA2 and its customers to improve service, which has had an impact, it is difficult to maintain such pressure over extended periods and by its nature such pressure tends to be reactive, rather than proactive, which means that long term declines such as those we observe since 2009 are not addressed. As set out in Annex 10, there are a number of potential causes to the failure for Openreach to maintain its service levels.

10.299 For Openreach as a standalone entity to have an incentive to improve service quality, the net impact on profitability from doing so must be positive. Three factors contribute to this impact: the balance between the cost of raising quality and the compensation due for not doing so; the impact on demand of improving quality; and the precise profit-maximising incentives created by the charge control.

10.300 As noted above, the RPI-X charge control structure in particular has been raised by stakeholders in their submissions as a structural obstacle to an improved service quality. Stakeholders maintain that absent incentives to maintain service standards, financial pressure for savings will lead to deterioration in standards.

Proposals

10.301 We consider, therefore, there is a case for the introduction of further regulation to address the concerns we have identified above. We are proposing that an obligatory minimum standard should be set for BT that would act as a service quality floor. This proposed condition would sit alongside and be complementary to the other remedies that we are proposing in this review. While ultimately it might be hoped, and indeed expected, that service will be sustained well above this floor, the imposition of a minimum set of service standards would provide certainty for CPs and clarity around Openreach's obligations, regardless of the pressure exerted by economic incentives. Our proposal will also provide an opportunity to ensure Openreach is appropriately resourced in the proposed charge controls to deliver a given service level. Therefore, if it is to improve quality above existing levels (i.e. the percentage of services it is currently delivering within the SLA targets) additional costs may need to be considered in the context of the charge controls. We would, of course, still expect Openreach to seek to improve efficiency, but our proposal would mean that they would need to do so in the context of a given minimum service standard that is required by way of an SMP condition.

10.302 In developing these proposals we have considered the extent to which analogous obligations are in force in other EU Member States under the CRF. As can been seen from the evidence set out at Annex 9, this approach is used by some other EU Member States. However, such an approach has not previously been adopted in the UK and we are therefore cautious about the standard we set and the range of services it applies to.

10.303 Indeed, while our proposals are the first time we have sought to mandate specific minimum standards for quality of service in these markets, we note that in a number of other EU Member States there has been a greater level of regulatory intervention. Other EU Member States and EU accession states – including Italy, Portugal, Slovenia, Greece, Cyprus, Serbia, Austria and Poland – set the terms of both SLAs and SLGs in regulation. Whilst we continue to consider that it remains preferable for Openreach and its customers to continue to negotiate such terms on a commercial basis, we also consider that the proposed minimum standard allows CPs to enter negotiations over those terms with greater confidence that their businesses will receive at least an adequate service under any circumstances.

10.304 There are, of course, risks to imposing a minimum standard including:

- **inflexibility**: in the longer run, a minimum standard for a given product may result in that product being accorded a higher priority than is in the interests of either Openreach or CPs, at the expense of newer products for which a higher service quality could otherwise be provided;
- **'floor' becomes 'standard'**: the intention of a minimum standard is to provide a backstop; it is not to define the appropriate service quality for Openreach to maintain, which will remain subject to agreement. The risk is that Openreach seeks to perform at the regulated minimum standard, rather than seek continually to deliver improved performance in collaboration with its customers;

- **gaming**: Openreach structuring its operation in a manner that will ensure the targets are met but at the expense of other stages in the service or other services;

- **market distortion**: placing an obligation on Openreach to deliver a minimum standard regardless of extenuating factors may remove the incentive from CPs to work constructively with Openreach to deliver that standard, which may both be unfair to Openreach and tilt the balance in SLA/SLG negotiations too far in favour of CPs; and

- **unbudgeted costs**: maintaining a minimum standard may require an increase in resources which are not incorporated into the charge control, thereby penalising Openreach through regulation for meeting another regulatory obligation.

10.305 We believe that these risks can either be mitigated, by affording them appropriate consideration in the precise design of the remedy, or that they are anyway limited in nature:

- **inflexibility**: product life cycles are not so short that changes of this nature could not be foreseen. As the minimum standard became established, we could review its application to particular products as and when a need became clear and at the very least as part of the periodic review of the relevant markets;

- **'floor' becomes 'standard'**: the triennial market review process, through the possibility of imposing a charge control to address any continuing SMP identified in these markets, should be capable of being used to prevent Openreach margins increasing beyond a reasonable rate of return as a result of nothing more than stable performance – incentives to act in this way can therefore be limited;

- **market distortion**: it is important to reform the protracted negotiation process for SLAs/SLGs, and our proposals in this regard should limit the potential for CPs to exploit any perceived improvement in their bargaining position; and

- **unbudgeted costs**: the triennial market review process, through the possibility of imposing a charge control to address any continuing SMP identified in these markets, should be capable of allowing Openreach sufficient headroom to maintain the minimum standard, a reasonable margin, and an ongoing level of efficiency gains where appropriate. Indeed, in considering our charge control proposals for this market, we are assessing the trade-offs between costs and service standards.

10.306 As set out above there are clear risks in setting a minimum standard. All targets run the risk of distorting behaviours and we therefore consider that we should set standards only where there is clear evidence of concerns and which will directly address these concerns. We have therefore considered as part of our analysis the following matters:

- the services that should be covered by the proposed minimum standards;

- the level at which the minimum standard should be set;

- whether the level should be set at such a level as to take account of exceptional events (force majeure and "MBORC" events) or include an exemption for them;

- the time period over which compliance with the proposed standard would be measured; and
- whether the standard should be measured on a national or regional basis.

10.307 As the analysis in Annex 9 and 10 indicates, the areas of particular concern have been in the provisioning of new lines and fault repair of the copper access services, specifically for WLR and MPF. Moreover, it appears clear that the key concern, as demonstrated by the evidence set out in Annex 9, has been in the availability of provisioning appointments and the speed of fault repair for those services. These are key services and failure to deliver them to an acceptable standard creates the clear potential to undermine the regulatory requirement to provide network access. We therefore propose that the minimum quality of service standard will apply to the provisioning of new lines and fault repair for WLR and MPF services.

10.308 We note in this regard that the current focus in provisioning is on the SLA for being offered an appointment. The current rate of completion once an appointment is confirmed is high (see Annex 9). Both of these steps are integral to the provision to an end-user of a particular service and we consider that both should be subject to the regulatory minimum standard. We also think that there is a risk that, if the proposed condition was focused solely on requiring a minimum level of service in respect of the provision of an appointment for an installation, Openreach could have the incentive to focus resources on this metric at the expense of others, such as the rate of completion on the day of the appointment. We wish to avoid such unintended consequences and, accordingly, we consider that it is appropriate for the proposed condition to include both metrics for provisioning in the minimum standard.

Minimum standards

10.309 As well as the aspects of the services covered by the proposed condition, we have considered the minimum standards to which BT should be subject. As discussed in paragraph 10.52, we do not consider that it is appropriate at this time to modify the SLAs for provisioning appointments and fault repair. Rather, our concern has been the achievement level of Openreach against these SLAs. Our proposal is that the regulatory minimum standards should be linked to the standards set out in the existing SLAs, at least as they are currently set[326] (if the SLA was modified by commercial negotiations subsequent to this review this would be a matter of commercial agreement rather than regulatory obligations). We have based our condition on the SLAs as these are the best available measure of what the industry considers to be an appropriate standard.

10.310 It is then necessary to consider the extent to which Openreach should be required to deliver its obligations in accordance with the standards set in the proposed condition. We need to consider the target level that is appropriate and proportionate in the circumstances recognising that setting an appropriate standard requires a balance between what is an acceptable standard for consumers and industry and the costs of delivering to such a standard. The standard ultimately selected will be imposed by way of a SMP condition, which, if breached, will render BT subject to potential sanctions. It is therefore necessary to ensure that the standard selected is fair, reasonable and achievable by Openreach.

[326] As set out in Table A9.1 in Annex 9.

10.311 By way of a benchmark, we show in Table 10.23 below how Openreach has adhered to a series of KPIs from 2009/10 to 2012/13. We note that we have used two different data sets in the table below. WLR and MPF Copper Appointment Availability to SLA data has been provided to us by BT and relates to the period 2012 to 2013. The WLR and MPF Right First Time data sets are the provision performance measures that BT reports to OTA2 that are similar to the SLA measures of order completion by Customer Confirmed Date ('CCD').[327] Similarly, the WLR and MPF Repair data comes from data that BT reports to OTA2. Both OTA2 data sets were subsequently obtained from Openreach under our statutory powers. It covers the period 2009 and 2013.

Table 10.23: Openreach Performance to KPI

	2009/10	2010/11	2011/12	2012/13
WLR Copper Appointment Availability to SLA *(Note 1)*	N/A	N/A	58-69% *(Note 2)*	87% *(Estimated performance at the end of 2012/2013. Note 3)*
MPF Copper Appointment Availability to SLA *(Note 1)*	N/A	N/A	58-69% *(Note 2)*	87% *(Estimated performance at the end of 2012/2013. Note 3)*
WLR Right First Time *(Note 4)*	95.7%	94.6%	91.0%	90.2%
MPF Right First Time *(Note 4)*	94.8%	95.4%	95.1%	94.2%
WLR repair (care-level 1) *(Note 4)*	85.2%	77.7%	81.0%	68.2%
MPF repair (care-level 2) *(Note 4)*	86.5%	75.2%	73.3%	60.4%

Notes:
(1) Data provided by BT to Ofcom.
(2) In 2011/12 an SLA did not exist under these categories. The range that we show therefore is an estimate of performance set against a notional SLA target of 13 working days.
(3) Data is not available for 2012/13. We show data available for the 2 month period April to May 2013.
(4) Data originally provided by BT to OTA2, and subsequently provided to Ofcom under statutory powers.

10.312 We have also considered whether services affected by MBORC events / force majeure should be included or excluded from this obligation. In our view there are considerable benefits from including force majeure affected services within the targets – i.e. that the minimum standard set should include a reasonable allowance for such exceptional events:

- the inclusion avoids incentives on Openreach to use force majeure / MBORC declarations to secure compliance with the minimum standard;

- it encourages Openreach to consider investment in the network that would make it less vulnerable to events such as sustained periods of wet weather; and

[327] Right First Time is a measure of orders completed by the CCD and which do not lead to an 'early life failure' (a fault in the first 8 days).

- it provides a more straightforward set of compliance obligations that are not subject to exceptions.

10.313 We therefore propose to include force majeure (MBORC) affected services within the targets. This means that the percentage we expect Openreach to achieve will include an allowance for *force majeure*.

10.314 In relation to the time period over which compliance with the minimum standard should be achieved, we consider that Openreach should ensure a consistent standard over time. Clearly, however, there will be periods in the year when delivering to this standard will be more difficult and we do not consider that it would be proportionate to require Openreach to maintain an inefficiently high level of resources. Therefore, we consider that it is appropriate to set a minimum standard to reflect an average delivery over a given period of time. Our current view is this average should be set and assessed for compliance purposes over 12 months, thus allowing Openreach to adjust to more difficult periods over the course of a year. We consider that it is essential that Openreach is able to balance periods of high demand with periods of low demand to avoid inefficient resources.

10.315 In terms of whether compliance is measured across the UK as a whole, or on a regional basis, as set out in Annex 9 and Table 10.24 below there was significant diversity of service outcomes across the country over the last year. In our view it is not appropriate for some UK consumers to consistently experience poor service, even where national outcomes are acceptable. Accordingly, we consider that it is appropriate to set the targets such that Openreach is required to meet them in each of its forecast regions and Northern Ireland. Given that Openreach has never sought to vary its SLA commitments by region and it seeks to resource each region appropriate to the demands of that area we see no justification for a different standard for each region.

Table 10.24: L2C copper average appointed lead times offered by region (1+4 day)

Region	w/e 26 Oct 12 (1+4 day)	w/e 14 Jun 13 (1+4 day)
Scotland	20.01	8.18
North East	25.81	8.77
North West	14.56	7.22
North Wales & North Midlands	33.83	10.11
South Wales & South Midlands	24.52	7.61
Wessex	20.38	6.78
South East	34.65	6.26
London	17.09	7.20
East Anglia	20.67	7.36
National	**23.22**	**7.64**

Source: BT Openreach data provided to Ofcom. The data we show uses the (1+4 day) measure. This measures the lead time for the availability of a 5 day window where in every day there is an appointment slot available.

Ofcom's proposals

10.316 Section 87(3) of the CA03 authorises the setting of SMP service conditions in relation to the provision of network access. Section 87(5)(b) of the CA03 provides that such conditions may include provision for securing that these obligations are complied with within the periods and at the times required by under the conditions.

10.317 We are proposing the imposition of a new condition on BT, which puts in place minimum delivery standards for provisioning and repairs for WLR and LLU which are integral for the provision of network access. We are proposing that the condition will adopt the timescales currently set out in the SLAs for these services, which have been subject to industry negotiation and agreement, and measure compliance with those timescales on a yearly basis. We consider that the proposed condition will assist in securing that network access is provided within a reasonable period of time and at a minimum within the times set out in the proposed conditions.

10.318 Table 10:23 above sets out the delivery to the SLA targets in recent years. We could choose to set a backstop standard to the current delivery standard, on the assumption that Openreach is funded to that level or to require Openreach to deliver to a higher standard – though clearly this is likely to be linked to increases in costs and hence would need to be reflected in the charge control. We would also, as noted wish to include a force majeure allowance in the standard. Given the impact on consumers and SMEs and the clear concerns expressed by Openreach customers, we are minded to set a standard above existing levels. However, we do not consider it useful in this consultation to propose a specific level in the absence of cost information.

10.319 As we cannot supply an indication of the cost impact of alternative standards at this stage we are only seeking initial stakeholder views on the structure of the condition, its proportionality and suitability. Given this uncertainty, we invite stakeholders at this time to indicate the desirability of different service levels and indicate the appetite for service cost trade-offs which we can use to inform the next consultation. We will also take into account the attitude to price increases expressed by consumers and SMEs from our survey.

10.320 We are conscious that any variation in the quality of service has the potential to have a resource implication for Openreach.

10.321 We are not at this stage in a position to define a suitable minimum level of performance for Openreach. As part of our analysis we have sought to estimate what variations in the minimum level of service provided would mean for Openreach resources. Given the limitations in the data available to us and the inherent complexity of this exercise, we have not been able to create a sufficiently robust analysis. We have been made aware by Openreach of a very detailed discrete event simulation of their operations commissioned from Ernst and Young. We propose to seek independent validation and verification of this model to determine whether the results from the model are an appropriate input to determining the relationship between performance and engineering resource that we require for the regulatory cost models. Once we have these results, we will want to carry out our own validation and then present stakeholders with enough information to enable them to provide an informed view on our assessment of what may constitute an appropriate minimum standard. We are therefore proposing to undertake a separate consultation on this model and other analysis related to the determination of costs related to service targets. We would propose to consult on this in early autumn 2013 in order that the responses can be incorporated into our final decision.

10.322 We are currently seeking initial estimates of cost service trade-offs from Openreach based on the Ernst and Young model. We will include these estimates in the LLU/WLR charge control consultation as an indication of the possible impacts of different service standards – an indication only as we will consult more fully as indicated above.

10.323 The assessment of the percentage of services impacted by MBORC is also derived from the same Ernst and Young model and we will consider this also again at the next consultation. Initial estimations provided by Openreach at this stage are that in 2011/12 MBORC impacted on 0.5% of fault repairs, but we have no current evidence on provisioning.

10.324 We set out the details of our proposed SMP conditions in Annex 11.

Legal tests

10.325 For the reasons set out below, we are satisfied that the proposed conditions for BT in respect of each of the WLA and WFAEL markets in the UK but excluding the Hull Area meet the various tests set out in the CA03.

10.326 Section 87(3) of the CA03 authorises the setting of SMP services conditions in relation to the provision of network access. Section 87(5)(b) of the CA03 provides that such conditions may include provision for securing that these obligations are complied with within the periods and at the times required by or under the conditions. In this regard we note Article 12(1) of the Access Directive, which provides that national regulatory authorities may attach to conditions relating to network access obligations covering fairness, reasonableness and timeliness. We consider that the proposed condition will assist in securing that network access is provided within a reasonable period of time.

10.327 In proposing these conditions, we have taken into account the factors set out in section 87(4) of the CA03. In particular, we consider that the proposed condition is necessary to ensure an appropriate level of quality of service so as to secure effective competition, including economically efficiency infrastructure based competition, in the long term.

10.328 We have considered our duties under section 3 of the CA03. We consider that, by ensuring that BT adheres to prescribed minimum quality of service standards in relation to the provision of new lines and the repair of faults, the proposed condition will further the interests of citizens in relation to communications matters and further the interests of consumers in relevant markets by promoting competition.

10.329 We have considered the Community requirements set out in section 4 of the CA03. We consider that the proposed condition will promote competition in relation to the provision of electronic communications networks and encourage the provision of network access for the purposes of securing efficient and sustainable competition in the markets for electronic communications networks and services.

10.330 We also consider that the proposed condition meets the criteria in section 47(2) of the CA03. The proposed condition is:

- objectively justifiable, in that its purpose is to ensure mandatory minimum standards in relation to key services supporting network access. The evidence available to us indicates that in the absence of other effective incentive mechanisms further regulation is necessary to secure an appropriate level of service by Openreach and the proposed condition addresses this issue;

- not unduly discriminatory, in that it will only apply to BT, which we have proposed as the only CP having SMP in the relevant markets in the UK excluding the Hull Area;

- proportionate, in that we have identified the need for further regulation and the proposed conditions are targeted specifically to those areas for which regulation is required. We consider that the proposed conditions are the least onerous means of achieving the objective we have indentified of securing a minimum level of quality of service in the delivery of key aspects of network access. We have demonstrated that without intervention the level of service by Openreach has fallen below what we consider acceptable levels. Further we will ensure that BT is funded to meet the required standard through the charge controls; and

- transparent, in that relation to what it is intended to achieve, as it is the clear intention of the proposed condition to ensure that BT maintains a minimum level of quality of service in relation to a number of key factors of importance to communication providers that purchase these wholesale inputs.

10.331 For the reasons set out above, we consider that the proposed condition is appropriate to address the competition concerns, in line with section 87(1) of the CA03.

<u>The BEREC common positions</u>

10.332 In forming these proposals we have also taken utmost account of the BEREC Common Position. In relation to the objective of achieving a reasonable quality of access products (operational aspects), we have noted above that the BEREC Common Position identifies, among other things, as best practice that NRAs should require SMP operators to provide a defined level of service (BP32) to address the concern that access products may not be of reasonable quality ad service levels may not be comparable between that provided to third parties and downstream operations.

<u>Consultation Question(s)</u>

10.17 Do you agree that it is appropriate to set minimum standards for Openreach services? Please provide reasons in support of your views.

10.18 Do you agree that the minimum standards should only be applied to WLR and MPF provisioning appointment and fault repair? If not what else should be included and why? Please provide reasons in support of your views.

10.19 Do you agree that we should incorporate force majeure affected services in the standards? Please provide reasons in support of your views.

10.20 How should we determine the appropriate standard? How would you assess the trade off of service level and charge increase?

10.21 Do you agree with the structure of the standard – yearly, forecast region targets? Please provide reasons in support of your views.

Requirements for cost accounting

<u>Current remedies</u>

BT and KCOM are currently subject to cost accounting obligations as set out in Table 10.25 below.

Table 10.25: Current Cost Accounting obligations

Wholesale market	Existing cost accounting obligations	
	BT (in the UK excluding the Hull Area)	**KCOM (in the Hull Area only)**
WLA	Yes	No
WFAEL	Yes	Yes
ISDN30	Yes	No
ISDN2	Yes	Yes

2012 FAMR Call for Inputs

10.333 In relation to the requirement for cost accounting and accounting separation, EE considers that general remedies need to be strengthened to ensure that, above an appropriate threshold, Openreach provides greater disclosure regarding the breakdown of costs which are ultimately borne by its wholesale customers through the charges they pay for BT's regulated access products. EE gave the example of charges for printed directories which are of extremely high value but appear as a single line item in BT's published regulatory accounts.[328]

Aim and effect of regulation

10.334 The imposition of cost accounting obligations on dominant providers is an important means of ensuring the following:

- that we have the necessary information to support the monitoring of effectiveness of pricing remedies, in particular to ensure that the pricing remedies we propose in this consultation continue to address the competition problems identified, and to enable our timely intervention should such intervention ultimately be needed;

- cost accounting obligations further ensure that BT records all information necessary for the purposes listed above at the time that relevant transactions occur, on an ongoing basis. Absent such a requirement, there is a strong possibility that the necessary information would not be available when it is required, and in the necessary form and manner;

- the imposition of cost accounting obligations ensure that wholesale costs are attributed across the wholesale markets (and the individual services within them) in a consistent manner. This mitigates, in particular, against the risk of double recovery of costs or that costs might be loaded onto particular products or markets; and

- publication (i.e. reporting) of cost accounting information aids transparency, providing reassurance to stakeholders about compliance with SMP obligations, allowing stakeholders to monitor compliance and more generally enabling stakeholders to make better informed contributions to the development of the regulatory framework.

[328] *P.15, EE response to 2012 FAMR Call for Inputs*

Proposals

10.335 Section 87(9) to (11) (subject to section 88) of the CA03 authorises Ofcom to impose appropriate cost accounting obligations on dominant providers, in respect of the provision of network access, the use of the relevant network and the availability of relevant facilities. Cost accounting rules may be made in relation to fair and reasonable charges, charge controls, the recovery of costs and Basis of charges (cost orientation). We propose to impose cost accounting requirements on BT in each of the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets in which we propose that it is has SMP. We consider that this obligation is necessary to ensure the appropriate maintenance of accounts in order to monitor BT's activities with regard to the pricing remedies we propose in each of these markets.

10.336 Our specific proposals regarding pricing remedies in respect of each of the wholesale fixed access markets and our views on what specific cost accounting requirements we propose are appropriate[329] to complement these remedies are set out in the following sections. In accordance with our usual practice, we will consult separately on Directions to be made pursuant to the cost accounting requirements we propose in this document implementing the specifics of our proposals as part of our annual review.

10.337 With respect to KCOM, we do not propose imposing a Basis of charges requirement (or other pricing remedies) other than a requirement to provide network access on fair and reasonable terms including charges. This proposal is set out in paragraphs 10.25-10.26. We therefore do not consider that it is appropriate to impose cost accounting requirements on KCOM in any of the wholesale fixed access markets in the Hull Area.

10.338 In relation to EE's general concern about greater disclosure of costs, we consider it relevant to note that Ofcom is currently conducting a general review of the regulatory reporting requirements looking across all the regulated markets and refer to our consultation of 6 September 2012[330] in which we set out our initial views on what we see as the purpose of financial reporting in the future in light of market developments, the current requirements and how the framework might be improved. We consider that it is appropriate to consider general improvements to regulatory reporting requirements, such as the further breakdown of costs, in the round rather than in relation to a review of specific markets and/or particular regulated products and will therefore take EE's general concern about financial disclosure into consideration in the course of our general review. As to the attribution of particular costs to the charges paid by CPs for regulated wholesale inputs, we will set out our proposals in the 2013 LLU WLR Charge Control Consultation.

10.339 We therefore propose that cost accounting requirements should apply to BT in the following markets as shown in Table 10.26 below. This proposal is implemented in the notification set out in Annex 11 which proposes to make certain amendments to the SMP conditions imposing cost accounting requirements set out in Annexes 2 and 3 to the 2004 Accounting Statement.

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[329] In applying the tests set out in section 88 of the CA03 we consider cost accounting requirements together with our proposed pricing remedies in the subsequent sections.
[330] Ofcom, *Regulatory financial reporting: a review*, 6 September 2012, http://stakeholders.ofcom.org.uk/binaries/consultations/reg-financial-report/summary/condoc.pdf.

Table 10.26: Proposed Cost Accounting obligations

Wholesale market	Proposed cost accounting obligations	
	BT (in the UK excluding the Hull Area)	**KCOM (in the Hull Area only)**
WLA	Yes	No
WFAEL	Yes	No
ISDN30	Yes	No
ISDN2	Yes	No

Legal tests

10.340 For the reasons set out below, we are satisfied that the proposed cost accounting requirements for BT in respect of each of the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets in the UK outside the Hull Area (at Annex 11) meet the various tests set out in the CA03.

10.341 Section 87(9)(c) authorises conditions imposing such rules as we may make for the purposes of matters connected with the provision of network access to the relevant network, or with the availability of relevant facilities about the use of cost accounting systems. Such conditions include conditions requiring the application of presumptions in the fixing and determination of costs and charges for the purposes of the price controls, rules and obligations imposed by virtue of that subsection (section 87(10)). Where such conditions are imposed, section 87(11) imposes a duty on us also to set an SMP condition which imposes an obligation: to make arrangements for a description to be made available to the public of the cost accounting system used in pursuance of that condition; and (b) to include in that description details of (i) the main categories under which costs are brought into account for the purposes of that system and (ii) the rules applied for the purposes of that system with respect to the allocation of costs. In setting such conditions, we must be satisfied that the conditions about network access pricing set out in section 88 are also satisfied.

10.342 Below we list the various Basis of charges obligations and charge controls obligations we propose to impose on BT. At the paragraphs referenced below, we have set out how our proposals meet the conditions in section 88, in that they would address the risk of excessive pricing and promote efficiency and sustainable competition, to the benefit of end users, and would not undermine investment by BT. We propose to impose on BT:

- fair and reasonable charges obligation in the WLA, WFAEL, ISDN30 and ISDN2 markets, to the extent applicable, see paragraphs 10.31-10.43;

- a charge control on GEA migrations in the WLA market, see paragraphs 11.190-11.197;

- a Basis of charges obligation relating to SLU services in the WLA market, see paragraphs 11.528-11.531;

- a Basis of charges obligation relating to PIA services in the WLA market, see paragraphs 11.580-11.583;

- a charge control on LLU services in the WLA market, see paragraphs 12.54-12.55 for a preliminary assessment of whether the legal tests are met, which will be followed by a fuller assessment in the forthcoming 2013 LLU WLR Charge Control Consultation;

- Basis of charges obligations on each of TRCs and SFIs in the WLA market, see paragraphs 12.84-12.88;
- a Basis of charges obligation on Electricity charges in the WLA market, see paragraphs 12.100-12.104;
- a charge control on WLR services in the WFAEL market, see paragraphs 14.43-14.44 for a preliminary assessment of whether the legal tests are met, which will be followed by a fuller assessment in the forthcoming 2013 LLU WLR Charge Control Consultation;
- a Basis of charges obligation on TRCs in the WFAEL market, see paragraphs 14.49-14.53;
- charge controls in the wholesale ISDN30 market, see paragraphs 15.66-15.76; and
- charge controls in the wholesale ISDN2 market, see paragraphs 15.125-15.136.

10.343 We consider that imposing a cost accounting obligation would not undermine this in any of the wholesale fixed access markets, and that imposing a cost accounting obligation is consistent with section 88.

10.344 We consider that the proposed condition fulfils our duty under section 87(11) in that the cost accounting conditions require for the publication of a description of the cost accounting system used and the main categories of cost and the cost allocation rules applied.

10.345 We have considered our statutory obligations and the Community requirements set out in sections 3 and 4 of the CA03. In particular, we consider that the imposition of the proposed cost accounting obligation is justifiable and proportionate to promote competition in relation to the provision of electronic communications networks and services and to ensure the provision of network access (including supporting ancillary services) and service interoperability for the purpose of securing efficient and sustainable competition and the maximum benefit for the persons who are customers of CPs. This is because the imposition of the obligation will ensure that other obligations designed to curb potentially damaging leverage of market power – in particular the setting of prices at excessive levels – can be effectively monitored and enforced.

10.346 We have considered the Community requirements set out in section 4 of the CA03 and believe that the proposed cost accounting obligations in particular promote competition in relation to the provision of electronic communications networks and encourage the provision of network access for the purpose of securing efficiency and sustainable competition in downstream markets for electronic communications networks and services, resulting in the maximum benefit for retail consumers.

10.347 We consider that the proposed condition meets the criteria set out in section 47(2) of the CA03 because it is:

- objectively justifiable, in that it is necessary to ensure the appropriate maintenance and provision of accounts in order to monitor BT's activities with regard to the pricing remedies we propose in each of these markets. It also relates to the need to ensure competition develops fairly, to the benefit of consumers, by providing transparency of BT's compliance with rules set to address the risk of excessive pricing;

- non-discriminatory, in that BT is the only CP on which we propose to impose specific pricing remedies;

- proportionate, in that only information that is no more than necessary to monitor BT's activities with regard to the pricing remedies we propose is required to be maintained and provided; and

- transparent, in that it is clear in its intention to ensure the appropriate maintenance and provision of accounts for the purposes set out above and the particular accounting separation requirements of BT are clearly documented.

10.348 For the reasons set out above, we consider that the proposed condition is appropriate to address the competition concerns identified, in line with section 87(1) of the CA03.

Consultation question(s)

10.22 Do you agree with our proposals regarding requirements on BT in relation to cost accounting and not to impose cost accounting requirements on KCOM? Please provide reasons in support of your views.

Section 11

Remedies: WLA next generation access

Introduction

11.1 We have proposed that BT has SMP in the market for WLA and accordingly, in the next section, that BT should be required to offer LLU as a specific access remedy relevant to CGA. This section makes a number of proposals for BT to offer specific access remedies in relation to NGA.

11.2 Note that, as discussed in Section 10, we consider that imposing specific network access remedies on KCOM in the same form as BT, in the absence of clear evidence of demand for the particular access products currently supplied by BT to be disproportionate and inappropriate at this time. We consider that opportunities for competition are best met by continuing to rely instead on the general network access obligations we propose in Section 10.

11.3 This section starts by introducing the issue of supporting investment and competition in NGA and then sets out our proposals to impose on BT three specific access remedies with respect to NGA:

- Virtual Unbundled Local Access – VULA provides access to BT's NGA network in a way that is similar to how LLU provides access on the CGA network. However, rather than providing a physical line, VULA provides a virtual connection that gives CPs a direct link to their customers and provides flexibility over how this link is integrated into their network and over product offerings.

- Sub Loop Unbundling – this allows CPs to physically take over (or share) the part of BT's existing copper lines between a street cabinet and the customer premises, enabling them to deploy FTTC networks.

- Physical Infrastructure Access – this remedy allow CPs to deploy fibre in the access network using BT's ducts and poles, to support deployment of either FTTP or FTTC (i.e. using PIA to deploy a 'backhaul' link from CP's network to the street cabinets).

11.4 Again, overall we consider that national and EU competition law remedies would be insufficient to address the competition problems we have identified. We refer in this section to specific reasons why (for example, in relation to the VULA margin) and we again rely on the reasons set out in our broader provisional conclusion as to the sufficiency of these competition law remedies (see Section 8). We therefore believe that it is appropriate to impose the proposed *ex ante* regulatory obligations on BT in the WLA market in order to address the competition concerns which we have identified and assessed. This section also sets out why we are not proposing to introduce any new or alternative specific access remedies to those described above.

Supporting investment and competition in NGA

Key developments since the 2010 WLA Review

11.5 The 2010 WLA Review introduced two new NGA remedies, VULA and PIA, and retained the SLU remedy. We set out in that review that we expected VULA to be the main basis of competition in areas where BT had deployed its NGA network, while PIA and SLU were more likely to be used in areas either where BT did not deploy NGA or in advance of its NGA deployment, possibly by CPs in receipt of State aid to deploy NGA services in areas where it was not otherwise economic to do so.

11.6 Since the conclusion of that review in October 2010, there has been a large increase in the availability and take-up of superfast broadband. Virgin announced a programme for existing customers to double their speeds[331] and its entry level product for new customers is now at superfast speeds (30Mbit/s). Currently, Virgin reports 2.5 million superfast customers covering at least 44% of homes in the UK.[332] BT has rapidly deployed its NGA network, reporting coverage of more than 15 million premises with more than 1.5 million customers connected (around 1.3 million of these being BT Retail).[333] Based on this information, the retail breakdown of superfast broadband subscribers is: 63% Virgin, 33% BT Retail[334] and 5% others.[335] It also means that around 18% of total broadband lines are currently superfast.[336]

11.7 Of the three NGA remedies imposed in the 2010 WLA review, it is VULA that has seen by far the most use. This is because every customer connected to BT's NGA network ultimately consumes VULA, whether as one of the 1.3 million BT Retail customers or one of the 0.2 million non-BT Retail customers, i.e. those purchasing superfast broadband from other providers such as Sky, TalkTalk and EE.

11.8 Despite some initial interest by CPs and participation in trials, PIA has so far seen very low levels of take-up. We note that a key use of PIA that we had envisaged – in areas subject to state funding – has not occurred, in part because no non-BT CP has to date won any of the BDUK programme contracts.[337] Use of SLU is also low and largely restricted to one deployment by Digital Regions Limited ('DRL') in South Yorkshire – which is itself a State intervention. As a result, the absolute number of customers utilising superfast services on networks based on either PIA or SLU is very low.

11.9 Another aspect we have observed over the period in relation to NGA investment is a much greater than expected proportion of FTTC over FTTP. At the time of the 2010 WLA Statement, we reported that BT was planning to deploy 75% FTTC and 25% FTTP. However, the actual proportion of FTTP deployed has been much lower, with BT stating in its response to the 2012 FAMR Call for Inputs that it expected FTTP volumes to remain very low (noting that BT has recently launched FTTP on Demand[338]). We recognize that some smaller CPs, such as CityFibre, Gigaclear and

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[331] Virgin, *Virgin Media boosts Britain's broadband speeds,* 11 January 2012, www.mediacentre.virginmedia.com/Stories/Virgin-Media-boosts-Britain-s-broadband-speeds-2322.aspx.

[332] Ofcom, *Communications Market Report 2012* 18 July 2012, www.stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/CMR_UK_2012.pdf.

[333] BT, *Results for the Fourth Quarter and Year to 31 March 2013,* 10 May 2013 www.btplc.com/News/ResultsPDF/q413_release.pdf.

[334] In this document, we use the term 'BT Retail' to refer to all of BT's retail divisions, including BT Retail and Plusnet.

[335] Note, this calculation is based on the approximate numbers provided by Virgin and BT in their quarterly results and does not sum to 100% due to rounding.

[336] Based on a total of 21.9 million, comprising BT's "Total DSL, LLU and fibre" of 17.6 million and Virgin's total cable broadband of 4.3 million taken from the respective companies' quarterly results ending 31 March 2013, as referenced above.

[337] Broadband Development UK, covering areas without a reasonable broadband service and able to bid for State aid funding.

[338] FTTP on Demand allows a customer served by an FTTC-enabled cabinet to pay for fibre to be deployed all the way to their premise.

Hyperoptic, are offering FTTP (or fibre to the building) services with some plans to expand. We note that a number of councils and the Bit Commons expressed concern about the low proportion of FTTP in their 2012 FAMR Call for Inputs responses, arguing that thought should be given to the encouragement of FTTP network deployment (this relates to investment incentives on BT, which is discussed in Section 13).

Superfast broadband over the forthcoming market review period on BT's and Virgin's networks

11.10 Over the market review period, we expect both NGA coverage and number of subscribers to grow. In terms of NGA coverage, the main developments will be the completion of BT's commercial NGA deployment to about 66% of premises (around 19 million) by Spring 2014 (i.e. the start of the review period) and NGA deployment to over 90% of premises using State aid funding through the BDUK programme by the end of the market review period.

11.11 We expect the number of superfast subscribers to grow significantly over the period, due to a number of factors:

- Virgin offering only superfast speeds to new customers or otherwise upgrading existing 20Mbit/s customers to superfast;
- BT's network expansion as outlined above, which increases the addressable market of premises that can subscribe to superfast services; and
- growing consumer demand for superfast speeds as a result of a general increase in data usage (even without the introduction of a specific application that could significantly accelerate demand – i.e. a 'killer app').

11.12 We note that, over the past year, Virgin and BT combined have reported around 600,000 net superfast adds per quarter (as set out in the table below). While we would expect that Virgin's net adds will reduce upon completion of its speed doubling programme, this may be offset by an increase BT's net adds due to its increasing network footprint and potentially increased demand for superfast.

Table 11.1: BT and Virgin net superfast broadband subscribers

(m)	Q3 2011	Q4 2011	Q1 2012	Q2 2012	Q3 2012	Q4 2012	Q1 2013
BT Total				0.75	0.95	1.25	1.50
Net adds				0.17	0.19	0.25	0.28
VM Total	0.50	0.70	0.84	1.30	1.80	2.18	2.50
Net adds	*0.18*	*0.13*	*0.15*	*0.46*	*0.45*	*0.42*	*0.34*
Total				**2.05**	**2.75**	**3.43**	**4.00**
Net adds				***0.63***	***0.64***	***0.67***	***0.61***

Source: Company quarterly reports. Notes: Calendar quarters; BT only reported Openreach totals and net adds from Q2 2012; figures are rounded and taken directly from company reports, hence net adds may not equal total superfast subscribers

11.13 Looking ahead, we have considered a range of estimates for the number of superfast broadband subscribers in 2017, in order to gauge the importance of superfast broadband over the review period. We sought CPs' own estimates using our S.135 powers.[339]

- BT provided a forecast that Openreach's total superfast subscribers in financial year 2016/17 would be [✂].[340] Adding Virgin's estimate of the number of [✂] its subscribers in 2017 would give a total figure for superfast subscriptions of [✂].

- Sky forecast that by June 2016 there would be [✂] superfast broadband subscribers in the UK.[341] If the trend in the previous four years of forecasts were to continue, then by the end of the review period (March 2017) total subscriptions may be around [✂].[342]

- EE forecast that in 2016 BT would have [✂] NGA lines.[343] Adding Virgin's subscribers would give a total figure for superfast subscriptions of [✂]. If the trend in the growth of EE's superfast broadband subscribers was applied to the [✂] figure then this would imply [✂] superfast broadband subscribers on BT's network and [✂] overall (once Virgin's subscribers are included).[344]

- TalkTalk claimed not to have any forecasts of total fibre demand in the UK[345], while Virgin stated that it had been unable to supply a formal forecast of total superfast broadband demand in the UK.[346]

11.14 Forecasts from Sky, EE and BT vary between [✂], although we note that analysts have produced figures outside this range (e.g. Analysys Mason forecast take-up of around 13m in 2017[347]).

11.15 These estimates indicate that the provision of superfast broadband will be an important component over the market review period, with even the lower estimates

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[339] Note that where a CP only had forecasts for volumes on BT's network, we have added an allocation of Virgin's subscribers based on its own forecast for 2017 of [✂] subscribers. This number is based on current subscriber figures, as we understand most of the growth in Virgin's superfast subscriber numbers is based on upgrades.
[340] BT response to s.135 notice of 26 November 2012. However, we also note that in its recent results, BT disclosed its projection of "4-5 million Openreach users" in "3-4 years" (Slides Part 2, BT*, Results for the Fourth Quarter and Year to 31 March 2013*, 10 May 2013, www.btplc.com/Sharesandperformance/Quarterlyresults/PDFdownloads/q413_slides_update_part2.pdf). We attempted to reconcile the differences between these figures with BT but have been unable to do so in the time available. We also sought to understand what adjustments have been made to the original figure provided under S.135, but received apparently inconsistent responses from BT. We therefore use the figure that BT provided in response to the original s.135 notice of 26 November 2012.
[341] Sky response to s.135 notice of 26 November 2012. This Sky forecast was produced in May 2012. Sky also provided a document containing a (different) forecast, which it explained came from February 2012 (informal information submission from Sky, 11 January 2013).
[342] Ofcom calculations. Over the four years of the forecasts provided by Sky, total superfast broadband subscribers rise by [[✂] per year. We have added 75% (i.e. 9 months) of this annual figure to the Sky forecast for June 2016 to give an estimate for March 2017.
[343] Although it was not explicit, we presume that the figures provided by EE solely relate to BT's network (in particular, the source for the 2011 data is given as "BT KPIs"' and [✂]). EE response to s.135 notice of 26 November 2013.
[344] EE forecast that its superfast broadband subscribers would rise by [✂] from [✂] in 2016 to [✂] in 2017. This percentage increase has been applied to EE's forecast of total superfast subscribers on BT's network, i.e. the implicit assumption is that EE is growing at the same rate as other retailers that use BT's network. In contrast, as the remaining number of customers Virgin can still upgrade to superfast reduces it is thus likely to an experience slower rate of growth. EE response to s.135 notice of 26 November 2013.
[345] Informal information submission from TalkTalk, 11 January 2013. We note TalkTalk's regulatory team referred to an "illustrative" figure of around 7 million superfast broadband subscribers by the end of the review (excluding Virgin), which it included in its response to the 2012 FAMR Call for Inputs.
[346] Virgin response to s.135 notice of 26 November 2013.
[347] Analysys Mason, *Western Europe telecoms market: forecasts and analysis 2012–2017*, September 2012.

indicating that a significant number of connections will be superfast (e.g. as a proportion of total broadband lines).

11.16 We have also considered how the shares of supply for superfast broadband may change over the review period. BT forecast that Openreach would supply superfast broadband to [✂] BT Retail customers and a further [✂] customers of other retailers in 2016/17.[348] This implies that BT Retail would account for [✂] of Openreach fibre customers. Based on Virgin's estimate of [✂] superfast broadband subscribers by this time[349], Table 11.2 sets out the resulting retail shares of supply:

Table 11.2: Superfast broadband retail shares of supply

2017 (m)	BT	Virgin	Others
Subscribers	[✂]	[✂]	[✂]
% share of supply	[✂]	[✂]	[✂]

Source: Stakeholder responses to s.135 notices

11.17 This indicates that both BT's and other CPs' share of superfast broadband subscribers are likely to increase relative to today, while Virgin's share is likely to reduce as the remaining number of customers it can still upgrade to superfast reduces.

11.18 We also note the forecasts of other CPs' own estimates of superfast take-up, although these are not directly comparable, particularly since they reflect different assumptions about overall superfast broadband take up and their own share of it (and particularly of VULA connections):

- TalkTalk provided a forecast indicating that in 2017 it would have [✂] fibre subscribers;[350]

- Sky forecast that of the [✂] superfast broadband subscribers by June 2016 in the UK, of which Sky would account for approximately [✂].[351]

- EE forecast that it would have approximately [✂] superfast broadband subscribers at the end of 2016 and [✂] at the end of 2017.[352] As set out above, EE's forecasts suggest there might be [✂] superfast broadband subscribers in 2016, which implies EE's retail share of supply would be approximately [✂].

11.19 The above observations around coverage, take-up and share of supply are focused on consumption of services offered by the main two networks – BT and Virgin – using two main technologies of FTTC and cable respectively.

Other NGA networks using PIA and SLU and future developments

11.20 In terms of the potential for other CPs to deploy NGA, we note that there are three main ways of deploying NGA – by unbundling BT's network at the cabinet using SLU, by deploying fibre using BT's ducts and poles made available via PIA, or building a

[348] BT response to s.135 notice of 26 November 2012.
[349] We note the element of error that combining these two figures may entail, given BT, Virgin and others compete for the same customers.
[350] Informal information submission from TalkTalk, 11 January 2013.
[351] Sky response to s.135 notice of 26 November 2012.
[352] EE superfast broadband subscribers, EE response to s.135 notice of 26 November 2012.

network independently of BT's access network (as smaller CPs such as Hyperoptic, IFNL and Gigaclear have done). While we note Hyperoptic's recent announcement of investment in support of its plans to deploy to up to 500,000 homes,[353] we have not received any evidence of plans to use SLU and PIA to deploy NGA over the market review period.[354]

11.21 We note that there may also be technological developments on BT's and Virgin's networks that may be employed over the market review period to increase speeds. On Virgin's cable network this includes ongoing upgrades of the DOCSIS[355] standard. On BT's network, this could include vectoring of FTTC (which reduces cross-talk interference), fibre to the distribution point (FTTDP, also known as G.fast, which brings fibre closer to the premise than FTTC) and, of course, greater penetration of FTTP. In regard to the latter, we note that BT has recently launched FTTP on Demand which could facilitate a greater number of FTTP connections on a demand-led and premise-by-premise basis.

11.22 As our assessment of the WLA market shows, the level of investment required by a third party to replicate BT's NGA network on a sufficiently large scale to compete at this level is a significant barrier to entry. In the absence of access to BT's infrastructure for the purposes of providing retail NGA services, we consider that BT would have an incentive and ability to refuse access at the wholesale level and thereby favouring their own retail operations with the effect of hindering sustainable competition on the corresponding downstream markets, ultimately against the end users interests. Based on this and the importance of NGA services over the forward look of this review, we propose that it is appropriate to, in addition to the proposed general remedies, put in place on BT a set of specific NGA remedies for the market review period.

11.23 These would provide a series of ways in which CPs can provide NGA services in competition with BT – through VULA, which enables them to gain access to BT's NGA network, and through SLU and PIA, which could enable them to deploy their own network in order to offer NGA services to their customers. We consider each of these in turn and then, after outlining our proposal in Section 12 to continue to require BT to provide LLU, consider these four proposed remedies in combination in terms of promoting competition and investment.

Virtual Unbundled Local Access

Introduction

11.24 We introduced VULA in the 2010 WLA Review as the remedy by which BT would provide access to its NGA network (FTTC and FTTP). We set out that the underlying objective was to support competition and investment in the supply of NGA-based products in downstream markets. The intention was that it would, as far as possible, replicate many of the features of a physical access remedy, such as LLU.

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[353] Hyperoptic, *Hyperoptic secures £50 million investment,* 23 May 2013, https://hyperoptic.com/web/guest/press?p_p_id=press_WAR_pressportlet&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&p_p_col_id=column-1&p_p_col_count=1&_press_WAR_pressportlet_render=article&_press_WAR_pressportlet_urlTitle=hyperoptic-secures-%C2%A350-million-investment.

[354] Even with suggested changes to PIA and SLU products, as discussed below.

[355] Data Over Cable Service Interface Specification.

11.25 We considered that as the case for CPs to deploy duplicate NGA networks in parallel with BT was challenging, the absence of a remedy such as VULA would mean CPs would be without a viable WLA remedy which they could use to compete with BT in downstream markets. We considered that such an outcome could limit competition in the supply of broadband services, particularly at the retail level, to the detriment of consumers.

11.26 As discussed at paragraph 11.6, the number of VULA connections has risen significantly since VULA was introduced[356], with BT reporting more than 1.5 million VULA connections as of 31 March 2013 and 275,000 added in Q1 2013.

11.27 According to BT, around 1.3 million of these connections were supplied to BT's retail divisions, although take-up by other CPs has been increasing with 59,000 non-BT Retail net adds in Q1 2013.[357] BT stated in its response to the 2012 FAMR Call for Inputs that over 80 CPs used VULA as an input to their superfast broadband services. We expect that most of these CPs are purchasing VULA through an intermediate wholesaler (e.g. BT Wholesale), rather than directly consuming VULA from Openreach (as CPs such as TalkTalk and Sky do). We also note that TalkTalk reported 73,000 fibre subscribers (i.e. VULA customers) as of 31 March 2013.[358] Based on company reports, this provides BT Retail with an approximate share of VULA supply of around 87%, TalkTalk 5% and other CPs (including Sky and EE) 8%.

2012 FAMR Call for Inputs

11.28 The 2012 FAMR Call for Inputs reflected on the reasonable take-up of VULA and sought views generally on the VULA remedy and how it had been implemented by BT. We asked the following general questions in relation to VULA (noting that further specific questions on VULA are addressed in the remainder of this subsection):

> *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.*

11.29 In response to this question, BT argued that the 2010 WLA Review had correctly anticipated the importance of VULA in promoting large scale investment in NGA infrastructure and the take-up of superfast broadband. It stated that the virtual unbundling approach enables CPs to enter the market by sharing the cost benefit of access to an efficient and equivalent NGA network. [✂] maintained that VULA is an important remedy for fostering effective competition in NGA (although expressed concerns in relation to competition, which are addressed from paragraph 11.244).

11.30 Verizon noted that while VULA take-up had increased, it argued that this was mainly in the consumer market and that it had had little if any impact on competition, particularly in relation to business markets. Virgin was concerned that the favouring of

[356] We note that BT already had in place a product similar to VULA, called Generic Ethernet Access ('GEA'), prior to the conclusion of the 2010 WLA Review. For simplicity, we use the term VULA in this document with some limited exceptions where appropriate.
[357] BT, *Results for the Fourth Quarter and Year to 31 March 2013,* 10 May 2013 www.btplc.com/News/ResultsPDF/q413_release.pdf.
[358] TalkTalk, *Preliminary results for the 12 months to 31 March 2013,* 16 May 2013 www.talktalkgroup.com/~/media/Files/T/TalkTalk/pdfs/reports/2013/prelim-results-2013.pdf.

VULA over PIA by the industry may skew the competitive dynamics of the market. That is, if there was only an active option (i.e. VULA) to allow CPs to invest in the provision of NGA this could risk distorting investment decisions. It called for a comprehensive review of the regulation applied to VULA.

11.31 A number of responses on this question argued that VULA could be made more effective, with some stakeholders seeking specific changes to VULA and the regulation of it. These specific comments are addressed in the following parts of this subsection.

11.32 We note that, overall, no stakeholder specifically argued for VULA to be removed as a remedy. We think that to do so would result in there being no remedy that would be used on a material scale by CPs to offer downstream competition to BT in superfast services. This is particularly the case given our observations at paragraph 11.20 above of the general lack of plans to deploy NGA by other CPs. We consider that such an outcome could limit competition in the supply of broadband services, particularly at the retail level, to the detriment of consumers.

11.33 In relation to Verizon's comments about VULA's competitive impact on the business market, we note that, while it is a relatively early point at which to make an assessment, we have observed that an increasing number of CPs are choosing to market (and price) VULA as a business service (we discuss the issue of 'VULA for business' from paragraph 11.78).

11.34 Finally, we consider in Section 13 Virgin's submission that we should comprehensively review the regulation applied to VULA in light of its relative success vis-a-vis PIA.

<u>Expected take-up of VULA over the market review period</u>

11.35 There was a general consensus from CPs that responded to question 4.4 of the 2012 FAMR Call for Inputs that the next three to four years would be important for VULA and superfast broadband take-up more generally.

11.36 BT stated that that the next three or four years were "extremely important" to the development of the broadband market and, similarly, Tesco stated that the period was "critical" to the take-up of VULA. [✂] also considered the period would be critical to VULA take-up, while TalkTalk stated that superfast broadband was becoming a mainstream product and, by the end of the review period, there were likely to be around seven million superfast broadband subscribers on BT's network.[359] [✂]. Virgin stated that superfast broadband was a staple offer for an increasing number of CPs which suggests that take-up was increasing and will continue to do so. Finally, Verizon considered that the next three years were "vitally important" to the take-up of VULA for the provision of business services.

11.37 Based on these 2012 FAMR Call for Inputs responses, responses to the information request and our own analysis as detailed at paragraphs 11.10, we expect take-up of VULA to increase significantly over the period of the market review. We note CP's estimates of VULA take-up that we have presented in Table 11.3.

[359] As noted at paragraph 11.13, TalkTalk advised us that it had no forecast of total fibre demand in the UK.

Table 11.3: CPs estimates of total VULA subscribers in 2017

2017 (m)	BT	Sky	EE
Subscribers	[✂]	[✂]	[✂]

Source: Stakeholder responses to s.135 notices

11.38 In terms of share of supply, we discussed share of superfast supply in paragraphs 11.16 to 11.17.

11.39 We note there is currently a significant difference today between BT's share of superfast broadband (around 33%) and its share of VULA connections (around 87%). As we noted, based on CPs estimates, we expect that BT's share of superfast broadband connections will increase relative to today. Conversely, we expect that its share of VULA connections will decrease.

11.40 We consider VULA will continue to be the main NGA remedy in use – even more so than we envisaged in the last market review given that we do not have evidence of any material plans to deploy new networks using PIA or SLU (even with changes to these remedies suggested by stakeholders) and because BT is extending its network (beyond its commercial footprint) with State aid funding, meaning its GEA product that implements VULA will potentially be available to 90% of UK premises by the end of the market review period.

Proposal to apply VULA

11.41 We propose that BT be required to supply a VULA product providing access to its NGA network. This provides a form of non-physical (virtual) access, which, as far as possible, replicates many of the features of a physical access remedy such as LLU. As our analysis of the WLA market shows, the level of investment required by a third party to replicate BT's NGA network to compete at this level is a significant barrier to entry. We consider that, in the absence of such a requirement, for the reasons set out above, BT and KCOM would have an incentive and ability to refuse access at the wholesale level and thereby favour their own retail operations with the effect of hindering sustainable competition in the corresponding downstream markets, ultimately against the interests of end users. VULA enables CPs to provide NGA services in competition with BT, which supports competition and investment in the supply of NGA-based products in downstream markets. The importance of VULA to competition in NGA services has increased since the last market review. As noted in paragraph 11.20, the lack of significant deployment of new NGA networks by other CPs means that, if VULA were not available, then CPs would be likely unable to compete with BT in the provision of NGA services.

11.42 The proposed condition is set out in full in Annex 11.

11.43 The proposed requirement to offer VULA is in addition to the proposed general remedies. This includes, among other requirements, the provision on the basis of fair and reasonable terms, conditions and charges, no undue discrimination and EOI.

11.44 The next subsection discusses the key characteristics we propose for VULA.

Key characteristics

Position in the 2010 WLA Statement

11.45 In the 2010 WLA Statement, we set out our view that the most effective way to support the development of downstream competition would be to provide significant scope for alternative providers to innovate and differentiate in how they package and deliver services, and considered that VULA would provide such scope. We considered that the benefits of VULA would be greater if it was provided as a 'raw' product which provided CPs with significant flexibility over their own networks and the services that they could deliver to end users. This was in order to replicate many of the features associated with LLU. As a technology neutral remedy, we considered VULA would be relevant to both FTTC and FTTP deployments.

11.46 In the 2010 WLA Statement we described five high-level characteristics that we considered VULA would need to have in order to meet the above objectives and to be consistent with the WLA market definition. These are:

- *Local access* – we stated that interconnection by the access seeker should occur locally, i.e. at the first technically feasibly aggregation point. In practice we considered this was likely to be in the local serving exchange where the first Ethernet switch was located ('NGA exchange').[360]

- *Service agnostic access* – we said that VULA, like LLU, should be a generic access product. That is, it should provide service agnostic connectivity, replicating one of the key features of LLU. This meant the product should not be confined to supporting particular downstream services.

- *Uncontended access* – we stated that the connection, or capacity, between the consumers' premises and the local serving exchange where interconnection takes place should be dedicated to the end user, i.e. the connection should be uncontended.[361]

- *Control of access* – we stated that CPs should be given flexibility to allow them to offer differentiated products to consumers. We said this freedom of control, in order to provide different types of services, could potentially involve varying QoS parameters.

- *Control of CPE* – we noted that similar to the control of access characteristic described above, allowing competing CPs the ability to control CPE was crucial in ensuring that the potential benefits of VULA were realised.

Analysis of GEA and VULA characteristics

11.47 BT offers a set of GEA products over its FTTC and FTTP NGA network. At the time of the 2010 WLA Statement we undertook an assessment that found GEA was broadly compliant with the main area of disagreement between BT and access seekers being control of CPE, or more specifically, the wires-only presentation and installation.

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[360] Note that the local serving exchanges for NGA (FTTC and FTTP) are not necessarily the same local serving exchanges as for CGA, as fibre does not have the same distance limitations as copper and therefore a higher level of aggregation is possible.
[361] An uncontended service is one in which the bandwidth to each user is dedicated. In other words, the bandwidth is not shared by other users.

11.48 We have updated our assessment of how GEA, as currently provided by BT, fulfils the VULA characteristics. We also address responses to the 2012 FAMR Call for Inputs, which sought the views of stakeholders on whether they considered the key characteristics remained appropriate and how they have been implemented. We asked in the 2012 FAMR Call for Inputs:

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.

11.49 In response, BT said that setting characteristics which allowed innovation, rather than a restrictive product specification, was the right approach. BT considered the key characteristics assisted evolution in terms of permitting sufficient flexibility in product design while guiding the appropriate minimum features and the direction of product change. BT went on to say that detailed product specifications at this early stage could easily impede any such change and would not be able to correctly anticipate and support the next technological steps.

11.50 BT also stated that it developed GEA in an open and consultative way with its customers through the use of the SoR process, the NGA Industry Working Group, and the NGA In-life monthly audios, along with various specific product, systems and technical workshops. It cited examples of collaborative developments over the current market review period including the introduction of the 80/20Mbit/s FTTC product, Fibre Voice Access ('FVA'), multicasting, trialling of self-install, wires-only development, FTTP on Demand and new FTTP speed variants.

11.51 BT said that in its view the GEA product was already well matched against the VULA characteristics, and that it remained committed to continuing to work with its customers on future requirements, on a transparent development process, and on publication of future product roadmaps to bring about changes its customers are seeking.

11.52 Sky stated that Ofcom should consider whether GEA was fully compliant with the VULA characteristics, now and in the future. In particular, Sky said there was still some uncertainty over GEA's adherence to the VULA characteristics, for example around QoS, flexible interconnect, and contention, although it did not provide further detail on these points.

11.53 TalkTalk said the regulatory flexibility had allowed BT to meet its own vested interests. It set out examples of this, including VULA being overly bundled forcing CPs to purchase unnecessary elements, and not making wires-only and self-install options available. It said BT was now developing these products but only after more than four years of pressure.

11.54 Tesco said that only with more regulation of VULA could the right amount of investment be ensured and a competitive market be created that catered for the future demands of UK consumers. It also stated that FTTC was currently only delivered as a full engineer install, with access to the customer premises and the need for two CPE. Tesco considered this costly, wasteful and disruptive to the customer and that Ofcom should consider remedies that required a wires-only fibre install and allow communication providers to ship a single VDSL enabled CPE.

11.55 Noting these responses, we now consider each VULA key characteristic individually below, first by assessing whether or not BT's GEA product meets these characteristics and second by assessing whether it is appropriate to continue to apply each as a ‘key characteristic’ of the VULA remedy.

Localness

11.56 GEA extends between the end user premise and the local serving exchange. In the case of FTTC the local serving exchange is the site where FTTC deployments are aggregated. In the case of FTTP, the local serving exchange is the site where the FTTP ‘head end’ equipment is accommodated. We continue to consider this fulfils the characteristic of local access in both cases.

11.57 We also continue to consider that this characteristic is appropriate and in the same form as applied in the 2010 WLA Statement. It ensures that VULA is a remedy that is appropriate to the defined WLA market (the fixed connection from the local exchange or access node to the end user).

11.58 Interconnection at the local serving exchange means that CPs only purchase the access connection. It therefore allows competing CPs to arrange (or build) their own backhaul and core networks, maintaining their control over as many of the network elements used in providing the service as possible.

11.59 This provides competing CPs with complete flexibility over the architecture and dimensioning of the backhaul and core network elements. Further, to the extent that the VULA local serving exchange coincides with an LLU local serving exchange the CP is able to combine VULA traffic with LLU traffic on their network.

11.60 Local interconnection also provides foundations which support some of the other key characteristics which we consider necessary for VULA. For example, uncontended access to capacity to a given end user would be more difficult to ensure the further the point of interconnection moves into the network.

Service agnostic

11.61 GEA is an active Ethernet connection at Layer 2 in the Open System Interconnection (‘OSI’) framework which allows voice, data, or video services to be carried via a converged access network either as a single virtual channel or separated into multiple virtual channels. As in the 2010 WLA Statement we continue to consider GEA fulfils the service agnostic characteristic.

11.62 We also continue to consider that this characteristic is appropriate and in the same form it was applied in the 2010 WLA Statement. The WLA market definition focuses on generic telecommunications access, rather than any particular service. Allowing service agnosticism means that VULA can be used to support voice services, broadband services and video services. This flexibility maximises the potential for innovation of the sort we have seen through LLU leading to the greatest competition benefits.

11.63 In relation to Tesco’s comment on the provision of FTTC-based GEA on a standalone basis, we note that FTTC-based GEA is currently sold only as an incremental service to WLR or MPF. As in the 2010 WLA Statement, we expect that if there was demand to have a standalone FTTC-based GEA product, then BT would be obliged to meet a reasonable request for it. We note that a key factor in such a product is the pricing structure and cost recovery and we make further comment on the pricing of such a product from paragraph 11.234.

Uncontended

11.64 GEA as currently deployed is based on specific product options which define a Prioritisation Rate ('PR').[362] This can be regarded as providing dedicated or uncontended access. We understand that BT intends to upgrade infrastructure as required to continue to meet its PR frame drop SLA.[363] Therefore, we continue to consider that GEA is ostensibly uncontended and therefore compatible with this characteristic.

11.65 We also continue to consider that this characteristic is appropriate and in the same form as in the 2010 WLA Statement. This will ensure that the purchasing CP retains control of the degree of contention involved in providing the services it chooses to offer to its end users. This will thereby support innovation leading to the greatest competition benefits.

Control of access

11.66 BT currently offers three generic dynamic line management profiles for its FTTC-based GEA products, each with a different trade-off between line speed and line stability. This would appear to offer the interconnecting CP with a reasonable level of control. However, should additional profiles or greater control be required by CPs, we would expect BT, consistent with the proposed general remedies, to meet any such reasonable requests. It should be noted that being able to prioritise packets by defining a PR, as set out above, allows additional control.

11.67 We note that BT's FTTP-based GEA products do not offer the same control. However, as FTTP does not use copper lines, it does not suffer the same limitations such as a trade off between speed and stability.

11.68 We continue to consider that this characteristic is appropriate and in the same form as in the 2010 WLA Statement. It enables CPs to provide different types of services and, by allowing CPs to alter certain control parameters, CPs are able to determine and control the type and level of service they provide. This helps to realise competition benefits by allowing CPs maximum flexibility and innovation in their ability to offer differentiated products to consumers.

Control of CPE

11.69 Similar to the control characteristic described above, allowing competing CPs the ability to control CPE is crucial in ensuring that the potential competition benefits of VULA are realised. Allowing CPs the freedom to choose CPE provides the flexibility needed to ensure CPs are able to differentiate how they deliver services to their customers. Unnecessarily preventing, or limiting, the control CPs have over CPE risks undermining some of the benefits to consumers that VULA may provide. Restricting the type of CPE (other than in accordance with generally recognised and accepted standards) would limit CPs ability to offer differentiated and innovative products.

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[362] Packets within the PR are treated as "should not drop" which allows sensitive applications to have greater protection under congestion.

[363] The target frame drop SLA is that the network is able to support 99.9% of the prioritised GEA data traffic volume that is sent in the peak three hour period under normal conditions.

11.70 We continue to consider that this characteristic is appropriate and in the same form as in the 2010 WLA Statement. However, we note that CPs have been calling for wires-only and alternative installation arrangements under this heading and while BT has responded to these calls, introducing such changes has been slower than some CPs had hoped. Below we discuss the current status of the presentation and installation BT's GEA products for FTTC and FTTP separately.

FTTC (VDSL)

11.71 BT has completed a technical trial of self-install and is currently conducting a large scale pilot of both wires-only and self-install.

11.72 To support self-install BT is offering as part of the pilot an installation option termed 'PCP[364] only,' whereby the BT engineer only performs the jumpering at the local street cabinet rather than also performing the installation at the customer premise. This would enable the CP to choose how the VDSL modem is installed, either by the CP's own technician, or the end user themselves.

11.73 In relation to a wires-only presentation, we note that BT's current presentation of its GEA products is an Ethernet port on the network termination equipment ('NTE'), but that as part of the PCP-only pilot, BT is introducing a GEA-FTTC product variant that allows the CP to provide and be responsible for the end user's VDSL modem. A CP test verification facility forms part of the pilot, to ensure CP equipment is compatible.

11.74 As noted above, in response to the 2012 FAMR Call for Inputs several CPs including the FCS, EE, Tesco, and Vodafone commented on wires-only and self-install. Vodafone highlighted the importance of wires-only but said it considered that BT had been exceptionally slow to progress the option. The FCS stated that previous concerns about wires-only have been partially allayed at this stage by the current arrangements put in place by BT. [✂] said it remained unclear how BT will manage the use of CP's equipment, including the introduction of testing processes to ensure network integrity, and stated that further clarity in this regard would be welcomed. [✂]

11.75 We note that wires-only and alternative installation arrangements have taken some time to implement but that progress is now being made with the aim of a commercial product being launched by late 2013. We understand CPs' concerns and thus welcome BT's recent progress on the issue. We would be concerned if commercial implementation was extended beyond the end of this year but we note that CPs will need to work closely with BT to allow commercial implementation to happen, for example in the testing of CPE.

11.76 TalkTalk also stated in its response to the 2012 FAMR Call for Inputs that as BT currently restricted non-BT engineers from working on the NTE5[365], which is required for some GEA installs, this can result in additional truck rolls, added cost and additional customer inconvenience. We understand that this is currently the subject of an SoR.

[364] Primary Connection Point, usually the cabinet.
[365] Network Termination Equipment version 5 – also commonly known as the master socket, this is the copper termination point within the end user's premises and the place where the GEA over FTTC SSFP is installed. The master socket marks the demarcation point between BT's network and the end user's home network with respect to voice wiring.

FTTP (GPON)

11.77 BT does not currently offer a wires-only presentation (or, more accurately, 'glass-only') or self-install option for FTTP. We recognise that there are currently low volumes of FTTP and, as discussed at paragraph 11.9, we expect that this will remain the case over the market review period. However, we continue to consider that similar considerations should apply as discussed above in the context of FTTC[366] and that, accordingly and consistent with the proposed general network access remedies, BT should be prepared to meet reasonable requests for alternative methods of presentation and alternative network demarcation points where this is technically and economically.

Proposals for additional or alternate characteristics

VULA for business

11.78 A number of CPs argued that a set of characteristics suitable for business use should be introduced.

11.79 TalkTalk commented that business grade features should be added to GEA but argued that an SoR that proposed such features was rejected because it would have cannibalised BT's leased line base. Vodafone stated that it considered BT was uninterested in the provision of VULA for business as BT regarded its Ethernet service as more appropriate for the business market. Colt also noted that no business grade VULA existed but that even if it did it would not replace the full functionality provided by LLU.[367]

11.80 BT argued that it was confident that the wide variety of options offered by the current GEA portfolio would meet the growing demands of business and residential customers alike. It highlighted that it felt the higher bandwidths delivered by 80/20Mbit/s FTTC, FTTP and FTTP on Demand products, coupled with the wide range of services and high speed performance, are characteristics that are highly suitable for meeting the broadband, data and voice needs of the business market.

11.81 We understand there has been significant debate between CPs and BT regarding a GEA product specifically for business with features such as enhanced QoS. As noted above, an SoR for such a new product development was raised by CPs but was ultimately rejected by BT. However, we understand that BT has implemented some of the CPs' requirements through the current GEA product, including the introduction of IL2[368] assurance, a throughput report and a frame drop SLA[369].

11.82 It is currently unclear what further key characteristics might be needed for a VULA business product that cannot reasonably be fulfilled by the current product. If there are further requirements, these may be better met by alternative products such as leased lines. We note that the SoR that was raised had a number of requirements; should a CP have a specific requirement for a particular product feature, it may want

[366] It should be noted that, as FTTP does not use the existing copper infrastructure, there are significant differences in the installation.

[367] Based on comments elsewhere in Colt's submission we interpret this to mean the complete control of the copper that is possible with LLU, which some CPs use to offer business-grade services such as Ethernet in the Final Mile ('EFM').

[368] IL2 assurance is a certification that verifies the security level of a network. Government departments including local government are covered by such security standards.

[369] As noted at paragraph 11.64.

to raise a dedicated SoR for that feature (if it has not already done so). We also note that if a CP believes that an SoR has been unjustifiably rejected by BT, then the CP is able to bring a dispute to Ofcom. The SoR process is discussed more generally in Section 10.

Active Line Access

11.83 In response to the 2012 FAMR Call for Inputs, Sky commented that Ofcom should consider whether the active line access ('ALA') characteristics, as previously defined by Ofcom, would be a better VULA specification.

11.84 We continue to consider that the ALA standards are detailed specifications which go beyond the VULA key characteristics. If CPs believe parts of the ALA specifications should be implemented within BT's NGA network this should be discussed in the relevant industry forum and the requirement submitted to BT via an SoR.

Fibre Voice Access

11.85 BT offers an FVA product, which provides a PSTN equivalent voice service between the voice analogue telephony adapter on the optical network terminal ('ONT') and the exchange.

11.86 In response to the 2012 FAMR Call for Inputs, SSE expressed concern that customers currently being served by a WLR user who then move to premises served by a fibre-only connection cannot continue to be supplied with services by their current WLR-based supplier as there is no appropriate wholesale product which that supplier can use. The FCS argued that a next generation, "WLR4", product should be made available in fibre-only areas. [✂] considered it critical that the pricing of any alternative product offered by BT to deliver a voice service in fibre-only areas should be appropriately regulated, as it considered BT would have SMP in relation to this service.

11.87 There are two circumstances in which an area covered by BT's network could be 'fibre-only' (i.e. where there is no copper): in new build areas constructed by BT[370] and in fibre-only exchange ('FoX') areas where BT switches off the copper[371].[372]

11.88 In relation to the former, we set out in our 2008 Next Generation New Build Statement[373] that it may be impractical and/or unnecessary for BT to replicate exactly the existing regulatory products in new build areas and as such we would adopt a pragmatic approach to the wholesale products that are used to fulfil any regulatory obligations or expectations.

11.89 In relation to FoXs, BT set out in its 2012 FAMR Call for Inputs response that it did not expect to withdraw products or remove copper-based services in the FoX pilot

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[370] Non-BT new build areas are addressed in Section 7. However, we note that the 2008 Next Generation New Build Statement set out that universal service providers (e.g. BT) can fulfil their obligation in such areas to provide connections by means of obtaining commercial contracts with a third party provider of local access infrastructure (Ofcom, *Next Generation New Build*, 23 September 2008, www.stakeholders.ofcom.org.uk/binaries/consultations/newbuild/statement/new_build_statement.pdf).

[371] This is currently being trialled in Deddington. For further information on this trial, see www.openreach.co.uk/orpg/home/products/super-fastfibreaccess/fibreonlyex/fibreonlyex.do.

[372] It is noted that both cases could also theoretically apply in relation to KCOM's network.

[373] Ofcom, *Next Generation New Build: Delivering super-fast broadband in new build housing developments,* 23 September 2008 www.stakeholders.ofcom.org.uk/consultations/newbuild/statement/

areas until there was sufficient choice of suitable voice and access fibre-based alternatives. We note that until this time, WLR remains available in these areas.

11.90 FVA can be considered as a way in which BT is attempting to fulfil its regulatory obligation to provide a voice-only service to customers over fibre-only networks. We also note that BT currently has in place a reduced price offer for FVA.

11.91 We acknowledge that FVA does not replicate the current copper-based wholesale voice products. However, as technology changes, the appropriate remedies and ways of implementing those remedies may change, which is why we do not consider that it is necessary to exactly replicate existing regulated products in new build areas. In some cases it may not be technologically possible to replicate existing products[374] or where it is possible, it may only be possible at a cost that is greater than a more practical alternative, particularly where relatively low volumes are involved.

11.92 To this end, in relation to FoXs, we note that BT Wholesale consulted on a product called Fibre Line Calls ('FLC') that would consume FVA.[375] While there was some interest in such a product, we understand no CP was willing to commit to taking it at that stage. Accordingly, BT Wholesale indicated in November 2012 that it would not be developing FLC for launch in June 2013 as originally proposed, but that it was willing to work with any CP in the Deddington FoX pilot area that was prepared to commit to consuming FLC in that area.

11.93 To the extent that FVA (and any additional services provided by BT) proves to be an effective product that fulfils BT's obligations and supports voice competition, there may not be a need for any additional obligations. However, if competition for voice services does not develop in fibre-only areas we may need to consider an appropriate service that does support competition. However, we note that this would not necessarily involve replicating the existing copper-based wholesale voice products.

11.94 Accordingly, and particularly in light of projected low volume of premises in fibre-only areas over the review period, we consider it would be disproportionate to require BT to offer an exact equivalent of WLR in fibre-only areas, particularly in light of uncertain demand for such products. However we would still expect BT to fulfil its existing regulatory obligations in these areas and encourage BT to continue to engage with industry on these matters. We will continue to monitor the development of voice products in fibre-only areas.

Multi-Port Presentation

11.95 In response to the 2012 FAMR Call for Inputs, Derby City Council, the FCS and SSE considered there was an opportunity for multiple dedicated VLANs[376] over FTTP that could be purchased by non-broadband service providers without having to purchase a full broadband connection. The FCS argued that commercial arrangements should reflect that such providers would only be purchasing a portion of the total bandwidth rather than the whole connection.

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[374] For example, in the same way it is not possible over an FTTC or an FTTP GPON network to provide the direct equivalent of LLU of unbundled point to point fibre links.

[375] FLC aims at providing a BT Wholesale voice service to CPs that do not have a network and/or Call Server capability and wish to provide a voice service to their end user customers served by Openreach FTTP access within the Deddington FoX Pilot area.

[376] Virtual Local Area Networks. This allows separate non-physical connections to be assigned to different CPs over the same Ethernet link.

11.96 For a service provider to be able to access a portion of a connection in order for it to provide services to an end consumer – alongside other provider and services – it would first be necessary for the connection to be in place. Further, the commercial arrangements over how much each provider should pay for their portion of the connection would need to be agreed by the various providers. Such commercial sharing arrangements of an existing access connection are downstream of the access connection itself – which VULA is intended to address.

11.97 Ofcom's general competition policy approach is to target its regulatory interventions as far upstream as possible – where this results in effective and sustainable competition – and to then allow the commercial market to operate at the downstream levels. Given this the arrangements being suggested by Derby City Council, the FCS and SSE appear to be more suited to commercial negotiated rather than regulatory control.

Application of key characteristics

11.98 TalkTalk argued that Ofcom needed to be more prescriptive of "what good looks like" with regard to product features, as it considered that the current approach gave BT discretion to do "whatever it wants" in the medium term.

11.99 Above, we have found that BT's GEA product is broadly compliant with the key characteristics we set out for VULA and propose to continue to apply these key characteristics for the market review period. In light of this, we consider it is appropriate to continue to apply them in this way, rather than as part of the SMP condition, as it allows flexibility with respect to the development of VULA, which remains an evolving product. We note our proposal that BT remain subject to the requirement to provide reasonable requests for network access under the proposed general remedies, in addition to our proposal to maintain VULA as a specific access remedy.

Conclusion on key characteristics

11.100 We consider that the current VULA characteristics set out above remain appropriate. Considering the limitations of non-physical layer access, the existing characteristics allow reasonable control and flexibility such as to enable CPs to provide differentiated services in competition with BT over its NGA network. We do not propose to alter the existing VULA characteristics (including specifying them in greater detail), add new characteristics or include the characteristics in the SMP condition. We will continue to monitor progress particularly regarding wires-only installation, as we would be concerned if implementation continued to be delayed.

Consultation question(s)

11.1 Do you agree with our proposal to require BT to offer VULA and with the five key characteristics identified? Please provide reasons in support of your views, including, if you think alternative or additional characteristics are required, evidence of how you would use them to offer services to your customers.

Legal tests

11.101 We consider that the proposed obligation to provide network access by means of VULA services, together with such ancillary services as may be reasonably necessary for the use of those services, is appropriate and satisfies the legal tests set out in the CA03.

11.102 Section 87(3) of the CA03 authorises Ofcom to set SMP services conditions requiring the dominant provider to provide such network access as Ofcom may from time to time direct. These conditions may, pursuant to section 87(5), include provision for securing fairness and reasonableness in the way in which requests for network access are made and responded to, and for securing that the obligations in the conditions are complied with within periods and at times required by or under the conditions.

11.103 In proposing this condition, we have also taken into account the factors set out in section 87(4) of the CA03. In particular, the economic viability of other CPs building alternative access networks. We consider the economic case for doing so is challenging and the prospect relatively limited (compared to the prospect of competition being encouraged by VULA, although as set out below we continue to consider remedies such as PIA and SLU potentially valuable. We have also taken account of the feasibility of BT providing VULA services, which it does through its GEA product. We consider that the condition should help secure effective competition in the long term and have taken account of BT's investment in its NGA network, both as set out above.

11.104 We have considered our duties under section 3 and the Community requirements set out in section 4 of the CA03. In particular, the condition is aimed at encouraging network access and thereby promoting and securing efficient and sustainable competition for the maximum benefit of retail customers. VULA will enable other CPs to compete with BT in downstream narrowband and broadband markets with respect to NGA services in those areas where BT rolls out an NGA network. We consider that these services are likely to be an important element of this market over the forward looking period of this review. The general pricing flexibility we propose is consistent with the encouragement of such network access, and with securing both such competition and efficient investment and innovation by BT (as we set out).

11.105 In that way, we consider that the performance of our principal duty in section 3 of the CA03 will also be secured or furthered in relation to this VULA remedy, namely to further the interests of citizens in relation to communications matters and to further the interests of consumers in relevant markets, by promoting competition in this upstream market. We have also had particular regard to the desirability of encouraging the availability and use of high speed transfer services throughout the UK in proposing this condition.

11.106 The proposed condition satisfies the criteria set out in section 47(2) of the CA03 because it is:

- objectively justifiable, in that it relates to the need to ensure that competition develops ultimately to the benefits of consumers. VULA services are aimed at stimulating competition in the provision of broadband and telephony services and enhancing competition in areas of limited local access competition. We consider that VULA currently is and will continue to be the primary basis of competition for NGA-based high speed services;

- not unduly discriminatory, in that the condition aims to address BT's market power in the relevant market and we propose that only it has such power in the UK excluding the Hull Area (and as the obligation imposed on KCOM to provide network access on reasonable request is sufficient to ensure that KCOM provides VULA services in the Hull Area should a reasonable request be made);

- proportionate, in that the requirement is necessary, but no greater than necessary, to promote efficient and sustainable competition for the maximum benefit of retail customers with the rollout of NGA networks; and

- transparent, as it is clear in its intention to require BT to provide VULA services to other CPs and its intended operation should also be aided by our explanations in this document.

11.107 For the reasons set out above, we consider that the proposed condition is appropriate to address the competition concerns identified, in line with section 87(1) of the CA03.

Consistency with the EC recommendations and BEREC Common Position

11.108 We consider that the proposal to apply a VULA remedy is consistent with both the NGA Recommendations and the BEREC Common Position of which we are required to take utmost account.

11.109 While not covered by the Articles, Recital 21 of the NGA Recommendation states:

> "NRAs should be able to adopt measures for a transitional period mandating alternative access products which offer the nearest equivalent constituting a substitute to physical unbundling, provided that these are accompanied by the most appropriate safeguards to ensure equivalence of access and effective competition. In any event, NRAs should in such cases mandate physical unbundling as soon as technically and commercially feasible."

11.110 We also note subsequent comments from the EC, including in relation to our 2010 WLA Consultation proposals[377] and more recently in the Draft EC Recommendation[378], which indicated support for a VULA-type remedy.

11.111 The BEREC Common Position similarly provides that in the case of FTTC, "*NRAs may consider imposing an active remedy providing access at the MPoP replicating as much as possible physical unbundling,"* (BP7c) and in the case of FTTP "*Until any alternative technologies allowing physical unbundling at the MPoP become available the NRAs should consider imposing an active remedy providing access at the MPoP replicating as much as possible physical unbundling"* (BP6).

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[377] The EC stated *"On the basis of the evidence provided, the Commission does not challenge the finding that today fibre unbundling would not be a justified and proportionate remedy and agrees that VULA, which offers characteristics that appear comparable to fibre unbundling, allows competitive entry into the WLA market"*. It footnoted Directive 2009-140/EC, quoting that document as stating *"in circumstances where unbundled access to the local loop or sub-loop is not technically or economically feasible, relevant obligations for the provision of non-physical or virtual network access offering equivalent functionality may apply"*. www.stakeholders.ofcom.org.uk/binaries/consultations/wla/responses/european-commission.pdf

[378] *"The principles enshrined in this Recommendation are applicable to the market for wholesale network infrastructure access (market 4) ... [including] (iv) non-physical or virtual network access".* (Recommendation 5, EC, *Commission recommendation of XXX on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment, draft of 7 December 2012,* www.ec.europa.eu/digital-agenda/en/news/draft-commission-recommendation-consistent-non-discrimination-obligations-and-costing).

11.112 We consider that VULA offers the nearest equivalent to physical unbundling over both FTTC and FTTP and that, as discussed from paragraph 11.586, we do not consider that physical unbundling of FTTP is likely to be technically and/or commercially feasible over the market review period.

11.113 We consider that is consistent with BP25 which states that "NRAs should consider which information on the SMP-operator's 'newly' rolled-out NGA network is essential to competitors and should be available well in advance on a non-discriminatory basis". The proposed SMP condition in Annex 11 requires BT to provide VULA to third parties with the same commercial information as BT provides VULA to its downstream divisions.

11.114 We do not consider BPs 36-40 concerning copper switch off are relevant as BT stated in its 2012 Call for Inputs response that "BT is not planning to switch off its copper network for the foreseeable future". Similarly, we do not consider BP52 (consistency of pricing with legacy services) or BP55 (assessment of pricing schemes) to be relevant as we are proposing to provide BT with pricing flexibility, subject to the fair and reasonable charges requirement.

Pricing of VULA

Introduction

11.115 As noted above and set out in Section 8, we are proposing that the requirement to offer VULA is in addition to the proposed general remedies. This includes, among other requirements, the provision of VULA on the basis of fair and reasonable terms, conditions and charges, no undue discrimination and EOI.

11.116 The following subsections set out our proposals regarding:

- general approach to VULA pricing;
- GEA switching;
- services consumed primarily by CPs other than BT; and
- the VULA margin.

2010 WLA Statement

11.117 In the 2010 WLA Statement, 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 likely constraint from the pricing of existing CGA services.[379]

11.118 We also recognised in the 2010 WLA Statement the concerns raised by some stakeholders in respect of the pricing of ancillary services, most specifically in relation to the pricing of migrations. We noted that we would be concerned where ancillary services were consumed by other CPs but not BT's own downstream divisions, and,

[379] Paragraphs 8.26-8.30, Ofcom, *Review of the wholesale local access market - statement*, 7 October 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf.

in particular, if the pricing of migrations resulted in unnecessarily high switching costs between CPs or artificially favoured BT's downstream operations.[380]

2012 FAMR Call for Inputs

11.119 In the 2012 FAMR Call for Inputs, we described our position in the 2010 WLA Statement and asked the following questions.[381]

> *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.*

11.120 The responses to these questions are set out in the sections below.

General approach to VULA pricing

Position in 2010 WLA Statement

11.121 In the 2010 WLA Statement, we set out that BT must maintain fair and reasonable terms, conditions and charges, but did not impose *ex ante* price regulation on VULA. This approach was based on a number of factors. We considered that there was significant uncertainty over both the cost and revenues associated with this type of investment. In light of this, we considered that determining a cost orientated charge would be very difficult. If we set a charge then there would be a risk that we could set it too low, which could stifle investment, whereas if the charge were set too high, this could reduce potential consumer benefits from NGA.

11.122 We also considered that, over the relevant review period, there would be a single retail market for all broadband speeds, including superfast broadband. Given this, we considered that the existing CGA services, together with the services offered by Virgin over its cable network, would act to constrain the retail prices for the new NGA services.[382]

Assessment of general pricing approach for VULA for this market review

Responses to the 2012 FAMR Call for Inputs

11.123 BT said that Ofcom's current approach to the pricing of VULA remained appropriate. It said that it provided NGA wholesale products on an EOI basis and there should be no pricing regulation until it has achieved pay back on its risky investments. It said that NGA infrastructure was still in the early stages of its life cycle and by its nature the investment case is very long term with highly uncertain demand.

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[380] Paragraphs 8.123-8.147, Ibid.
[381] Paragraphs 4.12-4.14, Ofcom, *Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 – Call for Inputs*, 9 November 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/summary/condoc.pdf.
[382] Paragraphs 8.26-8.30, Ofcom, *Review of the wholesale local access market - statement*, 7 October 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_*statement*.pdf.

11.124 BT considered that pricing needed to be very flexible to stimulate demand, deal with customer acquisition, and meet customer expectations in terms of special offers, discounts and overall price levels. BT stated that a “cost based” approach, such as setting charges on an LRIC basis, would be highly inflexible and restrict investment incentives. It also suggested that such an approach may restrict demand and could thus result in higher charges in the longer term. BT also referred to the competitive pressures it faces from CGA services, Virgin and mobile technologies such as 4G.

11.125 Sky also said it was inappropriate to regulate BT’s core rental charges for VULA during the next market review period. However, it did consider that Ofcom should regulate charges for the ancillary or transaction services necessary for the delivery of VULA, for example, installation and migration charges.

11.126 Vodafone said that the current approach to VULA pricing was not working. It said that by having freedom to set both VULA prices and its own retail prices, BT had far too much control of the margins available to competing retail providers.

11.127 [✂] argued that the price of VULA in the UK was very high relative to copper-based services and compared to fibre pricing in other EU Member States. It cited a study by WIK-Consult, which compared prices in the UK, the Netherlands and Sweden and found the UK’s price to be the highest.[383] It also said that it understood that BT’s costs of NGA roll-out were amongst the lowest in the EU. It cited a media report that compared BT’s investment plans with those of Deutsche Telekom (DT) in Germany in December 2012.[384] The media report said that: “*While they [DT] are spending almost double what Openreach is, they are still going to arrive at the same coverage levels Openreach plan (Openreach 2/3rds of UK, Deutsche Telekom 65 percent)*”.

11.128 Virgin said Ofcom needed to review the pricing of BT’s GEA product as part of this review. It considered that in the time since the introduction of VULA and BT’s development of its VULA product set, there was considerably more information, including on costs and revenues.

11.129 In its response to the 2012 FAMR Call for Inputs, TalkTalk was silent about whether wholesale VULA prices should be regulated.[385] However, some of the comments it made in other contexts appear relevant to this issue.

- TalkTalk considered that, at this time, a wholesale price ceiling would be difficult to set accurately and could reduce efficient investment (although TalkTalk considered this unlikely).[386]

- TalkTalk considered that VULA prices at the wholesale level were probably above cost since the constraint from Virgin’s price and the price of CGA-based broadband services was not material. Moreover, it considered that the constraints on BT’s wholesale pricing were likely to weaken further in future as consumer applications increasingly require higher speeds and as BT rolls out into areas

[383] Figure 7, WIK-Consult’s Study for ECTA, *NGA Progress Report,* March 2012, www.ectaportal.com/en/upload/File/Press_Releases/2012/NGA_Progress_Report_final.pdf.
[384] Tech Week Europe, *Deutsche Telekom Pledges £24bn For German Fibre And LTE*, 12 December 2012, www.techweekeurope.co.uk/news/deutsche-telekom-24bn-fibre-lte-101776.
[385] TalkTalk made representations about the margin between the wholesale price of VULA and BT’s retail prices. TalkTalk’s list of other issues with VULA did not refer to the level of charges, although it did refer to a lack of certainty. Paragraph 9.1, *TalkTalk response to the 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.
[386] Paragraph 8.31, Ibid.

outside Virgin's network or areas where CGA-based broadband speeds are low.[387] TalkTalk also argued that it was likely to be profitable for BT to raise wholesale VULA prices while keeping BT Retail's prices unchanged (thereby squeezing the margin available to other CPs).[388]

- TalkTalk provided a WIK-Consult report entitled "Estimating the Costs of GEA" ('the 2013 WIK Report'). This report claims that BT's average GEA rental price (£8 per month) was substantially more than the estimated cost (£4.40 per month). TalkTalk also considered this cost estimate to be on the high side. TalkTalk drew a number of inferences from this in relation to market definition and stated that BT was likely to possess SMP in the supply of VULA. TalkTalk stated that it "*accept[s] that BT's retail SFBB prices might be constrained but evidently BT's wholesale VULA prices are not*".[389]

11.130 TalkTalk also had various concerns with the current prices and terms of VULA including charges for speed upgrades and multicasting, which it considered bore no relation to cost.

Assessment

11.131 Our provisional assessment of whether it would be appropriate to set specific controls on the pricing of VULA is grouped under the following three issues:

- the risk of adverse effects from price distortion caused by BT's VULA pricing being fixed and maintained at an excessive level if we did not to regulate VULA prices;[390]
- the risk of regulatory failure if we did impose a cap on VULA prices; and
- the impact on investment incentives if we did impose a cap on VULA prices.

11.132 However, as a preliminary point, we note that none of the respondents to the 2012 FAMR Call for Inputs explicitly advocated the introduction of direct controls on the pricing of VULA.

11.133 In terms of the relevant risk of adverse effects from BT's VULA pricing (absent regulation), respondents to the 2012 FAMR Call for Inputs had differing views on the strength of the competitive constraints on BT's VULA pricing. We consider that reasonable competitive constraints are likely to exist, which reduces the risk of such adverse effects from BT's VULA pricing. There are three main reasons for this position:

- in the market definition section of the forthcoming 2013 Wholesale Broadband Access Consultation, we set out our provisional conclusion that it is appropriate to define a single retail market for broadband services provided over different

[387] Paragraphs 8.5, 8.18 and 8.23, Ibid.
[388] Paragraphs 8.16-8.17, Ibid.
[389] Paragraphs 5.1-5.3, *TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs*. www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_supplemental.pdf.
[390] We consider the risk of adverse effects from price distortion caused by BT imposing a price squeeze in our discussion of regulation of the VULA margin below.

speeds.[391] Since the retail price of standard broadband is likely to be competitive, this limits the risk that high retail prices can be charged for retail products that use VULA.[392]

- Virgin also offers superfast broadband services. Indeed, as set out above, there are currently more superfast broadband subscribers on Virgin's network than on BT's network, although this position is likely to change during the period covered by the current review as we recognise that Virgin's network coverage (approximately half of UK premises) is smaller than BT's superfast broadband network (which may cover as much as 90% during the current review). Moreover, we accept that a duopoly between Virgin and BT is unlikely to be sufficient for effective retail competition, absent constraints from retailers of CGA services. Nonetheless Virgin's superfast broadband services are likely to exert a further constraint on the retail prices of products that use VULA, over and above the constraint from CGA identified above; and

- If, moreover, BT charges a high price for VULA, this is likely to slow the rate at which other CPs seek to migrate their customers from CGA products to products based on VULA. For example, Internal documents from [✂] set out in paragraph 11.306 support the view that retailers weigh up the margin that can be earned on VULA-based products compared to the margin that can be earned on standard (MPF-based) broadband products.

11.134 We note the submissions that TalkTalk made based on the 2013 WIK Report, namely that BT's current VULA prices were approximately £3.60 higher than the costs of provision. The 2013 WIK Report's base case produced an estimate of £4.39/month for the cost of supplying VULA, although the precise figure depends on assumptions about factors such as take-up.[393] We have not examined the modelling in this report in detail nor have we attempted to produce our own estimate of the cost of supplying VULA. This is on the basis that TalkTalk did not draw any inferences from this report regarding the regulation of VULA prices. Indeed TalkTalk, when setting out the implications of the 2013 WIK Report, "*accept[ed] that BT's retail SFBB prices might be constrained but evidently BT's wholesale VULA prices are not*." [394] Since it is retail prices that most directly affect consumers, if these are generally constrained then any adverse effects on consumers are unlikely to be large.

11.135 We recognise that not regulating the level of VULA prices creates scope for BT to set VULA prices that are higher than the underlying costs, even taking into account the need for a suitable return that reflects the risks BT incurred. This risk is balanced against the drawbacks of regulation (which we discuss in further detail below). Any adverse effects from VULA pricing are likely to be greater where the VULA price is substantially above the underlying costs. However the magnitude of those adverse effects is likely to be mitigated by the constraints on retail superfast broadband pricing set out above.

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[391] The 2013 Wholesale Broadband Access Consultation will also state that there are factors pointing to a separate market for fibre-based products emerging at the retail level in the future.

[392] We propose to retain various regulatory requirements in relation to LLU and WBA that support competition in CGA broadband services.

[393] P.9 and Figure 1.6, WIK-Consult for TalkTalk, *Estimating the Costs of GEA*, March 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_second_addit1.pdf.

[394] Paragraph 5.2, *TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs*. www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_supplemental.pdf.

11.136 We have considered the risk of regulatory failure if we regulated VULA prices. As highlighted by Virgin, there is now more information on the total costs of FTTC than when we published the 2010 WLA Statement, as BT has now rolled out a substantial portion of its network. However, there remains uncertainty about the level of unit costs because of uncertainty about the level and pace of VULA take-up. To illustrate, we presented at paragraphs 11.10-11.15 a number of forecasts of superfast broadband demand. Forecasts from Sky, EE and BT vary between [✂], and analysts have produced figures outside this range (for total superfast take-up) (e.g. Analysys Mason forecast take-up of 12.2m in 2016 and 13.1m in 2017).

11.137 Additionally, there is also uncertainty about how to account for the risks incurred by BT. We recognise that BT has invested substantial amounts in its fibre network and at the time those investments were made the take-up of superfast services was difficult to predict. When deciding whether and how to regulate VULA prices, it is important to take these risks into account but doing so is unlikely to be straightforward. One way to reflect these risks might be to delay regulating the price of VULA, which may allow BT to maintain a higher price for longer.

11.138 Taking into account the risks that BT ran when it made its fibre investments is thus a particular challenge. Determining the level of cost orientated charges would be difficult and would create a material risk of regulatory failure. In particular, there is a risk that the level or structure of any controls on VULA charges could harm incentives for efficient investment. For example, if any controls on VULA charges were set too low then this could stifle future investment. Similarly, limits on the structure of prices could also reduce BT's ability to experiment on price in order to increase take-up of NGA services.

11.139 In taking these provisional views, we recognise that the majority of BT's commercial investment in its fibre network is likely to be complete by the start of the review period.[395] Nonetheless, it is important to note that this investment was made in the light of the regulatory position previously set out by Ofcom. Adopting a consistent and predictable regulatory approach is important in order to support future investment more generally (not just in fibre). We have thus paid particular attention to the issue of consistency with observations made in the 2010 WLA Statement:

- we stated that *"…we have decided not to regulate the prices of the product(s) that BT provides under its VULA obligation. We consider that this approach will give BT the flexibility to price its VULA services according to emerging information on the demand for, and supply costs of, NGA services. At the same time, the prices of these services will be constrained by the availability of current generation broadband services and by competition from services provided over cable TV network infrastructure"*[396]*;* and

- we also elaborated on the reasons for our approach, stating *"Partly, this is because NGA services are at an early stage of development, which means that there is significant uncertainty over both the cost and revenues associated with this type of investment. Thus, determining what a cost orientation charge is would be very difficult. … we think that the flexibility to set VULA prices can promote investment by BT as it enables it to trial different pricing arrangements in the early*

[395] BT, *BT speeds up fibre plans once again*,1 November 2012, www.btplc.com/News/Articles/Showarticle.cfm?ArticleID=B95CCF6C-F125-4ABF-A78D-82476B31A07C.

[396] Paragraph 1.27, Ofcom, *Review of the wholesale local access market*, 7 October 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf.

uncertain period of NGA development. We also think that the price of VULA is likely to be constrained at this point by the ability of [other] CPs to purchase CGA services from BT on regulated terms and by the services offered by Virgin Media over its cable network"; [397]

11.140 We consider that the factors identified in 2010 generally continue to hold. NGA services remain at an early stage of development, with limited (albeit growing) take up of BT's VULA product. As discussed above, CGA broadband and services delivered over Virgin's network continue to exert a considerable constraint. Therefore, this points towards adopting a similar regulatory approach, not least in the interests of regulatory consistency and of encouraging and allowing for a fair return on investment.

Provisional conclusion on general pricing approach for VULA for this market review

11.141 We recognise that if charges are not subject to price controls and are too high the potential consumer benefits from NGA could be reduced. This could also be inconsistent with the promotion of efficiency and of sustainable competition. However, given the constraints that we identify on BT's pricing, we consider that any adverse effects are unlikely to be large.

11.142 We have weighed this risk against the risks of regulatory failure and the potential impact on investment were we to regulate VULA prices. Given the importance of taking into account the risks incurred by BT when it invested in fibre and given the importance of adopting a consistent regulatory position, we have concerns about the potential negative impacts of regulating VULA prices at this time. Our provisional assessment is that the possibility of such an intervention inhibiting investment poses the bigger risk to the promotion of efficiency and of sustainable competition, and risks failing appropriately to take account of the extent of BT's investment in its NGA network. We consider that, accordingly, it is in consumers' interests and would confer the greatest possible benefit on end users to allow BT to retain pricing flexibility on NGA prices for this market review period. We therefore propose to allow BT pricing flexibility on VULA prices in general, including on the absolute level of prices, geographic variations, changes over time and some flexibility on tiered pricing (subject to the views on the latter set out in the 2009 Superfast Broadband Statement).[398]

11.143 We consider that the above arguments apply to VULA charges generally. Nevertheless, while we are proposing to allow BT pricing flexibility on VULA in general, we have also considered whether there are specific VULA-related charges in respect of which a relevant risk of price distortion arises, and which could be addressed without undue effects on investment incentives, consistently with the promotion of efficiency and of sustainable competition, and with serving end users' interests. Having done so, we propose to introduce a constraint on the GEA migration charge, which we discuss from paragraph 11.157 below, as well as restrictions on the length of the contract BT can require on migrations, which we discuss from paragraph 11.198 below.

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[397] Paragraph 8.127, Ibid.
[398] We discuss the factors that would affect our view on whether particular tiered pricing discounts are in consumers' interests in paragraphs 8.28-8.32, Ofcom, *Delivering super-fast broadband in the UK,* 3 March 2009, www.stakeholders.ofcom.org.uk/binaries/consultations/nga_future_broadband/statement/statement.pdf.

Future restrictions on VULA prices

11.144 The above notwithstanding, we consider it likely, in our present view, that at some point in the future it will be appropriate to impose a form of price control on VULA. We recognise that BT's expectations of any such future restrictions will affect its investment incentives today.

11.145 We outlined in the 2009 Superfast Statement some general principles that we believe were appropriate in considering how to set prices for NGA-related products. Importantly, these included that prices and rates of return must reflect the level of risk when investments are made.[399] Another way of allowing a regulated firm a 'fair bet' on the investments that it makes is delaying the introduction on controls on its prices.

11.146 BT considered that there should be no VULA price regulation until it has achieved pay back on its investments. We do not agree with BT's proposed approach. Regulated prices should reflect the risks incurred at the time investments are made. This does not mean that we should wait until those investment costs are fully recouped before regulating.[400]

11.147 The approach outlined above is based on our current view of how NGA will develop in the period to March 2017. However, any pricing obligation we might impose beyond the present review period (i.e. after March 2017) will be set as a result of future market reviews in light of the circumstances prevailing at the time. Although we cannot fetter our future discretion, factors that we may consider include the risk of regulatory failure, the returns that BT has made and the extent to which superfast broadband has matured (for example, whether demand, technology and/or costs are more certain).

Summary of proposals on general approach to VULA pricing

11.148 For the reasons set out above, we propose to continue to allow BT flexibility on VULA pricing and terms, including on the absolute level of prices, geographic variations, changes over time and some flexibility on tiered pricing. This flexibility would be within the constraints imposed by the fair and reasonable terms, conditions and charges obligation that we proposed in Section 10.

Consultation question(s)

11.2 Do you agree that BT should continue to be allowed general pricing flexibility on VULA, subject to a fair and reasonable charges obligation? Please provide reasons in support of your views.

GEA Switching

11.149 As we have proposed above, we consider it appropriate to provide BT with flexibility over how it prices VULA. However, we consider that there is a clear case for intervening in respect of certain aspects of the terms, conditions and charges imposed when an existing fibre customer switches from one CP to another. We

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[399] Paragraph 8.9, Ibid.

[400] Put another way, regulating in a way that offers a 'fair bet' may still mean that the regulated firm could incur a loss if an investment is less successful than anticipated. This is offset by the possibility that the regulated firm may make significant profits if the investment is more successful than anticipated.

propose to intervene by first setting a charge control on the GEA migration charge[401] and, second, by limiting the contract period for migrations to one month. We consider that such an intervention is consistent with our general approach to VULA pricing in that it does not give rise to undue effects on investment incentives and is consistent with the promotion of efficiency and of sustainable competition and with conferring benefits on end users.

Position in 2010 WLA Statement

11.150 In the 2010 WLA Statement we recognised the concerns raised by some stakeholders in respect of the pricing of ancillary services, most specifically in relation to the pricing of migrations. We 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 CPs or artificially favoured BT's downstream operations. We stated that where there was evidence that BT was not acting in accordance with its general obligation to set charges on a fair and reasonable basis, or was discriminating when setting these or other ancillary charges, we would expect to take further action.[402]

Responses to 2012 FAMR Call for Inputs

11.151 There were two main issues raised in responses relating to GEA switching, namely the level of the GEA migration charge and the twelve month minimum contract term for GEA.

11.152 [✂] was concerned about the high migration charges imposed by BT for NGA services, as well as the twelve month minimum term, which it said forced CPs to impose high early termination charges and longer contract terms on customers].

11.153 The FCS said there was a concern about a potential "land grab" by larger CPs which was exacerbated by the high cost of migration. The FCS said its concern was triggered by the current intense activity by several larger CPs offering very attractive deals to move customers to fibre based products. It said that migration charges for fibre were very high (comparing the current charge of £50 to about £3 for a WLR migration) which it considered would make the cost of gaining customers on fibre products who wish to switch to a new provider later difficult to sustain commercially.

11.154 SSE said the cost of migration systems and events should be spread over the general base of infrastructure charges rather than charged on a transaction basis, as all customers benefited from a fluid market with minimal barriers to switching.

11.155 Sky said that the twelve month minimum contract term was at odds with other regulated services and appeared to it to have no commercial foundation in the absence of a subsidised product justifying a long fixed contract to cover pay-back. It also considered, as noted above, that Ofcom should regulate charges for the ancillary or transaction services necessary for the delivery of GEA, for example, installation and migration charges.

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[401] This charge is incurred when an existing GEA customer wishes to move from their current CP to another CP while retaining the GEA service. Hereafter we refer to this as the 'GEA migration charge,' which means the same as 'VULA migration charge.'

[402] Paragraphs 8.123-8.147, Ofcom, *Review of the wholesale local access market - statement*, 7 October 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_*statement*.pdf

11.156 TalkTalk had various concerns with the current prices and terms of VULA, including the GEA migration and the 12 month minimum contract period. It considered the £50 GEA migration charge to be particularly problematic, stating the incremental cost was probably less than £5 (elsewhere in its response to the 2012 FAMR Call for Inputs, it indicated that the incremental cost was around £2).

Proposals on migration charges

11.157 The GEA migration charge is currently £50.[403] BT has announced to industry that it is currently reviewing this charge.

11.158 Low switching costs are in consumers' interests as they help strengthen retail competition which tends to drive down prices and drive up quality.[404] This may be particularly relevant to VULA given that BT Retail currently accounts for over 80% of VULA connections. BT forecasts that BT Retail would account for [✂]% of superfast broadband subscribers on its network in 2016/17[405] and low switching costs will thus be important to ensure that consumers are able to switch away from BT Retail in the future and over the period of this market review.

11.159 We consider that there is some tension between giving BT pricing flexibility on VULA, which has enabled it to set the price of a GEA migration at £50 and which appears to be high, and our preference for low switching costs.

GEA migration cost information

11.160 We have explored with BT what information is available on the costs of GEA migration to assess the reasonableness of the current charge. While BT had little direct costing information on the GEA migration due to the low volumes, it estimated the costs in the following way:

> "We have estimated the costs for CP to CP GEA migration based upon the NGA provision costs captured within BT's RFS [Regulatory Financial Statement]. We have only focused upon the elements of the NGA provision cost that would relate to CP to CP migration. This is consistent with the treatment of WLR Transfer and WLR connection in BT's RFS, whereby both products pick up the same cost for the same network elements. We have used BT's 2011/12 RFS as the latest available data. Using this data:
>
> The cost of system recording only change of end user ownership between CP1 and another CP2 is [✂], based upon the unit cost of systems attributed to NGA provision;

[403] This is the "CP-CP GEA Migration - same product/premise" in Openreach's price list, which is the same for FTTP and FTTC. For FTTC see: www.openreach.co.uk/orpg/home/products/pricing/loadProductPriceDetails.do?data=yzq%2FQaGYa3hVgsB2ZYfjHxzfISuq3px%2FWFtgATP2kPRZ6rNZujnCs99NbIKJZPD9hXYmiijxH6wr%0ACQm97GZMyQ%3D%3D.

[404] That low switching costs are in consumers' interests is consistent with the approach to switching we have taken in our strategic review of switching, e.g. Ofcom, *Strategic review of consumer switching: A consultation on switching processes in the UK communications sector*,10 September 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/consumer-switching/summary/switching.pdf.

[405] BT response to s.135 notice of 26 November 2012.

The cost of Service Management Centre involvement in NGA provision, and used as a proxy for likely involvement in CP to CP migration activity, is estimated as the unit cost of [✂]; and

The cost of Sales and Product Management pertinent to NGA provision is [✂] per unit. Again, we would use this as an estimate of the cost for CP to CP migration.

Due to the current low volumes of CP-CP GEA migrations, Openreach is not at this point able to reliably predict the level of manual intervention required on a CP-CP GEA migration and hence have made the estimate given above based on other similar transactions. Therefore we estimate the fully allocated cost to be circa [✂] per unit based on the 2011/12 RFS."[406]

11.161 We note that this estimate of costs is lower than the current charge of £50. Additionally, we are concerned that the methodology BT has used may not be robust for determining an appropriate cost for GEA migrations. Indeed, BT stated that it does not have detailed cost information for GEA migration in the RFS and stressed that current low migration volumes make it difficult to estimate the amount of manual intervention that is required.[407] In particular, we are concerned that these low volumes may cause artificial distortions to BT's cost estimates. We consider it likely that, as volumes grow compared to 2011/12, the costs estimated through this methodology may fall, potentially significantly.

11.162 This is particularly likely to be the case for the unit costs of systems, which are likely to be largely fixed with regard to volumes. BT calculated the [✂] cost of development and systems costs by taking development and computing costs attributed to NGA connections [✂] and dividing by the 2011/12 NGA connection volumes [✂].[408] A consequence of BT's approach is that estimated costs per unit are likely to be particularly high in the early years due to low volumes. Given the forecast increases in VULA take-up detailed above, it seems plausible that, under BT's approach, per unit estimates of development and systems cost estimates would be substantially lower in the future than [✂].[409] Indeed it may be more reasonable to spread the systems costs involved with GEA over the total expected volumes that will use that system during its lifetime. This approach would be likely to result in materially lower system costs in the early years compared to BT's approach.

11.163 Moreover, if we were to consider costs on an incremental basis then this may result in a significantly lower figure than BT's estimate. For example, insofar as systems costs are common with other services then they are not incremental to GEA migration and would be excluded.

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[406] BT response to s.135 notice of 10 January 2013.
[407] Ibid.
[408] Informal information submission from BT, 27 February 2013.
[409] Indeed BT's internal forecasts suggest that superfast broadband connections will grow by [✂] between 2014/15 and 2015/16 and by [✂] by between 2015/16 and 2016/17. This is substantially larger than the [✂] figure BT used in its calculation of GEA-to-GEA migration costs. Forecasts taken from BT response to s.135 notice of 26 November 2012.

Benchmarking costs using comparable services

11.164 We have also considered the nature of the migrations and then considered the costs of other migrations that appear to have similar characteristics. BT summarised what is involved with such a GEA migration, when there are no complications, as follows:

> " … the primary activity involved is to record a change of end-user ownership from CP1 to CP2 on Openreach systems and a network re-configuration and re-routing in systems reference data. If there are no systems, engineering or data errors we would expect this to be typical of the full extent of the activities involved."[410]

11.165 However, BT also emphasised to us that manual intervention may be required in some cases, for example:

> "This could be triggered by CP and/or Openreach network reconfiguration and may result in individual transaction errors with the EMP system or generate engineering investigations/visits to resolve faults caused by end user/CP engineer alterations to wiring/connectivity between the VDSL modem and CP router, and the configuration changes required on the end users network devices (e.g. PC/tablet/smartphone)." [411]

11.166 In summary therefore, the GEA migration involves a records change and a network reconfiguration/rerouting, except in some cases where manual intervention may also be required. We note that the records data changes are made by the CPs in BT's system, rather than by BT itself, while the network re-configuration/re-routing is handled by BT's systems without manual involvement ('soft-switching'). Therefore, in a migration with no complications, no manual intervention is required from BT personnel.[412] We would therefore expect BT's incremental costs for such a migration to be very low, for example significantly lower than migrations between LLU providers where manual intervention at the main distribution frame (MDF) is required. In fact, if we strip out the [✂] cost of "MDF Hardware Jumpering" in the MPF-MPF migration cost of [✂], we end up with a very low cost of [✂] that covers the remainder of the activity in a migration.[413]

11.167 We have also considered whether there are more similar migration processes that do not involve physical activity which could be used as benchmarks. We consider there are two.

11.168 The first is the WLR transfer, which primarily involves a change of records involving Openreach systems (although this might sometimes also involve a change of features). In the 2010/11 RFS[414] the distributed long run incremental costs ('DLRIC')

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[410] BT response to s.135 notice of 10 January 2013.
[411] Ibid.
[412] Openreach's GEA-FTTC Product Description documentation (paragraph 3.6.4) states that "GEA over FTTC transfers between CPs do not require any physical jumpering activity at the local street cabinet or an engineer visit to the end user's premises." GEA-FTTC Product Description (requires login), www.openreach.co.uk/orpg/customerzone/products/super-fastfibreaccess/fibretothecabinet/description/downloads/FTTC%20Product%20Description%20Issue%209.pdf.
[413] 2011/12 LRIC data produced by BT in response to the 1st s135 request to BT for the purposes of the 2013 LLU WLR Charge Control Consultation.
[414] We have used 2010/11 data as BT did not report 2011/12 data in the RFS. [✂]

of WLR Transfer was reported as £8.40-£8.71.[415] The price for this service is currently £3.39, well below the 2010/11 DLRIC. This charge is controlled by a separate charge control, as described in the 2012 LLU WLR Charge Control Statement.[416] This gives us an indication of the level of costs involved in records updates on Openreach systems.

11.169 However, the WLR transfer does not involve network re-configuration/re-routing, so it does not provide an indication of the costs of such activity on Openreach systems. We have therefore also considered the IPStream migration. While we recognise this is performed by a different part of BT (BT Wholesale), we note that this involves both a change of records and network re-configuration/re-routing. The IPStream migration charge is currently £11. The charge has been at this level since 2004 when it was determined by Ofcom as part of a dispute. This cost level was based on Ofcom's assessment of an efficient level of costs for such a migration.[417] In the 2011 WBA Charge Control Statement we imposed an RPI-0% sub cap on this migration charge.[418]

Assessment of whether some form of price constraint is appropriate

11.170 In assessing the appropriateness of constraining the price of GEA migrations, we have first considered whether there is a relevant risk of adverse effects from price distortion arising from prices being fixed and maintained at an excessively high level. If there is, this in turn begs the question of what would constitute an appropriate (undistorted) price for migration.

11.171 Our starting point for this assessment is BT's SMP. As the dominant provider, we would expect BT to use its market power to impede retail competition to benefit its downstream business. The incentive to do so is particularly strong where there is a migration charge which is paid mainly by other CP's and not BT's own downstream retail divisions. Given that we anticipate that a significant proportion of fibre retail customers over the forward look period of the market review will be customers of BT's retail business, we consider that BT has a strong incentive to maintain GEA migration charges at an excessive level. Given this incentive, we have considered whether there is evidence to suggest that the GEA migration charges are at an excessive level.

11.172 We consider that GEA migration charges should be reflective of incremental costs for the following reasons:

- setting migration charges on an incremental basis, rather than including a contribution to fixed and common costs, is likely to reduce switching costs. Lower switching costs are generally likely to be in consumers' interests since they help strengthen retail competition; and

[415] The lower cost figure relates to internal transactions (i.e. between BT divisions) while the higher figure relates to external transactions (i.e. between BT and a third party).

[416] Paragraphs 5.19-5.42, Ofcom, *Charge control review for LLU and WLR services – statement,* 7 March 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc/statement/LLU_WLR_CC_statement.pdf.

[417] Paragraph 1.7 and Section 3, Ofcom, *Direction concerning ADSL Broadband Access Migration Services; and a Determination to resolve a dispute between Tiscali, Thus and BT concerning ADSL Broadband Access Migration Services - Final Statement*, 9 August 2004, www.stakeholders.ofcom.org.uk/binaries/consultations/bam/statement/statement.pdf.

[418] Table 1.1, Ofcom, *WBA Charge Control – Statement*, 20 July 2011, www.stakeholders.ofcom.org.uk/binaries/consultations/823069/statement/statement.pdf.

- GEA (like MPF, WLR and SMPF) is an input than can be used in the provision of voice and data services to final consumers. Setting migration charges for all these inputs on an incremental basis means that differences in charges reflect differences in incremental costs. This creates incentives that support an efficient choice between these different inputs.

11.173 Based on the factors above, we consider that the current charge of £50 per GEA migration is likely to be well in excess of incremental costs. This charge is substantially higher than the estimate provided by BT [✂]; moreover, we consider that BT's estimate may be artificially high, since it reflects current (relatively low) VULA volumes and may include some common costs (which would not be part of the LRIC). While the costs of other forms of migration are imperfect benchmarks for the cost of GEA migration, those presented above are all substantially lower than the current £50 GEA migration charge. Each of these factors informs our provisional view that there is, in respect of that charge, a relevant risk of adverse effects arising from price distortion and, in particular, of BT fixing and maintaining the charge at an excessively high level.

11.174 Accordingly, we have considered two options – to do nothing and retain pricing flexibility including for migrations, or to control the GEA migration charge in some way.

11.175 Our initial view is that doing nothing for this review period is unlikely to be in consumers' interests because:

- the migration charge is currently likely to be significantly higher than cost and unnecessarily high switching charges may hinder competition which would be against consumers' interests;

- as noted above, we had set out in the 2010 WLA Statement that we would expect to take further action where there was evidence that BT was not acting in accordance with its general obligation to set charges on a fair and reasonable basis.[419] Controlling GEA migration charges would therefore appear to be consistent with our previous regulatory position;

- reducing this migration charge should not materially weaken BT's incentives to deploy and promote VULA, nor its ability to recover its investments, because BT would still have flexibility over rental, connection and other VULA charges; and

- while we understand that current volumes are low, and therefore the immediate impact of the charge on switching may be low in absolute terms, we would anticipate that the number of customers wanting to switch will naturally increase over the review period in line with our projections for overall VULA volumes. On this basis, we consider it appropriate and proportional to regulate this charge now rather than waiting until there are material volumes of customers wanting to switch.

11.176 Our provisional assessment, therefore, is that some form of control over the GEA migration charge is appropriate. A price that is reflective of relevant costs is more likely to be suitable for the purpose of promoting competition. A control designed to secure this should provide price signals that allow a CP to retain customers when it

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[419] Paragraphs 8.123-8.147, Ofcom, *Review of the wholesale local access market - statement*, 7 October 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_*statement*.pdf.

offers a more attractive service (in terms of cost or quality) but facilitate rivals winning customers when it offers a less attractive service. That is, rival CPs will not be discouraged by high migration charges when competing at the retail level. This should ultimately benefit consumers, and each of these factors is also more likely, in our view, to confer the greatest possible benefits on end users.

11.177 Given this, we consider that the arguments for GEA migrations, as far as the extent of, and effect on, BT's investment is concerned, are different to those relating to VULA rental and connection charges (over which we propose that BT would retain pricing flexibility):

- on one hand, we do recognise that there could be some indirect effects on that investment, in that CPs (including BT Retail) may be less inclined to encourage consumers to take up services that use VULA if it is easier for those consumers then to switch to another CP in the future;

- however, in contrast to rental and connection charges, GEA migrations from one CP to another do not directly affect the total volumes of VULA lines. Therefore changes in the number of migrations should not have a major impact on BT's investment incentives on VULA, especially as Openreach operates at arm's length from BT Retail. Moreover, subject to constraints, for example from CGA services, BT would retain the flexibility to amend other VULA charges during the review period. In other words, it may be able to rebalance VULA charges with some charges rising and others falling (currently the revenue from the migration charge is negligible).

11.178 We have also considered the risk of regulatory failure, namely that any regulatory constraint on GEA migration charges is set an inappropriate level. We recognise that this is a risk, given the imperfect information available on the cost of migration. However, as set out above, the current migration charge of £50 is likely to be well in excess of cost. Given the high level of current (non-controlled) charges, we consider that any adverse effects from errors in setting regulated charges are likely to be smaller than adverse effects from leaving these charges uncontrolled.

11.179 On an overall assessment, therefore, we consider that the benefits to switching are likely to be more important than the possible indirect effects identified. We therefore propose placing a constraint on the GEA migration to ensure the charge reflects costs.

Form of any price constraint

11.180 We now discuss the form of any price constraint on GEA migration charges. We have considered (a) providing specific guidance on how we would interpret the fair and reasonable charges condition with respect to the migration charge; (b) imposing a cost orientation obligation; and (c) a charge control.[420]

11.181 On the basis that there is very limited direct costing information on the GEA migration, we consider that (a) and (b) would create considerable uncertainty for BT and other CPs. While we could provide guidance on the conceptual approach that BT should adopt when setting these charges (e.g. that they should reflect the LRIC of migration), there is likely to be considerable uncertainty about what this translates to

[420] For more about the distinction between cost orientation as compared to fair and reasonable charges see Section 10.

in practice. Moreover, that uncertainty means that BT and other CPs may well disagree about whether BT is in compliance with its obligations. As a result, these charges might fall to us to determine in the course of a dispute anyway.

11.182 We therefore propose to impose a charge control, which will remove, or at least mitigate, that uncertainty. Further, as discussed in paragraph 10.35, in light of the proposed charge control, we propose not to apply the fair and reasonable charges obligation to the GEA migration charge.

11.183 As set out in paragraph 11.72, we consider that a charge control on GEA migration should reflect the incremental cost of this service. Typically, we would use LRIC as a basis for incremental costs, however, as discussed above, we only have limited cost data – we are not in a position to accurately estimate the LRIC. Accordingly, at this time, we have focused on reducing the GEA migration charge from its high current level (£50) to a level in the vicinity of the LRIC. In future reviews, greater data may be available and it may be possible to further refine the level of any charge control (assuming it remained appropriate). For the same reason we are not proposing to adjust the control over the market review period in nominal terms. Nor do we propose a glide path as due to the small volumes an immediate cut is unlikely to cause a disruption to BT; moreover a rapid cut is likely to benefit customers as it would not defer the benefits to consumers we discussed above.

11.184 We propose imposing a charge control at a point in the range of £10 to £15 per GEA migration, with no nominal increase in the charge over the market review period. This is the range we are consulting on. The range reflects the current uncertainty in assessing the relevant costs.

- The lower end of this range reflects the costs of other benchmark services which we consider are likely to be similar to the LRIC of a GEA migration. This is based on the records changes costs of WLR with respect to Openreach as well as the IPStream records change and network re-configuration/re-routing.

- We recognise that the range is below BT's estimate but, as discussed above, we have concerns about BT's estimate of the costs of GEA migration. However if the [✂] of systems related costs and [✂] of Sales and Product Management is excluded then this produces a cost figure in the vicinity of £15. We have adopted this as the upper end of the range that we are consulting on. We consider that it is appropriate to exclude systems related costs given that they may not be incremental to GEA migration.

11.185 Our provisional assessment is that the point at which a cost-reflective charge (promoting efficiency and sustainable competition and benefitting consumers' interests) falls within this range. We invite evidence from stakeholders to enable us to set the precise point within it.

11.186 As the volumes for this service are currently low and we have not regulated this charge before, we propose to make a one-off adjustment for this charge. We propose that BT should implement the change within 28 days of the publication of the statement.

11.187 Further, we note that the cost accounting obligations proposed in Section 10 would apply to VULA. This pertains specifically both the GEA migration charge – recognising the difficulties discussed above in BT identifying costs for this charge – and to the application of the fair and reasonable charges obligation to VULA. It is important that VULA is separately identified in BT's cost allocation, to ensure that common costs are correctly allocated across the suite of regulated services which are subject to pricing obligations. However BT would not be publicly required to report these.

Impact of wires-only migration scenarios

11.188 As noted at paragraph 11.71 above, BT is currently testing a wires-only/ self-install solution. A migration to, from or between a wires-only presentation is likely to result in the change of the VDSL modem itself, rather than just the CP's equipment (e.g. a Wi-Fi router) connected to the modem. Our initial assessment is that this is unlikely to significantly change the costs involved in a GEA migration, as:

- one of the benchmarks we have used – IPStream migrations – also involves changing between different CPs modems;
- some coordination would already be required in the sequencing of one CP taking over from another; it is unclear why the change in the VDSL modem would result in an increased cost for the migration or why this would be any different to current generation broadband where the same scenario can occur; and
- it is unclear that any additional physical activity would be involved in such migrations. If the migration was from a wires-only application to CP that specified a managed install, then that CP could pay separately for it.

11.189 Having said this, we recognise this is a new and developing area, and thus welcome stakeholders' comments on this issue.

Summary of proposals on GEA migration charge

11.190 We propose to control the level of the GEA migration charge, for both FTTC and FTTP. We propose that a charge control is the most appropriate means for doing this and consider that it should be no higher than a figure in the range of £10 to £15, compared to the current charge of £50. We propose that if BT replaces the GEA services, the replacement service(s) would also be within the scope of the control.

Consultation question(s)

11.3 Do you agree that the charge for a GEA migration should be subject to a charge control at some point in the range of £10 to £15? If so, please indicate where in that range the charge should be, supported by evidence. If not, please state the reasons why.

Legal tests

11.191 This subsection sets out the legal tests for imposing a charge control on GEA migrations. For the reasons set out below, we are satisfied that our proposal meets the various test set out in the CA03.

11.192 Section 87(9) of the CA03 authorises Ofcom to set SMP services conditions imposing on the dominant provider such price controls as Ofcom may direct in relation to matters connected with the provision of network access to the relevant network, or with the availability of relevant facilities provided the conditions about network access pricing set out in section 88 are satisfied.

11.193 On the basis of our arguments set out above, we consider that the proposed charge control satisfies the requirements of section 88(1). Our analysis indicates that the level of the current charge is likely to be excessive and that there are adverse consequences for end users as a consequence. In particular, for the reasons put forward, we consider that the migration charges should reflect relevant costs, in order to promote efficiency by sending efficient price signals, and that higher migration costs will tend to result in higher switching costs which will weaken competition, which tends to drive prices up and quality down.

11.194 In our view, the proposed charge control is appropriate for promoting efficiency and sustainable competition, and conferring the greatest possible benefits on end users by reducing switching costs. We consider that the benefits of reducing switching costs outweigh the general arguments we set out earlier at paragraphs 11.131 to 11.143 above for giving BT price flexibility on VULA, for the reasons we have set out in relevant paragraphs above.

11.195 The extent of BT's investment has been taken into account as required by section 88(2), again on the basis put forward above. In the absence of robust direct cost information relating to the GEA migration, we have set the charge control by reference, in particular, to the likely work and costs involved in migrations and to benchmarking of the costs of comparable services. We have set out why we do not consider the proposed control would fail appropriately to reflect BT's investment and would not have a disincentivising effect on investment.

11.196 We also propose that the charge control would meet the criteria set out in section 47(2) of the CA03. The proposed condition is:

- objectively justifiable, in that BT has (or there is a risk BT has) fixed and maintained the relevant price at an excessively high level and, owing to (our proposed finding of) its SMP in the market, it is unlikely to be incentivised to set migration charges at the competitive level;

- not unduly discriminatory in that the proposed charge controls do not discriminate unduly against BT as it is the only CP to hold SMP in the relevant market (in the UK excluding the Hull Area) and the proposed controls seek to address that market position, including BT's ability and incentive to set excessive charges for services falling within the controls;

- proportionate, in that the proposed charge controls are focused on ensuring that there are reasonable prices for the migration service while, to the extent possible given the limited data, being set so as to be consistent with allowing BT to recover its investment, including earning a reasonable rate of return (the cost of capital). We therefore consider that the proposed charge controls are:

  - o appropriate to achieve the aim of addressing BT's ability and incentive to charge an excessive price for GEA migrations;

  - o necessary, in that they do not, in our view, impose controls on the prices that BT may charge that go beyond what is required to achieve the aim of addressing BT's ability and incentive to charge excessive prices for this service; and

  - o are such that they do not, in our view, produce adverse effects that are disproportionate to the aim pursued; and

- transparent, in that the aims and effects of the proposed charge controls are clear and have been drafted so as to secure maximum transparency. We are consulting fully on the proposed charge controls and our reasoning in this document. The text of the proposed conditions has been published in Annex 11 and the operation of those conditions is aided by our explanations in this document.

11.197 Further, for all the reasons set out above, we consider that the imposition of a charge control would further the interests of citizens and further the interests of consumers in relevant markets by the promotion of competition, in line with our principal duty under section 3 of the CA03. We also consider that, in line with section 4 of the CA03, the proposed charge control and condition would promote competition in relation to the provision of electronic communications networks. It would similarly encourage the provision of network access for the purpose of securing efficiency and sustainable competition in downstream markets for electronic communications networks and services, resulting in the maximum benefit for retail consumers, while being consistent with the purpose of securing efficient investment and innovation.

Proposals on 12 month initial minimum contract term

11.198 As set out above, stakeholders have raised concerns about the 12 month minimum contract term which BT imposes for GEA following new connections and following GEA migrations. This is longer than for other regulated access products.

11.199 As a general point, we would be concerned where a dominant provider imposed minimum contract periods where this was not justified by reference to objective factors, such as the need to recover upfront costs. The effect of such minimum contract periods would be to reduce levels of switching, leading to reduced retail competition that would otherwise be the case.

The effects of minimum wholesale contract terms

11.200 We have considered two possible reasons for intervention to restrict minimum contract periods:

- the first relates to whether having a longer minimum term is likely to favour BT Retail at the expense of other CPs, or whether it may unnecessarily hinder competition. If it were the case that the minimum 12 month term unduly favours BT's retail divisions, then we would need to consider whether it would be in consumers' interests to restrict BT's flexibility on this; and

- the second reason for restricting the flexibility is if there would otherwise be a significant impact on the ability of end users to switch and, therefore, on competition at the retail level. We recognise that longer contract periods reduce the ability to switch and so may tend to weaken competition.

11.201 Having considered these points, as with migration charges we consider there is some tension between giving BT flexibility on pricing and terms on VULA and our preference for avoiding impediments to switching. Our initial view is that the appropriate balance of these two conflicting considerations is different when considering the 12 month minimum term for migrations compared to when considering it for new connections. Our assessment is as follows.

11.202 The first factor is that, in our initial view, we do not consider that having a 12 month minimum term is likely to favour BT Retail over those of other CPs. Any costs related to the 12 month minimum term (such as early termination charges paid to BT in the event that the consumer wishes to leave early) would equally affect BT Retail and would ultimately need to be reflected in the price differentials between VULA and retail prices.

11.203 The second factor is that flexibility on the minimum term at the wholesale level gives BT more options for how it can vary wholesale pricing to drive take up of VULA. In particular, flexibility on the initial minimum term may interact very directly with the wholesale connection charge. Having a longer minimum term may have a large impact on allowing BT to have lower connection or rental charges than it otherwise would, particularly if it allows BT to recover any wholesale connection costs over a longer period (rather than in an upfront charge). BT may want to vary the balance between connection charges, minimum terms and rental charges in order to determine which is most beneficial to increase take up of VULA services. In general terms, this appears to us to be in consumers' interests.

11.204 Third, we recognise that the BT minimum contract term in question applies at the wholesale level. Even if it were reduced, we recognise that retailers may continue to impose minimum contract terms on retail consumers.[421]

11.205 Our initial view, in light of these points, is that it would unduly undermine the flexibility on VULA terms and prices if we constrained the duration of contracts to be less than 12 months following new connections. There does not, therefore, appear to us to be an undue hindering of competition arising out of the 12 month minimum contract period. There are wholesale costs to be legitimately recovered, the effects on CPs (BT Retail and others) at the retail level are similar and there are potential benefits in terms of pricing strategies that may encourage take up of VULA services.

11.206 However, we take a different initial view in respect of the minimum contract period for migrations. In that context, we think it is likely to be in consumers' interests to restrict the minimum term for migrations to be less than 12 months. The key difference is the approach for recovering one-off wholesale costs incurred by BT (i.e. connection costs as compared to migration costs).

11.207 Our provisional assessment is that the minimum contract period in respect of the initial connection should provide a basis for BT to recover relevant wholesale costs and investments. A migration from one CP to another does not directly affect VULA volumes, and there should be no additional wholesale costs or investments incurred as a result of the migration (and not already appropriately recovered in any migration charge, including under the proposed charge control). As a result, the impact on BT's incentives to invest and more generally on take-up of fibre is likely to be small. Moreover removal of the minimum contract period may have the benefit of facilitating switching and promoting retail competition.

11.208 We therefore see no basis for any particular minimum contract term, or at least none beyond that required to reflect the fact that final consumers pay for broadband by means of a periodic (typically monthly) charge. Accordingly, we propose to require BT

[421] To illustrate, TalkTalk has a minimum 12 month contractual period for consumers that subscribe to its 'Essentials' voice and (standard) broadband package. This minimum period is likely to help ensure TalkTalk recovers the up-front costs it incurs, such as providing a 'free' router. www.sales.talktalk.co.uk/product/broadband/essentials (as viewed on 28 June 2013).

to set the minimum contract term following GEA migration to be no longer than one month.

The form of intervention

11.209 Our proposed SMP condition at Annex 11 includes a power for Ofcom to make Directions to direct the terms of such access. For the reasons set out above, we propose to use this power to issue a Direction limiting the length of the minimum contract period following GEA migration to no longer than one month. We propose that BT should implement the change within 28 days of the publication of the statement.

Summary of proposals on contractual terms

11.210 We do not propose to limit BT's flexibility to have a 12 month initial minimum contract term for new connections but do intend to limit that flexibility for migrations, where we propose to require BT to have a minimum contract term of no more than one month following a GEA migration.

Consultation question(s)

11.4 Do you agree with our proposal that BT offer a minimum contract term of no more than one month following a GEA migration? Please provide reasons in support of your views.

Legal tests

11.211 We consider that the proposed Direction to require BT to impose a contract length of no more than one month on GEA following a migration, set out in Annex 11, meets the tests set out in the CA03.

11.212 Section 87(3) of the CA03 authorises Ofcom to set SMP services conditions requiring the dominant provider to provide network access as Ofcom may from time to time direct. These conditions may, pursuant to section 87(5), include provision for securing fairness and reasonableness in the way in which requests for network access are made and responded to and for securing that the obligations in the conditions are complied with within periods and at times required by or under the conditions. As noted above, we propose to include a power for Ofcom to make Directions to direct the terms of access as part of our proposed SMP condition requiring BT to provide VULA on fair and reasonable terms, conditions and charges. We are proposing to make this direction to that proposed power.

11.213 We consider that we have acted consistently with our duties under section 3 and all the Community requirements set out in section 4 of the CA03. In particular, on the basis of the arguments set out above, the proposed Direction is aimed at promoting competition and securing efficient and sustainable competition for the maximum benefit of consumers by facilitating switching and so promoting retail competition, again while being consistent with the purpose of securing efficient investment and innovation.

11.214 We propose that the Direction would meet the criteria set out in section 49(2) of the CA03 as the requirement relating to minimum contract periods is objectively justifiable, non-discriminatory, proportionate and transparent, as follows:

- objectively justifiable, as it will facilitate switching and promote retail competition for VULA services;
- not unduly discriminatory, as BT is the only operator proposed to have SMP in the relevant market of the UK excluding the Hull Area and in the case of KCOM we are not proposing to require it to provide VULA as a specific access remedy;
- proportionate, since, while it will facilitate switching and promote retail competition, the overall impact on impact on BT's incentives to invest, and more generally on take-up of fibre, is likely to be limited (as set out above) and the measure is, therefore, no more intrusive than necessary to achieve its intended goals; and
- transparent, in that it is clear in its requirements and intention, as explained in this document.

Consistency with the EC Recommendations and BEREC Common Position

The NGA Recommendation

11.215 The aim of the NGA Recommendation is *"to foster the development of the single market by enhancing legal certainty and promoting investment, competition and innovation in the market for broadband services in particular in the transition to next generation access networks (NGAs)"* (Recommendation 1). In relation to the regulation of virtual unbundled access products (which it describes as *"alternative access products which offer the nearest equivalent constituting a substitute to physical unbundling"*) these should be *"accompanied by the most appropriate safeguards to ensure equivalence of access and effective competition"* (Recital 21).

11.216 In Ofcom's provisional view, our proposals (which include a proposal not to impose a specific pricing obligation on VULA, are consistent with the aims of the NGA Recommendation, including promoting investment, competition and innovation in the market for broadband services in particular in the transition to NGA, as we consider they are best met in the UK context, particularly with respect to our focus on NGA investment. We provide further reasoning in relation to our proposals and these objectives in the following paragraphs.

The Draft EC Recommendation

11.217 The aim of the Draft EC Recommendation *"is to improve the regulatory conditions to promote competition, enhance the single market for electronic communications networks and services, and to foster investments in next generation access (NGA) networks so as to contribute in a technologically neutral manner to the overall objective of boosting growth and jobs, stimulating innovation and ultimately more efficient services for the end users in the European Union and furthering digital inclusion. This Recommendation aims at increasing legal certainty and predictability in light of the long term horizons of investments in NGA networks."* (Recommendation 1).[422]

11.218 In terms of the regulation of virtual unbundled access products (which it describes as *"non-physical or virtual wholesale inputs offering equivalent functionalities"*) we read

[422] We also refer to the discussion of the weight the EC placed on fostering investment in paragraph 11.464.

Recommendation 50 of that document to mean that the draft recommended position is that, where certain conditions are met, we should not impose price control obligations on VULA. These conditions include the imposition of obligations for EOI, technical replicability and economic replicability. It also includes that one of the following safeguards be met: that a price controlled legacy access network (i.e. copper in the UK) or an alternative infrastructure (e.g. cable in the UK) can exercise a significant competitive constraint.

11.219 We consider that our proposals for EOI on VULA (paragraph 10.102) and the constraint we have identified from *both* CGA broadband and services delivered over Virgin's network (paragraph 11.133) are consistent with the respective provisions of Recommendation 50 identified above. In addition, we also note the proposed requirement BT be required to provide VULA on fair and reasonable terms, conditions and charges (paragraph 10.25).

11.220 With respect to technical and economic replicability, we set out at paragraphs 10.96-10.100 and paragraphs 11.456-11.467 respectively the extent to which our proposals are, in our provisional view, consistent with these draft recommendations and the reasons for any differences.

11.221 Overall, to the extent that we propose not to follow the specific provisions of Recommendation 50, we consider that the obligations and safeguards set out at paragraph 11.219 work in a way that fulfils the aim of the Draft EC Recommendation of promoting competition and fostering investments in NGA networks.

11.222 In other words, we share the Draft EC Recommendation's aim of promoting competition and fostering investments in NGA networks. We seek to achieve this aim, however, by means that are different in some ways, but which we consider appropriately reflect the UK market circumstances likely to apply over the market review period, as set out in this consultation document. Our provisional view is that our proposals mean additional pricing or other obligations are neither necessary nor appropriate for VULA.

11.223 We consider that it is justified to diverge from this general pricing flexibility for VULA with respect to the application of a charge control on the GEA migration charge on the basis that the benefits to switching outweigh any disadvantages from reducing BT's pricing flexibility for VULA.

The BEREC Common Position

11.224 The BEREC Common Position sets out that *"Application of this Common Position will assist NRAs to design effective remedies in line with the objectives of the regulatory framework."* These objectives include, *inter alia*, safeguarding competition and promoting efficient investment and innovation.[423]

11.225 Under the objective *"Fair and coherent access pricing"* the BEREC Common Position describes a *"Competition issue which arises frequently"* as *"SMP operators offer pricing schemes / prices not allowing alternative operators to compete on a level*

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[423] Article 8, The Common Regulatory Framework comprises the Framework Directive (Directive 2002/21/EC), the Authorisation Directive (Directive 2002/20/EC), the Access Directive (Directive 2002/19/EC), the Universal Service Directive (Directive 2002/22/EC) and the Directive on privacy and electronic communications (Directive 2002/58/EC), as amended by the Better Regulation Directive (Directive 2009/140/EC), www.ec.europa.eu/information_society/policy/ecomm/doc/140framework.pdf.

playing field and/or enabling a viable business case". It then sets out a number of best practices under this objective that are relevant to NGA pricing:

- BP42 says "*When determining their price regulation NRAs need to consider that it should incentivise both efficient investment and sustainable competition*"; and

- BP43 states "*Where appropriate and proportionate, NRAs should require SMP operators to provide regulated products based on an explicit pricing obligation….ranging from a requirement for prices to be cost-orientated and subject to rate approval through to specific charge controls…"*

11.226 We consider our preliminary analysis and proposal to allow BT pricing flexibility on VULA is consistent with BP42 in terms of incentivising both efficient investment and sustainable competition, for the reasons set out above and those specifically provided when consider our specific proposals on obligations and safeguards in relation to VULA in both this section and Section 10.[424] For the same reasons, we consider that these obligations and safeguards mean that it is not appropriate nor proportionate to impose an explicit pricing obligation on VULA, as required by BP43.

11.227 However, we also note that in relation to the objective *"Assurance of efficient and convenient wholesale switching"*, BP35b states that *"NRAs should require that the price of the switch does not act as a barrier to the wholesale switching processes happening."* In the case of switching, we do consider it appropriate and proportionate to propose a charge control for the GEA Migration charge and consider that doing so is consistent with both BP35b and BP43, for the reasons set out at paragraphs 11.170-11.189.

11.228 Together, we consider that our proposals are consistent with the aims of the BEREC Common Position including with respect to safeguarding competition and promoting efficient investment and innovation.

Services consumed primarily by CPs other than BT

Position in 2010 WLA Statement

11.229 In the 2010 WLA Statement we noted that where VULA variants are not consumed by BT's downstream divisions, there may be a greater risk of anti-competitive effects.[425] However, we did not consider that a separate requirement on the consistency of prices for VULA product variants was required. We said that VULA products (including variants) would be subject to the requirements relating to the price differentials between VULA and other downstream wholesale or retail prices. We considered that this should mean that CPs using VULA variants would be able to compete effectively in downstream markets. The issue of the VULA margin is discussed from paragraph 11.244.

11.230 We also said that BT was required to act in accordance with its general obligation to set charges on a fair and reasonable basis. Where there was evidence that BT was not acting in accordance with this obligation, or was discriminating when setting charges for VULA product variants, we indicated that we would expect to take further action. We also said that if we saw evidence of pricing structures that might damage

[424] See specific paragraph references above.
[425] Paragraphs 8.137-8.140, Ofcom, *Review of the wholesale local access market - statement*, 7 October 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_*statement*.pdf.

competition, this could cause us to review our overall approach to pricing flexibility. We therefore did not consider that a separate requirement on the consistency of prices for VULA product variants was required.

Responses to 2012 FAMR Call for Inputs

11.231 Sky said that, because BT Retail purchased different types of products in relation to GEA, BT had the ability to significantly distort retail competition by setting high charges for some ancillary products and services that far exceeded any reasonable measure of their underlying costs.

11.232 Vodafone also said BT's own migration would be from SMPF whereas LLU CPs were likely to want to connect to VULA from a mixture of MPF and SMPF, and that migration to NGA services needed to be a focus of the review to ensure that processes and charges were not discriminatory between providers.

11.233 Tesco said that CPs should be able to buy a 'naked fibre' FTTC product without any requirement to buy MPF or WLR. TalkTalk also mentioned that it had submitted an SoR for such a product, but it was rejected by BT.

Guidance on interpretation of no undue discrimination and fair and reasonable condition

11.234 We recognise the concern in some responses that BT could distort competition by favouring some VULA products over others. We reiterate what we said in the 2010 WLA Statement (summarised in paragraphs 11.229 and 11.230 above).

11.235 As explained in Section 10, we are proposing that BT be required to provide VULA on an EOI basis. We consider there is a risk that this requirement may not be effective in preventing anti-competitive pricing or terms of variants that are not consumed by BT Retail. We also propose above a requirement on BT to provide VULA on fair and reasonable terms, conditions and charges, and a no undue discrimination requirement.

11.236 While we cannot fetter our discretion, we set out in the following what we currently consider are likely to be important considerations in considering whether BT's VULA offer is fair and reasonable and not unduly discriminative.

Wires-only/self-install

11.237 We first address the wires-only and self-install GEA variant (discussed from paragraph 11.69) because we understand there is considerable interest in this variant and it might be bought predominantly by CPs other than BT Retail.

11.238 In the event of a dispute or a complaint over whether prices for this GEA variant were discriminatory and/or not fair and reasonable, an important consideration may be how the price difference between this GEA variant and other GEA variants compares to the difference in the LRIC of supplying the respective products. If the difference in prices varied significantly compared to the difference in the LRIC, this may suggest that the price of the GEA variant was unduly discriminatory and/or not fair and reasonable. This consideration would be important if downstream BT divisions bought a significantly different profile of GEA variants compared to other CPs. We would be particularly interested in comparing GEA variants which could be used to provide exactly the same end user service to the same end users.

11.239 It is important to note that we are not proposing that it would be relevant to all disputes about whether prices are discriminatory and/or not fair and reasonable to compare the differences in the prices of VULA variants with the differences in costs. We consider that such a rigid approach may impinge unnecessarily on BT's flexibility on VULA, including on BT's flexibility on geographic variations, changes over time, and on the more limited flexibility on tiered pricing. For example, where BT offers VULA variants that are differentiated by speed, then we do not consider that differences in prices necessarily need to reflect differences in cost. Product differentiation may facilitate higher take-up and more effective recovery of the fixed costs of NGA deployment.

Standalone GEA

11.240 As noted at paragraph 11.63 above, one response to the 2012 FAMR Call for Inputs commented on the likely demand for an FTTC variant that was not an overlay product provided with WLR or MPF, but was a standalone product (sometimes referred to as 'naked fibre').

11.241 In the 2010 WLA Statement we said that:

> "If the two FTTC GEA options (plus WLR or MPF) are the only options required by CPs then there is clearly no reason for BT to introduce any other options. If however, CPs require a truly stand-alone FTTC GEA product (e.g. they do not want WLR or to have MPF delivered in the local exchange) then BT will need to respond to this demand. However, in doing this it needs to be recognised that BT will need to recover its common network (copper) costs and this means that the charge for the standalone product will be higher than the charge for the product which is sold incrementally to WLR or MPF. Even so, there may be an expectation that the charge for the standalone product will be lower than the combined charge for MPF and the current incremental product. Depending on what is involved in implementing a standalone product this may or may not be true."[426]

11.242 Given we propose to retain flexibility on VULA, we do not propose to require BT to cost orientate any stand-alone FTTC GEA product. However, under our current proposals BT would be required to make such products available on fair and reasonable terms, conditions and charges in response to a reasonable request.

11.243 Again, while we cannot fetter our discretion in how we handle future disputes, we propose here considerations we currently think are likely to be relevant in any dispute about compliance with that requirement:

- the comments set out in the 2010 WLA Statement and quoted above appear to continue to be relevant. In particular, whether or not the charge for the standalone product will be lower than the combined charge for MPF and the current incremental product depends on what is involved in implementing a standalone product;

[426] Paragraph 8.97, Ofcom, *Review of the wholesale local access market - statement*, 7 October 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_*statement*.pdf.

- we are unlikely to want the price of any stand-alone FTTC GEA product to undermine BT's incentive to roll-out and promote take-up of fibre; and

- since GEA over FTTC is currently an overlay service (i.e. it can only be bought in combination with WLR or MPF) our initial view is that the charges for this service should not recover any significant common costs. However should GEA be made available on a standalone basis, our further 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, GEA over FTTP and standalone GEA over FTTC.[427]

Regulation of the VULA margin

Introduction

11.244 We now discuss whether or not specific remedies are necessary to address the risk of adverse effects arising from price distortion through BT imposing a price squeeze by setting an inappropriate differential between the price of VULA and the price of downstream products that use VULA as an input. We refer to this differential as the 'VULA margin.'[428]

11.245 This discussion is structured as follows:

- we set out the current regulatory position;

- we summarise developments since the 2010 WLA Statement was published;

- the first part of our substantive analysis involves identifying the competition concern that we are seeking to address;

- the second part of our substantive analysis is a discussion of the potential options for addressing that competition concern. For the reasons set out below, we propose requiring BT to supply VULA on fair and reasonable terms, conditions and charges supplemented by guidance on how we would be likely to interpret this requirement;

- the third part of our substantive analysis involves setting out a draft of that guidance; and

- finally we explain how we have taken account of the NGA Recommendation, the Draft EC Recommendation and BEREC Common Position.

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[427] Paragraph 6.32, *Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 – Call for Inputs*, 9 November 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/summary/condoc.pdf.

[428] Reflecting stakeholders' representations, the discussion below generally refers to the impact on rival retailers. However we recognise that concerns about intermediate products based on VULA could also arise, for example, in relation to the margin between Openreach's GEA price and BT Wholesale's WBC FTTC price. We consider that the fair and reasonable charges SMP condition proposed below requires BT to set a suitable margin between the price of VULA and BT's downstream products at each level in the supply chain.

Current position

11.246 In the 2010 WLA Statement we stated that the constraints from purchasing CGA services on regulated terms and from Virgin's cable network may not be sufficient to prevent some anti-competitive strategies by BT, such as setting inappropriate price differentials between VULA and downstream products. We considered that relying solely on *ex post* competition law may be insufficient to ensure BT's conduct did not undermine the development of a competitive market. This was a particular concern as we viewed VULA as the primary focus of NGA competition in the WLA market.[429]

11.247 Condition FAA11.2 requires BT to provide VULA and any ancillary services on fair and reasonable terms, conditions and charges. We set out in the 2010 WLA Statement some considerations that may be relevant to assessing whether BT had breached FAA11.2. In particular we stated that:

> "When considering the differential between retail and wholesale prices, we are initially likely to consider whether the current price differential was above the current long-run incremental cost of the downstream activities of a reasonably efficient operator, including an allowance for subscriber acquisition costs. Depending on the outcome of this initial analysis, we may conduct further work …"[430]

11.248 We also:

- recognised that "bandwagon effects" may mean that there is a rationale for BT pricing VULA and downstream products relatively low during the early stages of development. However, we stated that we would be concerned if VULA prices appeared to be unfair, relative to the prices (after discounts) of BT's downstream products;[431]

- expected that BT would need to maintain financial models that contain relevant information on VULA and downstream product costs and prices, and their development over time;[432] and

- stated that we would take utmost account of the NGA Recommendation. Thus we would likely consider whether price differentials would allow a reasonably efficient operator (REO) to compete. In particular, the measure of incremental costs should be adjusted to reflect the scale of a REO and the assumptions used should be consistent with a competitive market.[433]

Developments since the 2010 WLA Statement

UK developments

11.249 We set out in paragraphs 11.5-11.23 developments in the deployment of NGA networks and the take-up of NGA services, including expected developments during the period covered by this market review.

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[429] Paragraph 8.128, Ofcom, *Review of the wholesale local access market - statement*, 7 October 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_*statement*.pdf.
[430] Paragraphs 8.129-8.130 and 8.132, Ibid.
[431] Paragraph 8.131, Ibid.
[432] Paragraph 8.133, Ibid.
[433] Paragraphs 8.134-8.135, Ibid.

11.250 In addition, on 1 May 2013 Ofcom opened an investigation in response to a complaint from TalkTalk that BT has been, and is currently, abusing a dominant position in the supply of superfast broadband in breach of the Chapter II prohibition in the Competition Act 1998 and Article 102 of the Treaty on the Functioning of the European Union ('TFEU') (the 'TalkTalk Competition Complaint'). Specifically, TalkTalk alleges that BT has failed to maintain a sufficient margin between its upstream and downstream prices, thereby operating an abusive margin squeeze.[434]

European developments

11.251 In September 2010, the EC adopted the NGA Recommendation. We took this recommendation into account in the 2010 WLA Statement. More recently, there have been a number of other documents that discuss the margin available on NGA products. In December 2012, the BEREC Common Position was published (alongside an equivalent in respect of WBA ('the BEREC WBA Common Position')[435] as was the Draft EC Recommendation. We understand that a final recommendation will be issued in the second half of 2013.

2012 FAMR Call for Inputs

11.252 In the 2012 FAMR Call for Inputs we summarised the position in the 2010 WLA Statement and asked the following question:

> *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.*

11.253 In addition, the responses to the following general questions that we asked about VULA are relevant to our assessment of the regulation of VULA margins.

> *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.*

11.254 We deal with stakeholders' responses where relevant in our analysis, below, which is structured around three main topics:

- the nature of the competition concern;
- the options for intervention; and

[434] *CW/01103/03/13: Complaint from TalkTalk Telecom Group plc against BT Group plc about alleged margin squeeze in superfast broadband pricing*, www.stakeholders.ofcom.org.uk/enforcement/competition-bulletins/open-cases/all-open-cases/cw_01103/.

[435] Note that recommendation BP49 in the BEREC CP (which relates to "obligations preventing SMP operators from engaging in margin squeeze") is identical to recommendation BP42 in the BEREC common position in relation to WBA (BoR (12) 128 BEREC, *BEREC common position on best practice in remedies on the market for wholesale broadband access (including bitstream access) imposed as a consequence of a position of significant market power in the relevant market*, 8 December 2012, www.berec.europa.eu/files/document_register_store/2012/12/BoR_(12)_128_CP_WBA.pdf). Consistency with BP49 of the former document thus implies consistency with BP42 of the latter.

- draft guidance on the appropriate VULA margin.

The nature of the competition concern

11.255 The first part of our substantive analysis involves identifying the competition concern that we are seeking to address. Our analysis is structured as follows:

- stakeholders' views;
- an overview of potential concerns;
- *ex post* competition law and *ex ante* regulation;
- the risk of the potential competition concerns identified arising; and
- our policy position on the desirability of addressing the concerns identified.

Stakeholders' views on the nature of the competition concern

BT

11.256 BT stated that the next three or four years are "extremely important" to the development of the broadband market.[436] As set out below in the discussion of options for intervention, BT did not believe that further remedies were needed, beyond a requirement for Openreach's charges to be fair and reasonable.

11.257 BT stated that over eighty CPs used GEA, either purchased directly from Openreach or indirectly through BT Wholesale. BT stated that major CPs such as TalkTalk, Sky and EE are "actively marketing" superfast broadband services and that the volume of GEA supplied to other (non-BT) CPs is growing strongly. BT anticipated "significant" take-up of GEA by CPs over the review period.[437]

11.258 BT considered that the expansion of other (non-BT) retailers should not be our objective. It stated that Ofcom could use its competition law enforcement powers to address concerns about margin squeeze.[438] BT considered that our guidance in the 2010 WLA Statement "suggested broad alignment" with a competition law approach, apart from the use of LRIC-based costs and an REO benchmark.[439]

11.259 BT considered that market mechanisms were better suited to generating efficient and sustainable competition. BT stated that its business case for NGA investment requires "substantial" take-up across the industry and thus Openreach is "fully incentivised" to increase CPs' take-up of GEA and to meet CPs' and end users' needs.[440]

11.260 BT also referred to current levels of GEA take-up by other CPs. BT also stated that it is "very early" in the life-cycle of fibre products and that different retailers have chosen their own approaches and timescales for entry. BT considered that this was

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[436] P.13, *BT response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BT.pdf.
[437] Pp.13-14 and 16, Ibid.
[438] P.17, Ibid.
[439] P.18, Ibid.
[440] Pp.13-14 and Pp.17-18, Ibid.

evidence of a "vibrant and differentiated" marketplace rather than a sign of market failure. Promoting the expansion of other retailers would penalise BT for the strategies adopted by other CPs.[441]

11.261 Finally, BT reiterated its view that wholesale and retail prices are constrained by (regulated) copper-based services and Virgin's cable network.[442]

Confidential respondent: [✂]

11.262 [✂] considered that the existing regime has failed to foster retail competitors that would act as a strong constraint on BT Retail. In support of its view, [✂] stated that BT Retail accounted for over 90% of VULA connections and that a much higher percentage of BT's broadband subscribers take fibre compared to subscribers of other CPs (over 15% for BT compared to around 1% for other CPs). [✂].[✂] considered that this evidence demonstrated the difficulties other retailers face in winning fibre customers and establishing a viable fibre business.[443] [✂] was concerned that demand for superfast broadband services could be suppressed and that BT Retail's position could become entrenched.[444] [✂] contrasted BT's retail share of VULA connections with its much lower share of ADSL connections.[445]

11.263 [✂] considered that the next review period will be critical to VULA take-up and the ability of other CPs to compete against BT Retail in the provision of superfast broadband. It stated that fibre broadband is currently at the "early adopter" stage but, [✂], the shift to mass adoption can be extremely rapid. [✂][446]

11.264 [✂] considered that there is a "material" risk of BT engaging in a margin squeeze. It stated that, at the wholesale level, Openreach's annual FTTC rental charges are substantially higher than its annual SMPF rental charges, while (as of April 2013) the difference between BT's retail prices for standard and superfast broadband was much smaller.[447] [✂] also stated that Openreach's wholesale NGA charges are higher than charges in Sweden and Holland.[448]

11.265 [✂] considered that the regulatory focus should be on using retail competition to incentivise the take-up of NGA services, as roll-out of superfast broadband in the UK is well advanced but take-up is slow.[449] [✂] carried out research in May 2011, asking consumers how much of a price premium they would be prepared to pay above the price of standard broadband to double their actual broadband speed. This research found a sharp drop in willingness to pay if the price premium was larger than [✂].[✂] stated that BT's current VULA prices do not allow other CPs to charge a premium

[441] Pp.18-19, Ibid.
[442] Pp.17-19, Ibid.
[443] [✂]
[444] [✂]
[445] [✂].
[446] [✂]
[447] [✂]
[448] In 2011, if connection charges are averaged over a 24 month period, then monthly wholesale NGA charges were €15.46 in Sweden, €16.57-19.65 in Holland and €20.86 in the UK. The UK charges included €8.91/month for LLU rental. [✂] Figure 7, WIK Consult for European Competitive Telecommunications Association, *NGA Progress Report*, 1 March 2012, www.ectaportal.com/en/upload/File/Press_Releases/2012/NGA_Progress_Report_final.pdf.
[449] In 2011 the percentage of fixed broadband connections that were superfast (above 30 Mbit/s) in the UK (5.5%) was lower than the EU average (8.5%). [✂] Figure 4.2, Policy Exchange, *The Superfast and the Furious*, 7 January 2013, www.policyexchange.org.uk/images/publications/the%20superfast%20and%20the%20furious.pdf.

(relative to standard broadband) below this threshold.[450] [✂] stated that other CPs require a margin that allows them to price below BT, in order to counter its first mover advantage, customer inertia and barriers to switching.[451]

11.266 [✂] referred to various pieces of evidence on inertia.[452] This included an EC estimate that only 12% of consumers switched supplier for "internet provision" in 2012 and an Ofcom survey that found that 9% of UK fixed broadband subscribers switched supplier in 2012.[453] It also referred to an Ofcom consultation on consumer switching which identified obstacles to consumers switching fixed telecoms services.[454] [✂][455]

11.267 [✂] considered that the promotion of competition through *ex ante* regulation (rather than simply relying on *ex post* competition law) would serve consumers' long term interests and that such an approach has assisted the development of competition in standard broadband.[456] [✂] considered that an increase in the VULA margin would allow other CPs to reach an "appropriate scale" and develop as a counterweight to incumbent CPs.[457] [✂] referred to the experience on copper broadband, where other CPs have set retail prices 20-50% below BT Retail's prices.[458]

11.268 [✂] did not consider that an *ex ante* approach to regulating the VULA margin in order to facilitate retail competition would fundamentally undermine BT's incentives to roll out fibre broadband. It stated that fibre roll-out is already well advanced and that BT will have an incentive to complete its planned rolled out as a result of competition from Virgin's network and funding from BDUK.[459]

Confidential respondent: [✂]

11.269 [✂] considered that demand for superfast broadband is likely to accelerate over the period to 2017. It was concerned that, if BT built up a significant customer base during this period, it would be difficult to subsequently reverse that position. [460]

11.270 [✂] highlighted the high share of superfast broadband connections accounted for by BT Retail and Virgin, which it considered a consequence of the "small" gap between

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[450] [✂]

[451] [✂] In support it cited December 2011 research on consumers in Australia and New Zealand that found the leading reason for switching internet service provider or dropping broadband services was price (cited by 41% of respondents). The second reason was the data cap (33%). Few customers cited faster broadband (4%). (Roy Morgan Research for the New Zealand Commerce Commission, *Consumer Switching Behaviour in Telecommunications Markets*, April 2012, www.comcom.govt.nz/assets/Telecommunications/Market-Monitoring/Consumer-Switching-Study-December-2011.pdf.)

[452] [✂] It also referred to research by USwitch on broadband switching, the *Telecommunications Regulation Handbook* (2000) (www.infodev.org/en/publication.22.html) and *BEREC report on best practices to facilitate consumer switching*, October 2010 (www.berec.europa.eu/doc/berec/bor_10_34_rev1.pdf).

[453] Figure 112, Ofcom, *The Consumer Experience of 2012*, January 2013, www.stakeholders.ofcom.org.uk/binaries/research/consumer-experience/tce-12/Consumer_Experience_Researc1.pdf, EC, *Consumer Market Monitoring Survey (2010)*, www.ec.europa.eu/consumers/consumer_research/dashboard_part3_en.htm.

[454] Ofcom, *Consumer switching*, Ofcom, 9 February 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/switching-fixed-voice-broadband/summary/condoc.pdf.

[455] [✂].

[456] [✂].

[457] [✂]

[458] [✂]

[459] [✂]

[460] [✂]

the GEA price and BT Retail's prices. [✂] stated that BT charged the same monthly retail price for a 38Mbit/s Infinity package as for a standard broadband package.[461]

TalkTalk

11.271 TalkTalk stated that there is currently a lack of effective retail competition in the provision of superfast broadband. It stated that the current position is a duopoly – BT Retail and Virgin currently have a 97% share of the (retail) superfast broadband supply.[462] AlixPartners stated that there has been little use of BT's fibre network by third parties, with BT Retail accounting for 92% of GEA connections as of September 2012.[463] [✂][464]

11.272 TalkTalk stated that BT Retail's current pricing structure "suggests strongly that margins are being squeezed" and that the squeeze is "double ended".[465] It stated that BT Retail offered superfast broadband for the same retail price as standard broadband, despite incurring extra costs of £8. In contrast, other CPs charge a premium of £10-£15 for superfast broadband.[466]

11.273 TalkTalk noted that, since the standard broadband market is "competitive", then "price equal costs plus a reasonable risk-adjusted profit". Given the extra costs of superfast broadband, TalkTalk said that this suggested that BT's retail price is below cost.[467] AlixPartners acknowledged that this approach is not consistent with the standard approach to a margin squeeze test but said that this reflects the absence of suitable data.[468]

11.274 As discussed at paragraph 11.129, TalkTalk also considered that GEA prices at the wholesale level were probably above cost.[469]

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461 [✂]

462 Paragraphs 8.4 and 8.10, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.

463 Paragraph 3.4, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf.

464 Paragraph 8.11, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.

465 Paragraphs 8.4, 8.20 and 8.29, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf. Similarly AlixPartners considered that a "preliminary example" indicated that there is a risk that BT may be engaging in a margin squeeze (paragraphs 3.6, 3.17, and 6.4, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf).

466 Paragraphs 8.5, 8.13-8.14 and 8.4, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf; paragraphs 3.10-3.14, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf.

467 Paragraph 8.14, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf; paragraphs 3.16-3.17, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf.

468 Paragraphs 3.9 and 3.7, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf.

469 Paragraphs 8.5, 8.16-8.19 and 8.23-8.24, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.

11.275 TalkTalk considered that BT's pricing strategy would allow it to rapidly build a customer base and it could recoup early losses since the lack of competition and high switching costs at the network level would allow it to increase prices above costs in the future.[470] TalkTalk considered that, absent regulatory intervention, the incentives for BT to continue its current conduct are likely to remain.[471] TalkTalk stated that superfast broadband is becoming a mainstream product and, by the end of the review period, there are likely to be around 7m superfast broadband subscribers on BT's network.[472] Absent further regulation, TalkTalk thus considered that there would be a "significant and entrenched" problem in 2017 which would take several years to rectify.[473]

11.276 AlixPartners stated that, even if the retail price of superfast broadband products is constrained by the price of standard broadband products, BT's incentive to attract other CPs onto its network depends on the extent to which this results in extra superfast broadband subscribers, as opposed to cannibalising subscribers from BT Retail.[474]

11.277 TalkTalk considered that our regulatory approach should reflect our duty to promote competition (which it distinguished from our role under the Competition Act 1998).[475]

11.278 TalkTalk also considered that various suggested concerns related to its favoured approach were either not valid or could be mitigated:[476]

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[470] Paragraph 8.15, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf; paragraph 3.22, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf. AlixPartners considered that competition solely between BT and Virgin would not be effective (paragraphs 4.8-4.10 and 6.6, AlixPartners Report for TalkTalk).

[471] Paragraph 8.22, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.

[472] Paragraphs 8.2 and 8.9, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf; paragraph 6.1, , AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf. TalkTalk subsequently clarified that this 7m figure was intended to be illustrative (Informal information submission from TalkTalk, 24 January 2013).

[473] Paragraphs 8.9 and 8.25, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf; paragraph 6.5, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf.

[474] Paragraphs 4.5-4.6, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf.

[475] Paragraph 8.34, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf; paragraph 4.2, *TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs*. www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_supplemental.pdf; paragraph 5.30, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf.

[476] Paragraphs 8.43-8.47, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf. AlixPartners made a general observation that binding regulatory constraints may have an impact on investment incentives and that limiting BT's scope for earning "monopoly profits" could in principle lead to lower investment incentives (paragraph 5.12, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-

- BT could increase retail margins by lowering wholesale prices, rather than increasing retail prices.[477] Moreover, increased retail competition was likely to increase take-up and (in the longer term) reduce retail prices;[478]

- AlixPartners noted that a low retail price could drive take-up (to help recover the costs of deploying an NGA network) and allowing consumers to experience superfast speeds could support higher pricing in the future.[479] However TalkTalk considered that the benefits of such "penetration pricing" are largely enjoyed by the network provider. Penetration pricing should thus be reflected in wholesale prices (as distinct from retail margins);[480] and

- a "properly calibrated" test using an REO benchmark would not permit inefficient entry or limit BT's ability to compete on the merits against other CPs.[481]

Tesco

11.279 Tesco stated that the next 3-4 years are "critical" to the take-up of VULA.[482]

Verizon

11.280 Verizon considered that the next three years are "vitally important" to the take-up of VULA for the provision of business services.[483]

Virgin

11.281 Virgin stated that superfast broadband is a staple offer for an increasing number of CPs which suggests that take-up is increasing and will continue to do so.[484]

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markets/responses/TalkTalk_Group_additional_p1.pdf). AlixPartners also made various arguments in relation to "pricing following" by BT's rivals(paragraphs 5.16-5.20, AlixPartners Report for TalkTalk).

[477] Elsewhere, TalkTalk suggested that BT could increase retail and wholesale prices in order to recover its total costs (paragraph 8.49, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf).

[478] Paragraphs 8.44 and 8.49, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf; paragraphs 5.13-5.15, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf.

[479] Paragraphs 3.20-3.21, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf.

[480] Paragraphs 8.27-8.28, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf; paragraphs 3.23, 3.26-3.28 and 6.4. AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf. AlixPartners also stated that this would be in line with capacity based charging (paragraph 3.29-3.31, AlixPartners report for TalkTalk).

[481] Paragraphs 8.45-8.46, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf; paragraph 5.17, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf.

[482] Pp.6-7, *Tesco response to 2012 FAMR Call for Inputs,* www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Tesco_Broadband.pdf.

[483] P.3, *Verizon response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Verizon_Enterprise_Solutions.pdf.

Vodafone

11.282 Vodafone considered that BT had too much control over the margins available to competing retailers.[485]

Overview of potential competition concerns

11.283 As set out at paragraph 11.41, we are proposing to impose a requirement on BT to provide VULA as a remedy to address BT's SMP in the WLA market to allow CPs to offer NGA services in competition with BT's downstream business. If BT sets an inappropriately low differential between its upstream price for VULA and its downstream prices for packages that use VULA then this hampers other CPs' ability to viably compete against BT in the supply of packages containing superfast broadband. Put simply, the lower this differential then the harder it is for other CPs to profitably match (or undercut) BT's retail price.

11.284 In the short run, it is possible that consumers may benefit if BT's low margins lead to lower retail prices.[486] However, in the longer term consumers may be harmed if competition is weakened. For example, by limiting the ability of other retailers to match (or undercut) BT's retail prices, BT may deny them economies of scale. This is particularly likely to be problematic if switching costs make it difficult for those retailers to win subscribers back from BT. As a result, BT may be able to increase its prices in the longer term.

11.285 Further, if the margin available on superfast broadband services is too low then other retailers may be unable to offer a full suite of services. As a result, they would not enjoy any economies of scope between CGA and NGA services. Moreover, they would not be able to offer an 'upgrade path' from CGA to NGA services to their existing customers. This in turn may cast doubt on the long term viability of those retailers which may, for example, discourage their owners from making further investments in the business. Such a development is likely to harm consumers.

11.286 Finally, weaker competition in the longer term is likely to lead to higher prices and may also reduce innovation.

11.287 In the section on product market definition in the forthcoming 2013 Wholesale Broadband Access Consultation, we will set out our provisional conclusion that it is appropriate to define a single market for all broadband speeds at present. This suggests that even if shares of supply for superfast broadband are currently concentrated, prices will nonetheless be constrained by competition from CGA broadband. However, the 2013 Wholesale Broadband Access Consultation will also state that there are factors pointing to a separate market for fibre-based products emerging at the retail level in the future. This emphasises that the theory of harm is forward looking – the risk is that competition in the future is diminished as the constraints on superfast broadband weaken.

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[484] P.8, *Virgin response to 2012 FAMR Call for Inputs,* www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Virgin_Media.pdf.

[485] P.9, *Vodafone response to FAMR Call for Inputs 2012*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Cable_Wireless_Worldwide.pdf.

[486] However where BT decreases the VULA margin by raising wholesale prices, this is more likely to harm consumers, for example because BT's rivals may raise their retail prices.

11.288 In light of stakeholders' responses to the 2012 FAMR Call for Inputs, we identify three potential concerns relating to a relevant risk of adverse effects arising from price distortion through BT imposing a price squeeze over the forward look period of this market review:[487]

- **Potential Concern 1:** BT abuses a dominant position by engaging in a margin squeeze in relation to VULA;
- **Potential Concern 2:** BT sets a VULA margin that does not allow an operator that has slightly higher costs than BT (or some other slight commercial drawback relative to BT) to profitably match BT's retail superfast broadband prices; and
- **Potential Concern 3:** BT sets a VULA margin that does not allow an operator that has slightly higher costs than BT (or some other slight commercial drawback relative to BT) to profitably significantly undercut BT's retail superfast broadband prices.

11.289 Potential Concern 1 is the concern that the competition law prohibition against the abuse of a dominant position (by way, in this context, of a margin squeeze) addresses. We discuss the general positions in *ex post* competition law and *ex ante* regulation in further detail below. We note at this point, however, that avoiding Potential Concerns 2 and 3 is likely to require BT to set a larger VULA margin than that necessary to avoid engaging in an abusive margin squeeze (Potential Concern 1).

11.290 Potential Concerns 2 and 3 both concern the impact on rival retailers that have slightly higher costs or some other slight commercial drawback relative to BT. For example, another retailer may have a slightly smaller range of other services that it can bundle with superfast broadband (we provide more precise guidance on our view of what is likely to constitute an operator with slightly higher costs or some other commercial disadvantage relative to BT in paragraphs 11.424-11.439). As a result, in order to profitably match BT's prices (Potential Concern 2) it requires a slightly higher VULA margin.[488] In contrast, Potential Concern 3 involves that rival operator significantly undercutting those prices.[489] Potential Concern 3 encapsulates the concern that rival CPs are unable to sustain their market position over the longer term unless they maintain a systematically lower price than BT.

11.291 TalkTalk's separate competition law complaint relates to Potential Concern 1, although for the purposes of this market review it considered we should seek to promote competition (i.e. address Potential Concern 2 or 3). [✂] appears to be motivated by Potential Concern 3.

[487] For the purposes of identifying the nature of our concern, we have assumed the absence of any regulation that would address Potential Concerns 1 to 3.
[488] Note that even if Potential Concern 2 holds, an operator that has slightly higher costs than BT may be able to match its prices for a short period of time. However, such an operator would not be able to consistently match BT's prices over, for example, the course of a couple of years.
[489] An alternative way of characterising Potential Concern 3 is in terms of allowing retailers that have significantly higher costs than BT (or face significant commercial drawbacks relative to BT) to match BT's retail prices.

Ex post competition law and ex ante regulation

11.292 In broad terms, *ex post* competition law does not prohibit the holding of a dominant position by an undertaking.[490] Rather, it restricts conduct by a dominant undertaking which impedes competition on the merits. *Ex post* competition law recognises that markets in which undertakings are dominant can still work well for consumers provided there is no abuse of that dominant position. Its application involves the backward looking assessment of an undertaking's conduct, to determine whether an abuse has occurred.

11.293 Specifically in relation to margin squeeze, *ex post* competition law prohibits a dominant undertaking from charging a price for a product in the upstream market which, compared to the price it charges in the downstream market, does not allow even an equally efficient competitor to trade profitably in the downstream market on a lasting basis. The benchmark which will generally be relied on to determine the costs of an equally efficient competitor are the costs of the downstream division of the integrated dominant undertaking ('an EEO test').[491] However, in certain cases, adjustments have been applied to the dominant operator's costs (an 'adjusted EEO test').[492]

11.294 *Ex ante* regulation, however, is generally concerned with ensuring the development of a competitive market which would not otherwise develop in the absence of that *ex ante* regulation. Such regulation is generally concerned with reducing the level of a dominant operator's market power in a market, thereby encouraging effective competition to become established. It does so on the basis of a prospective analysis.

11.295 In the context of margins, *ex ante* regulation will aim to limit the scope for a dominant undertaking to charge a price for the product on the upstream market which, compared to the price it charges on the downstream market, does not allow a reasonably efficient competitor to trade profitably in the downstream market on a lasting basis. The benchmark which will generally be relied on to determine the costs of a reasonably efficient competitor are either:

- the costs of the downstream division of the integrated dominant undertaking adjusted to reflect certain advantages that the dominant undertaking has over other competitors in the market arising from its SMP (i.e. an adjusted EEO test);[493] or

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[490] Recital 25 of the Framework Directive says the concept SMP is equivalent to the concept of dominance as defined in the case law of the Court of Justice and the General Court of the European Union (EC, *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*, www.ec.europa.eu/information_society/policy/ecomm/doc/140framework.pdf).

[491] Paragraph 80, EC, *Communication from the Commission – Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty (now Article 102 of the Treaty on the Functioning of the European Union) to abusive exclusionary conduct by dominant undertakings (2009/C 45/02)*, 24 February 2009, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:045:0007:0020:EN:PDF.

[492] For example, in a recent decision we considered both an EEO and an adjusted EEO test (paragraph 6.79, Ofcom, *CW/988/06/08: Complaint from THUS plc and Gamma Telecom Limited against BT about alleged margin squeeze in Wholesale Calls pricing*, 20 June 2013, www.stakeholders.ofcom.org.uk/binaries/enforcement/competition-bulletins/closed-cases/all-closed-cases/cw_988/final.pdf).

[493] As explained above, an adjusted EEO test has sometimes been applied for the purposes of assessing compliance with *ex post* competition law. However, the precise adjustments made under an *ex ante* framework need not be the same as those made under an *ex post* framework.

- the costs of a hypothetical REO (which are informed by the costs of a market entrant rather than the dominant undertaking) (i.e. an REO test).[494]

The risk of the potential competition concerns identified arising

11.296 We now consider the magnitude of the risk of a price squeeze in the manner of Potential Concerns 1, 2 and 3 identified above arising during the review period. We consider Potential Concern 1 first, since if BT's VULA margin was likely to be low enough to constitute an abuse then its margin is also unlikely to allow an operator that has slightly higher costs than BT to profitably match or undercut BT's retail superfast broadband prices (i.e. Potential Concerns 2 and 3 would also arise). We then consider Potential Concerns 2 and 3.

The risk of Potential Concern 1 arising

11.297 [✂] and TalkTalk both argued that BT's current pricing practices suggested that there is a material risk that BT would engage in a margin squeeze. In particular, they referred to the relative price that BT charges for a package containing superfast broadband compared to a package containing standard (CGA) broadband. [✂] and TalkTalk also pointed to BT Retail's high share of VULA connections. In support of its position, BT referred to other CPs' current and expected use of VULA and also stated that different retailers had adopted different commercial timescales for promoting superfast broadband products.

11.298 In this review we have not investigated whether BT is currently engaging in a margin squeeze. The purpose of this review is purely forward looking, namely whether SMP is likely to exist during the review period and, if so, what remedies are appropriate to address it. As explained above, the TalkTalk Competition Complaint is the subject of a separate investigation by Ofcom.

11.299 We acknowledge that one possible interpretation of BT's current conduct is that it is setting an inappropriately low retail margin. This is an interpretation that has been put to us in the TalkTalk Competition Complaint. However, as explained below, there is a possible alternative explanation for the evidence presented by [✂] and TalkTalk as part of this review, namely that the current market position reflects the different commercial strategies that CPs have adopted, rather than some form of margin squeeze. For the avoidance of doubt, in this consultation we do not take a view on which of these two alternative interpretations is correct (or if there may be other reasons). However, it is against that backdrop that we assess the forward looking position.

11.300 Below we address in turn the two main issues raised by stakeholders:

- BT Retail's current share of VULA connections; and
- the relative price charged by BT Retail for standard (CGA) and superfast broadband.

[494] Conceptually, it is possible that the dominant operator could be highly inefficient (e.g. because it engages in unprofitable lines of business). As a result, the minimum margin necessary to pass an EEO test (using the dominant undertaking's inefficient cost base) could be higher than needed for a REO to cover its costs. However, for clarity of exposition we disregard this possibility for the purposes of the discussion below.

11.301 As set out in paragraph 11.27, BT Retail currently accounts for the majority of VULA connections. We agree that this could be a consequence of BT engaging in a margin squeeze. However, one alternative interpretation is that different CPs have adopted different commercial strategies. In particular, the extent to which encouraging migration to superfast broadband will cannibalise margins earned on standard broadband may differ between CPs.

11.302 For example, suppose that the margin earned on a standard (CGA) broadband subscriber is higher than the margin earned on a superfast broadband subscriber. This means that a CP has an incentive to avoid upgrading an existing customer to superfast broadband where that customer would otherwise stay on standard broadband. Similarly, where that operator can supply standard broadband to a new customer, it would rather do so than supplying superfast broadband to that same customer. Note that where it is necessary to offer superfast broadband in order to retain an existing customer or win a new customer then these CPs will have an incentive to do so (otherwise they receive nothing).

11.303 This suggests that, in the early days when few customers are motivated by the prospect of superfast broadband, some CPs may only engage in limited, targeted promotion of superfast broadband, in order to avoid cannibalising their profits on standard broadband. They are thus likely to have few superfast broadband subscribers. However, if many more consumers were highly interested in superfast broadband then these CPs will need to promote superfast broadband in order to avoid losing customers altogether. Thus, in the longer term their share of superfast broadband subscribers is likely to grow.

11.304 In contrast, if superfast broadband offers a higher margin than standard broadband for an operator then it has an incentive to upsell superfast broadband to their existing customers, as well as competing for those customers that are interested in superfast broadband.

11.305 This interpretation is consistent with [✂].[495] We recognise that this analysis rests on a number of assumptions [✂]. Nonetheless it provides an indication that [✂].[496] Indeed BT's Chief Executive stated in May 2013 that "… the very simple reason that [BT] Retail push fibre is actually they make money from it."[497]

11.306 This interpretation is also consistent with [✂][498][✂][499]

11.307 Similarly, a November 2012 TalkTalk presentation noted that fibre exhibited "lower gross margin %".[500] [✂][501]

11.308 The extent of synergies with other lines of business may also mean that different CPs have differing incentives to promote superfast broadband. For example:

- **Television:** [✂][502]

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[495] [✂]
[496] [✂]
[497] P.20, BT, *Q4 2012/13 results presentation transcript – Part 1*, www.btplc.com/Sharesandperformance/Quarterlyresults/PDFdownloads/q413_transcript1.pdf
[498] [✂]
[499] [✂]
[500] Slide, 17, TalkTalk, *Interim Results*, 13 November 2012, www.talktalkgroup.com/~/media/Files/T/TalkTalk/pdfs/presentations/2012/13-11-2012-interim-pres.pdf.
[501] [✂]

- **Telephony:** [✂][503][✂][504]

11.309 [✂] and TalkTalk both considered that BT charging the same price for packages containing superfast broadband as for packages containing standard broadband was evidence BT may be engaging in a "margin squeeze". Since they submitted their responses to the 2012 FAMR Call for Inputs, BT has changed the retail prices of its broadband packages.[505]

11.310 We consider that the evidence submitted by [✂] and TalkTalk on this particular point is of limited relevance. A comparison between the retail price of standard and superfast broadband does not form the basis of a standard margin squeeze test (as recognised by AlixPartners) and, in our view, is likely to be an unreliable guide to the margins available on superfast broadband products. In particular, BT Retail's price for standard broadband has historically appeared to be higher than the price charged by other CPs.[506] This implies that, even if there were no difference between BT Retail's prices for standard and superfast broadband, other CPs may still be able to match or undercut BT Retail's superfast broadband price.

11.311 A formal margin squeeze test compares BT's margin against an appropriate measure of costs. The proposal set out in our draft guidelines reflects such an approach (see paragraph 11.440). We consider that such an approach is more informative than simply comparing CGA and superfast broadband prices (as [✂] and TalkTalk have done).

The risk of Potential Concern 2 or 3 arising

11.312 As explained above, avoiding Potential Concerns 2 and 3 would require BT to set a larger VULA margin than that necessary to avoid engaging in an abuse of a dominant position by way of a margin squeeze under *ex post* competition law (Potential Concern 1). Put another way, even if BT were fully compliant with its *ex post* competition law obligations, its VULA margin may still be insufficient to address Potential Concerns 2 and 3.

11.313 In our provisional view, absent regulation there is a material risk that Potential Concerns 2 and 3 would arise. That is, absent any other regulatory intervention, BT would have an incentive to do no more than is required under *ex post* competition law. Put simply, BT is unlikely to have an incentive to voluntarily set a large VULA margin (over and above competition law) in order to promote competitors to its own retail arm.

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[502] [✂]
[503] [✂]
[504] [✂]
[505] Note also that the differential between the price of standard and superfast broadband depends on which particular packages are being compared. As explained above, [✂] and TalkTalk claimed that the difference was zero. However instead comparing the lowest price standard and superfast broadband packages from BT gave a difference of £5 in March 2012 (Figure 5.5, Ofcom, *The Communications Market 2012,* 18 July 2012, www.stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/UK_5.pdf).
[506] In 2012, BT Retail's best price for broadband and a standard landline from BT Retail was £27.60. This compared to £21 from TalkTalk and £24.50 from Sky (although Virgin was slightly higher at £28.40) (Figures 95 and 96, Ofcom, *The Consumer Experience of 2012*, January 2013, www.stakeholders.ofcom.org.uk/binaries/research/consumer-experience/tce-12/Consumer_Experience_Researc1.pdf,

Provisional conclusion on the risk of Potential Concerns 1-3 arising

11.314 In relation to Potential Concern 1, we are separately considering whether or not BT has engaged in a margin squeeze as part of our investigation of the TalkTalk Competition Complaint.

11.315 However, we do consider that there is a material risk that Potential Concerns 2 and 3 will arise during the period covered by this market review – BT is unlikely to have an incentive to increase the margin available to its retail competitors over and above that required by competition law in order to promote competition.[507] We therefore provisionally conclude in relation to VULA that there is a relevant risk of adverse effects arising from price distortion through BT imposing a price squeeze in the manner of Potential Concerns 2 and 3.

11.316 However, simply because there is a material risk that Potential Concerns 2 and 3 will arise does not imply that it is appropriate to intervene and address those concerns. In particular, requiring BT to set a larger VULA margin than required by competition law has costs and it is important to consider whether those costs are likely to outweigh any beneficial impact on retail competition. We do so in the following subsection.

Our policy position on intervening to address Potential Concerns 2 and 3

11.317 We have considered our policy position on intervening to address Potential Concerns 2 and 3. In undertaking this consideration, we have had regard to our statutory duties, including our principal duty 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 (s3(1) of the CA03) and the desirability of promoting competition in relevant markets (s3(4)(b) of the CA03). We have also considered whether our policy position is appropriate for the purposes of promoting efficiency, promoting sustainable competition and conferring the greatest possible benefits on end users. We have also taken into account BT's investments.

11.318 We have considered whether, as a matter of policy, it is appropriate and proportionate to promote competition by requiring BT to set a VULA margin greater than required by competition law. Doing so may address Potential Concerns 2 and 3 and, as a result, may promote greater retail competition in the provision of superfast broadband. However, there may also be drawbacks to such an intervention, such as higher retail prices for consumers in the short term (in order to support a larger VULA margin), reductions in productive and static efficiency and potentially reduced incentives for future investment.

11.319 We first set out the advantages of intervening to require BT to set a VULA margin greater than required by competition law and then we set out the disadvantages of doing so. Finally, we set out our provisional conclusion.

Advantages of intervening to require BT to set a VULA margin greater than required by competition law

11.320 Addressing Potential Concerns 2 and 3 (by requiring BT to set a VULA margin greater than required by competition law) helps other retailers to match or undercut

[507] This begs the question of what consequences Potential Concerns 2 and 3 have for the effectiveness of retail competition. Another way of framing this issue is considering what impact intervening to address Potential Concerns 2 and/or 3 has on competition. We discuss this below.

BT's retail price for superfast broadband. This may encourage entry and allow rival retailers to grow. This may also allow those rivals to achieve more substantial economies of scale and greater experience of offering fibre. It would also allow BT's rivals to profitably offer a full suite of retail products (i.e. superfast broadband services alongside their existing services). As a result, in the longer term, competition may be increased, which may benefit consumers. Once rivals have established themselves, the requirements on BT's VULA margin might be relaxed.

11.321 As highlighted by [✂], previous pro-competitive regulatory interventions, particularly in relation to LLU, have helped foster a competitive retail position in the supply of standard broadband.

11.322 We have previously stated that "2004 was the year in which broadband finally become a mass market consumer product."[508] Broadband connections increased from 3.2m (in 2003) to 6.2m (in 2004) and then to 10.0m (in 2005).[509]

11.323 LLU began to accelerate in mid-to-late 2005, with the number of unbundled local loops increasing from 40,000 (in Q1 2005) to 210,000 (in Q4 2005) to 580,000 (in Q2 2006).[510] By Q1 2007, 25% of BT exchanges were unbundled and 72% of premises were connected to an unbundled exchange. At the time we stated that "A major driver of recent falls in the cost of telecoms services has been the accelerated rate of exchange unbundling".[511]

11.324 We have also identified various changes to the regulatory regime made in 2005 that facilitated the increase in LLU. These included reductions in certain LLU prices, improvements in various products and systems (including the development of the bulk migration processes) and the BT Undertakings given under the Enterprise Act 2002.[512]

11.325 In particular, Oftel revisited its approach to valuing BT's copper access network. In so doing we stated that "… for the purposes of this review consumer protection is the priority. Therefore while concerns over incentives to invest in access infrastructure have merit, they must be balanced by measures to protect consumers."[513] Moreover "… wholesale access to BT's copper access network as a means of enabling sustainable competition in downstream markets has taken on a renewed importance. The mechanisms for this competition are … WLR and LLU …"[514] We thus made a number of changes to the way in which we valued BT's copper access network that reduced the estimated costs (and thus the regulated prices) of WLR and LLU.[515]

11.326 We also note that, in June 2005, BT committed not to reduce its broadband prices below certain floors which had the effect of maintaining the margin available for LLU

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[508] P.94, Ofcom, *The Communications Market 2005*, July 2005, www.stakeholders.ofcom.org.uk/binaries/research/cmr/comms_mkt_report05.pdf.
[509] Figure 3.2, Ofcom, *The Communications Market 2006*, July 2006, www.stakeholders.ofcom.org.uk/binaries/research/cmr/main.pdf.
[510] Figure 3.4, Ibid.
[511] P.256, Ofcom, *The Communications Market 2007*, July 2007, www.stakeholders.ofcom.org.uk/binaries/research/cmr/telecoms1.pdf.
[512] Pp.117-118, Ofcom, *The Communications Market 2006*, July 2006, www.stakeholders.ofcom.org.uk/binaries/research/cmr/main.pdf.
[513] Paragraph 4.28, Ofcom, *Valuing copper access*, 18 August 2005, www.stakeholders.ofcom.org.uk/consultations/copper/.
[514] Paragraph 3.1, Ibid.
[515] Paragraph 5.17-5.21, Ibid.

CPs.[516] In November 2006, following discussions with Ofcom, BT committed to further floors for its broadband pricing. BT made this commitment "recognising that emergent LLU investments require a period of stability, within which to establish a sustainable business".[517]

11.327 In the future, including beyond the period covered by the current market review, superfast broadband is likely to be a highly important product. Fast, reliable broadband is likely to benefit consumers and can help support economic growth. This is reflected in the targets that the Government has set in relation to superfast broadband, as well as targets set at the European level.[518] Accordingly, we consider that it is important to ensure that there is effective competition in the provision of superfast broadband.[519]

11.328 The period covered by this market review is likely to be important as to whether that effective competition emerges. A number of stakeholders have argued that the market review period is important for take-up of superfast broadband (namely BT, [✂],[✂], Tesco and Verizon). We discuss forecasts of the number of superfast broadband subscribers in paragraphs 11.13-11.15. While there is clearly a degree of uncertainty, we expect the number of superfast broadband subscribers to grow significantly over the period covered by this market review.

11.329 BT Retail has considerably more superfast broadband subscribers than any other retailer apart from Virgin. In March 2013, BT Retail accounted for around 1.3m of the more than 1.5m fibre connections on BT's network.[520] Virgin had 2.5m superfast broadband subscribers at during the same period.[521] However, once it has completed its speed doubling programme, the rate of growth in Virgin's superfast broadband subscribers is likely to fall. Virgin's total number of residential PSTN subscribers has been almost flat since the company was formed (this figure has been [✂] since Q3 2008).[522] Virgin itself forecast that it would have [✂] superfast broadband subscribers in 2017.[523]

11.330 We thus consider that BT Retail has the opportunity to build up a substantial base of superfast broadband subscribers during the review period. Indeed, we note that BT's internal forecasts suggest that in 2016/17 BT Retail will account for [✂] of superfast

516 Paragraphs 10-12, Ofcom, *Broadband Regulation*, 30 June 2005, www.stakeholders.ofcom.org.uk/binaries/consultations/rwlam/statement/bbr.pdf.

517 Letter from BT to Ofcom, *Floors for future broadband pricing,* 10 November 2006, www.stakeholders.ofcom.org.uk/binaries/telecoms/policy/bb/floors.pdf

518 Government wishes to achieve "a transformation in … broadband access" with speeds of at least 2 Mbit/s available throughout the UK and with speeds of at least 24 Mbit/s available in 90% of the UK. This is because "Fast, reliable broadband internet access is essential for homes throughout the country to benefit from online services, and for UK businesses to compete globally." For further details see: www.gov.uk/government/policies/transforming-uk-broadband. The EC also has a series of targets in relation to broadband take-up and availability and the use of online services. For further details see: www.ec.europa.eu/digital-agenda/about-our-goals

519 Indeed, one of Ofcom's priorities for 2013/14 is to promote competition and investment in superfast broadband (Figure 1, Ofcom, *Annual Plan 2013/14*, 28 March 2013, www.ofcom.org.uk/files/2013/03/annplan1314.pdf).

520 Pp.7 and 11, BT, *Results for the fourth quarter and year to 31 March 2013*, 10 May 2013, www.btplc.com/News/ResultsPDF/q413_release.pdf.

521 P.1, Virgin, *Virgin Media – First quarter 2013 results*, 24 April 2013, www.investors.virginmedia.com/phoenix.zhtml?c=135485&p=irol-financial-results.

522 Ofcom/operator data.

523 Virgin response to s.135 notice of 26 November 2012.

subscribers on BT's network. This equates to around [✂] of overall superfast broadband subscribers.[524]

11.331 A further concern is that there is some evidence of inertia amongst broadband subscribers.[525] This suggests that, if BT were able to build up a substantial base of superfast broadband subscribers, then it would take several years for competition to erode that base. This is consistent with [✂],[✂] and TalkTalk's claims that BT's position could become entrenched. It is also consistent with survey evidence reported in our report *The Consumer Experience of 2012*.[526]

11.332 Specifically, to measure participation in different communications markets we categorised consumers into four groups:

- inactive – those who may have had some past involvement but have low interest in the market in question and do not keep up to date;
- passive – those who are more likely than inactive consumers to have participated in the past and who indicate some current interest in the market;
- interested – those who are broadly similar to passive consumers in terms of their past behaviour but are more likely to keep an eye on the market, looking out for better deals; and
- engaged – the most active group in terms of past behaviour and current interest.[527]

11.333 The level of consumer engagement is important for switching. Those who are more engaged are more likely to be aware of the details of their existing service and the availability of alternatives, and are thus more likely to consider switching. Table 11.4 shows engagement levels broken down between consumers that purchase standalone broadband and those that purchase broadband as part of a wider bundle. This shows that, while the majority of consumers are either engaged or interested in relation to broadband, there is a significant minority (41%) that are either inactive or passive.

Table 11.4: Level of engagement by broadband consumers (2012)

	Standalone broadband	Bundled broadband	Overall broadband
Inactive	26%	27%	27%
Passive	15%	14%	14%
Interested	33%	38%	37%
Engaged	26%	21%	22%

Source: P.107, The Consumer Experience of 2012

11.334 Notwithstanding consumers' degree of engagement, in 2012, 9% of broadband subscribers indicated that they had switched supplier in the last 12 months.[528] At this

[524] BT response to s.135 notice of 26 November 2012. Overall figure calculated assuming that Virgin has [✂] superfast broadband subscribers in 2016/17.
[525] Moreover, as set out in paragraph 11.190 we are proposing to control the level of the GEA migration charge. However, if left unaddressed, high GEA migration charges would also act as a switching cost that could limit the rate at which other CPs are able to win superfast broadband subscribers from BT Retail.
[526] Ofcom, *The Consumer Experience of 2012*, January 2013, www.stakeholders.ofcom.org.uk/binaries/research/consumer-experience/tce-12/Consumer_Experience_Researc1.pdf.
[527] *The Consumer Experience of 2012*, January 2013, Annex 3.

rate of switching, if BT builds up a larger superfast subscriber base than other CPs it is likely to take many years for competition to erode its position. Moreover [✂] which, if correct, suggests that switching rates may be even lower for fibre customers.[529]

11.335 We asked consumers that considered switching broadband provider but who had not done so why this was the case. The responses are summarised in Table 11.5, with perceived hassled as the main reason given by respondents (33%).

Table 11.5: Stated reasons for considering switching broadband provider but not doing so (2012)

Hassle	No cost benefit	Terms and conditions	Satisfied with existing provider	Service availability
33%	25%	20%	18%	5%

Source: P.112, The Consumer Experience of 2012

11.336 When assessing the impact of inertia on the ability of a retailer to win superfast broadband subscribers, it is useful to distinguish between two categories of potential customer.

11.337 The first is existing superfast broadband subscribers. These potential customers already purchase superfast broadband from a CP and inertia is likely to hamper the ability of rival CPs to compete for them. However, the vast majority of broadband subscribers on BT's network have not yet decided to subscribe to superfast broadband and thus do not fall into this category. At the start of the market review period we expect the vast majority of consumers to fall into the second category, namely consumers that do not yet purchase superfast broadband.

11.338 Inertia may be less of an impediment to winning consumers that do not yet purchase superfast broadband. Where a consumer is considering switching from standard broadband to superfast broadband, this indicates that they are already engaged with the switching process and are willing to discontinue their existing broadband supply. It thus seems plausible that they are more willing to consider an alternative supplier.

11.339 The above analysis thus suggests that the transition from standard to superfast broadband represents an opportunity for retailers to win customers from their rivals. However, once a consumer has begun subscribing to superfast broadband, factors such as inertia are likely to impede the ability of other providers to win that customer.

11.340 We recognise that some of the benefits of promoting competition in relation to superfast broadband emerge if the constraint exerted by standard broadband weakens in the future.[530] In Section 3 of the forthcoming 2013 Wholesale Broadband Consultation we acknowledge that there are factors pointing to the future emergence of a separate market for fibre-based products but there is uncertainty about when this

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[528] A further 4% of respondents indicated they were actively looking for a new supplier, 8% indicated that they had started looking but had not switched and 8% had considered switching but had not looked further (Figure 112, Ofcom, *The Consumer Experience of 2012*, January 2013, www.stakeholders.ofcom.org.uk/binaries/research/consumer-experience/tce-12/Consumer_Experience_Researc1.pdf).

[529] [✂]

[530] Even if BT has a strong retail position in the supply of superfast broadband, its ability to raise prices may be limited so long as standard broadband continues to exert a strong constraint. Note, however, that our concern about rivals' inability to profitably offer a full suite of products (as set out in paragraph 11.285) applies even if standard broadband exerts a constraint on superfast broadband.

will occur. Accordingly there is uncertainty about when the benefits of promoting competition may emerge.

11.341 The approach adopted in the 2010 WLA Statement reflected a desire to promote competition. We indicated that reliance solely on *ex post* competition law was not appropriate since it may be insufficient to ensure that the purpose of an SMP remedy, namely "to promote the development of a competitive market", was not undermined.[531] This suggests that there would be benefits from continuing with this approach, if appropriate, in order to provide a stable and predictable regulatory framework. On its face, adopting such an approach would appear to be consistent with our principal duty.

Disadvantages of intervening to require BT to set a VULA margin greater than required by competition law

11.342 We now discuss the possible disadvantages of intervening to require BT to set a VULA margin greater than required by competition law. Note that addressing Potential Concern 3 would require BT to set a VULA margin greater than needed to address Potential Concern 2. Accordingly some of these disadvantages may be larger if we were to seek to address Potential Concern 3. Below we discuss the following issues:

- potential increases in BT's retail prices to accommodate a larger margin;
- risk of inefficiency;
- whether smaller retailers significantly benefit and whether an increased VULA margin is necessary to sustain competition between at least four large retailers;
- the impact on investment incentives; and
- the arguments advanced by BT.

11.343 First, requiring BT to set a VULA margin greater than required by competition law implies that it either must increase its retail prices (which harms consumers, at least in the short term) or reduce its wholesale VULA price (which affects its investment incentives) or some combination of the two. We discuss the impact on investment below. The potential impact on retail prices is a particular concern if we were to set a sufficiently large margin to seek to address Potential Concern 3. To illustrate:

- Openreach's current monthly GEA charges (excluding VAT) are £6.90 (for up to 40Mbit/s download/2Mbit/s upload), £7.40 (for up to 40Mbit/s download/10Mbit/s upload) and £9.95 (for up to 80Mbit/s download/20Mbit/s upload).[532]
- [✂] provided an illustrative calculation that showed that equalising the margin available on standard (CGA) broadband and fibre broadband would require a

[531] Paragraph 8.128, *Review of the wholesale local access market*, 7 October 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf. Similarly paragraph 8.129 stated that "VULA is an *ex ante* remedy, which is intended to support the development of downstream competition."

[532] FTTC prices from 1 April 2013 taken from Openreach website: www.openreach.co.uk/orpg/home/products/pricing/loadProductPriceDetails.do?data=yzq%2FQaGYa3hVgsB2ZYfjHxzfISuq3px%2FWFtgATP2kPRZ6rNZujnCs99NbIKJZPD9hXYmiijxH6wr%0ACQm97GZMyQ%3D%3D

£6.27/month increase in fibre broadband margins.[533] Given that GEA-FTTC prices are between £6.90 and £9.95, an increase in margins of this magnitude is likely to involve an increase in BT's retail prices (as well as a fall in wholesale prices).

11.344 Second, requiring BT to set a VULA margin greater than required under competition law may result in productive inefficiencies. Indeed by addressing Potential Concerns 2 and 3 the intention is to allow CPs that have slightly higher costs than BT (or some other slight commercial drawback relative to BT) to match or undercut BT's retail prices. While this disadvantage is potentially larger if we were to seek to address Potential Concern 3 (since BT would need to set a greater VULA margin), in practice the impact may be similar regardless if we were to address either Potential Concern 2 or Potential Concern 3. This is because the impact on smaller retailers, which may have significantly higher costs than BT, may be limited (see next paragraph).

11.345 Third, even if there is an increase in BT's VULA margin, it is questionable whether smaller retailers will substantially benefit. Currently there are four large broadband suppliers, namely BT (with a share of subscribers of around 30%) plus Virgin, TalkTalk and Sky (each with a share around 20%). The remaining suppliers are much smaller, with EE being the largest with a share of subscribers of around 3%.[534] Even if BT is required to set a larger VULA margin, those smaller subscribers would still face competitive pressures from the other three large CPs. For example, a lower wholesale VULA price would allow TalkTalk and Sky to cut the retail price of their superfast products. This is consistent with the historic experience in relation to broadband as a whole, where the largest four firms' share of subscribers has gradually increased over time, reflecting both organic growth and acquisitions of smaller firms. This is shown in Figure 11.1 below.[535]

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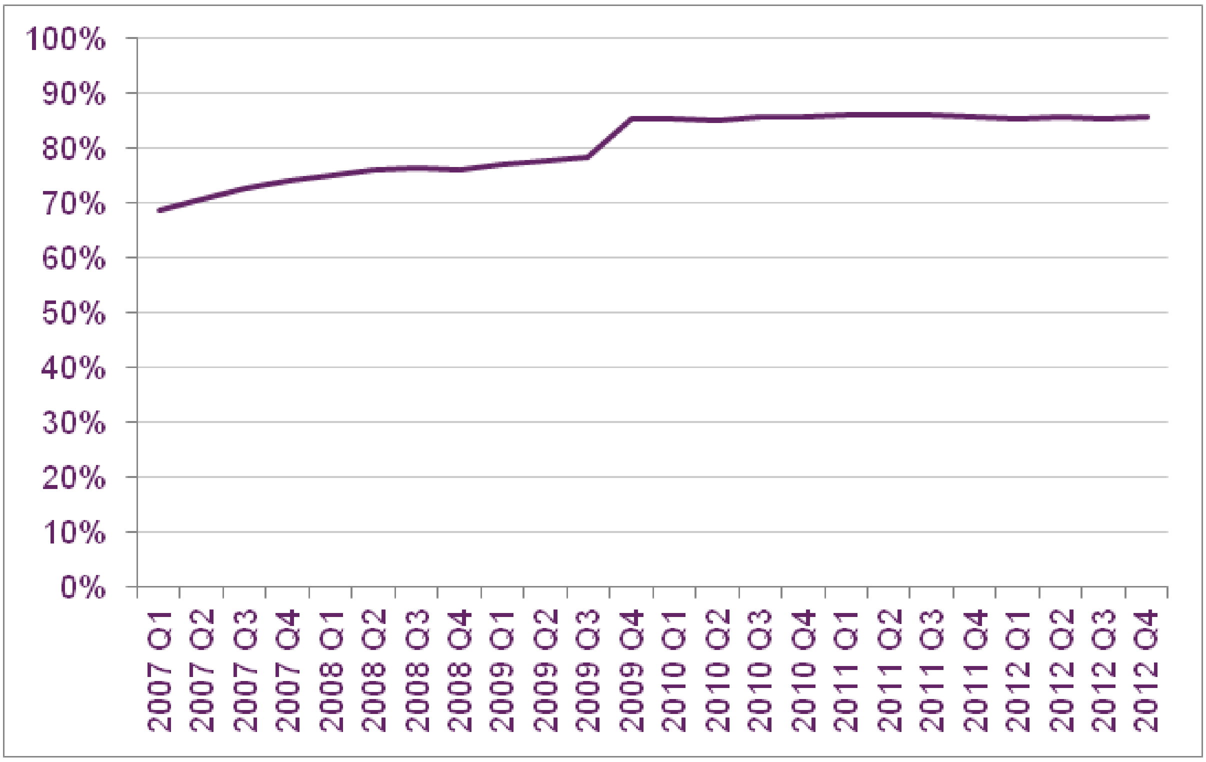
[533] [✂] considered that setting margins using this methodology would allow CPs to compete to the same degree as in standard broadband ([✂]).

[534] The Orange brand is operated by EE (Figure 5.32, Ofcom, T*he Communications Market 2012*, 18 July 2012 www.stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/UK_5.pdf - note that since this report was published, Sky has acquired O2's fixed broadband business).

[535] Ofcom/operator data. The chart shows BT, Virgin, Sky and TalkTalk's share of retail broadband subscribers. The step increase in Q4 2009 reflects TalkTalk's acquisition of Tiscali.

Figure 11.1: BT Retail, Virgin, Sky and TalkTalk's share of broadband subscribers



Source: Ofcom/operator data

11.346 We have considered whether a larger VULA margin is necessary to sustain competition between at least four large retailers in the longer term.

11.347 While we recognise that TalkTalk in particular has positioned itself as a lower price operator, at this stage it is questionable whether a much larger VULA margin (i.e. a margin sufficient to address Potential Concern 3) is essential for TalkTalk to remain a major broadband supplier. TalkTalk is a large and profitable operator. While its revenue and profits were slightly lower in 2012/13 than in 2011/12, it expects both revenue and profits to increase in the coming years.[536]

11.348 [✂] stated that other CPs need to undercut BT's prices in order to offset its first mover advantage and inertia. However, as discussed above, the majority of consumers do not yet purchase superfast broadband. During the period covered by this market review, many of these consumers are likely to consider switching to superfast broadband and, at that point, inertia is likely to be less of an issue. Even if it were the case that a consumer is more likely to take superfast broadband from their existing CGA broadband provider than from another operator, both Sky and TalkTalk have large existing subscriber bases.

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[536] Revenue in 2012/13 was 1% lower than in the preceding year (£1,670m compared to £1,687m) and profits before tax were 23% lower (£156m compared to £215m) (slide 25). However TalkTalk expects 2% revenue growth in 2013/14, reflecting increases in both ARPU and its subscriber base (slide 33). It also expects profitability to increase from 2014/15 and refers to "Strong EBITDA growth" during this period (slide 34) (TalkTalk, *Preliminary Results*, TalkTalk, 16 May 2013, www.talktalkgroup.com/~/media/Files/T/TalkTalk/pdfs/presentations/2013/preliminary-results-presentation-2013.pdf).

11.349 Fourth, we have also considered whether requiring BT to set a VULA margin greater than required by competition law would adversely affect BT's investment incentives. As previously noted, in the 2010 WLA Statement we explicitly went beyond the position generally required under *ex post* competition law.[537] As set out in paragraph 11.10, commercial NGA deployment is expected to be almost complete by the start of the market review period and, with support from public funding, we expect 90% of premises will have access to fibre broadband by 2017. In other words, a high level of investment and deployment is expected given the regime set out in the 2010 WLA Statement and, therefore, maintaining the approach adopted in the 2010 WLA Statement, is unlikely to have a material impact on investment incentives.

11.350 We did not, in the 2010 WLA Statement, distinguish between Potential Concerns 2 and 3. However, requiring BT to set a sufficient VULA margin to address Potential Concern 3 in particular has, the previous paragraph notwithstanding, the potential to harm investment incentives. To illustrate, [✂] claimed that fibre broadband margins should increase by £6.27/month. An increase in margins of this magnitude is likely to involve a fall in BT's wholesale VULA prices (as well as a rise in its retail prices). This is likely to reduce the profitability of BT's investments in fibre. While [✂] did not think that BT's fibre deployment would be significantly harmed, in part because that deployment is already well advanced, we remain concerned about the potential impact of seeking to address Potential Concern 3 on investment incentives. BT has already invested large amounts in fibre deployment and, if we were to make unanticipated regulatory changes that materially affect the profitability of that investment, this would introduce perceived regulatory uncertainty. This in turn is likely to harm future investment incentives, not just for NGA but also for other sectors that we regulate.

11.351 In its response to the 2012 FAMR Call for Inputs BT stated that:

- market mechanisms were better suited to generating efficient and sustainable competition and that retail broadband competition was already "vibrant"; and
- intervening to promote competition would "penalise" BT for the strategies adopted by other CPs.

11.352 In terms of BT's first argument (market mechanisms being better suited to address the issue), while BT has characterised competition as "vibrant", as discussed in paragraphs 11.6 and 11.16 current shares of superfast broadband supply are relatively concentrated and are expected to remain more concentrated than for standard broadband at least in the short term. An important aspect of current retail competition is the constraint that standard broadband currently imposes on superfast broadband. However, Potential Concerns 2 and 3 are forward looking in nature and as previously noted there are factors pointing to a separate market for fibre-based products emerging in the future.

11.353 Nonetheless, we recognise that there is some force to BT's arguments. Leading retail competitors to BT such as Sky, TalkTalk and Virgin already operate significant retail broadband businesses. CPs like Sky and Virgin are also likely to enjoy economies of scope as a result of their substantial pay TV and telephony businesses.

[537] Paragraph 8.128, *Review of the wholesale local access market*, 7 October 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf.

11.354 However, Potential Concern 2 relates to an operator that has slightly higher costs than BT (or some other slight commercial drawback relative to BT) profitably matching BT's retail superfast broadband prices. We have not analysed in detail the retail costs of providing superfast broadband but, nonetheless, we cannot rule out the possibility that some of BT's major retail competitors have slightly higher costs or some other slight commercial drawback relative to BT.[538]

11.355 In terms of BT's second argument (intervention would penalise BT for strategies adopted by other CPs), as part of our analysis of Potential Concern 1 we explain that we do not take a view in this consultation on whether current levels of VULA take-up by other CPs reflects their commercial strategies or some form of margin squeeze (or some other factor) (see paragraph 11.299). Regardless, as set out at paragraph 11.16, BT believes it will account for a high share of VULA connections in 2016/17.

11.356 We recognise that requiring BT to set a VULA margin greater than required by competition law is likely to affect BT's profitability (indeed that is why regulatory intervention would be necessary to secure that higher margin). However, the purpose would not be to "penalise" BT. Rather the purpose would be to promote competition in the longer term, in line with our principal duty, in the circumstances we consider likely to apply in the relevant market over the review period.

Provisional policy position on the desirability of intervening to address Potential Concerns 2 and 3

11.357 The forward looking nature of our analysis means that there are inherent uncertainties about the effect of intervening to promote competition. This is a policy area in which we, as the specialist sectoral regulator, have to exercise our judgement.

11.358 Our provisional policy position is that it is appropriate to intervene to promote competition in relation to superfast broadband by requiring BT to set a VULA margin under our *ex ante* powers and not to rely solely on *ex post* competition law. Superfast broadband is likely to be a highly important product in the future and ensuring that there is effective retail competition in the supply of superfast broadband is likely to result in significant dynamic benefits for consumers.

11.359 Our judgment is that it is therefore important to intervene to promote competition at this stage, given this review period is likely to be important to the take-up of superfast broadband. BT Retail currently accounts for a high share of VULA connections and, even if its share declines in the future, it is expected to remain high. In reaching this view we have been mindful of the fact that consumers exhibit a degree of inertia and thus if BT Retail were able to build up a large share of superfast broadband customers it may take years to unwind this position. This proposed policy position is consistent with our statutory duties, in particular our principal duty. It also satisfies the conditions under section 88 of the CA03 in that, in our view, our proposed approach promotes efficiency, promotes sustainable competition and confers the greatest possible benefits on end users. We also consider that such an approach will not undermine investment. It also represents a continuation of our current regulatory approach, which is consistent with our desire to provide an appropriate degree of regulatory certainty when important investment programmes are undertaken.

[538] In particular, we discuss below (as part of our guidance on a suitable VULA margin) the possibility that some CPs may not benefit from economies of scale and scope to the same extent, or may experience shorter customer lifetimes, and we invite comments on other potential adjustments.

11.360 As to the extent of that intervention, addressing Potential Concern 2 is only likely to involve a relatively modest increase in the VULA margin (over and above that required under competition law). As a result the negative effects are likely to be limited.

11.361 In contrast, addressing Potential Concern 3 risks having much more significant negative impacts. It is unclear whether seeking to address Potential Concern 3 is likely to significantly increase future superfast broadband competition, particular as smaller and significantly less efficient competitors will still face competitive pressures from retailers such as Sky and TalkTalk. Moreover, the larger adjustment to the VULA margin needed to address Potential Concern 3 is likely to result in higher retail prices for BT's superfast broadband consumers and is also likely to have negative effects on investment incentives. An intervention designed to address Principal Concern 2 appears to us therefore to take due account of BT's investment and so to be more consistent with the desirability of encouraging investment.

11.362 In this respect, the position on superfast broadband differs from the position in relation to standard broadband in 2005. The high broadband prices of the time fell sharply as a result of our regulatory approach.[539] This highlights that the risk that regulatory intervention would result in higher retail prices or adverse effects on investment was lower in 2005.

11.363 Accordingly, our provisional policy position is that it is appropriate to intervene to address Potential Concern 2. We consider that this policy position strikes an appropriate balance between promoting competition and the potential negative effects of requiring BT to set a large VULA margin, and so is consistent with our duties in respect of the promotion of competition and encouraging investment, including under section 88 of the CA03. We note more generally that it is also in line with our priority for 2013/14, as set out in our annual plan, of "Ensur[ing] effective competition and investment in both current and superfast broadband".[540]

11.364 We note at this point that our position may change in future reviews. Our position in any future review will be informed by developments in the supply of superfast broadband over the coming years. For example, in the future other CPs may have had an opportunity to build up a reasonable base of superfast broadband subscribers on BT's network such that regulatory intervention may not be necessary.

Options for intervention

Stakeholders' views on the options for intervention

BT

11.365 BT considered a requirement for Openreach's charges to be fair and reasonable offers broadly the right balance between "control and flexibility".[541] BT considered that aspects of the Draft EC Recommendation risked being "overly intrusive". In particular, BT criticised the proposal to test margins on "flagship" products within 3 months of

[539] Average monthly broadband prices fell from £50 (for speeds over 1Mbit/s), £35 (for speeds of 1Mbit/s) and £26 (for speeds of 512 Kbps) in 2003 to £41, £30 and £23 (respectively) in 2004 and £16, £15 and £10 (respectively) in 2005. Figure 3.5, Ofcom, *The Communications Market 2006*, July 2006, www.stakeholders.ofcom.org.uk/binaries/research/cmr/main.pdf.
[540] Figure 1, Ofcom, *Annual Plan 2013/14*, 28 March 2013, www.ofcom.org.uk/files/2013/03/annplan1314.pdf.
[541] Pp.17-18, *BT response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BT.pdf.

launch. It considered that it was more appropriate to investigate in response to complaints.[542]

Confidential respondent: [✂]

11.366 [✂] considered that competition law is not sufficient given the objective of actively encouraging NGA take-up. [✂] stated that margin squeeze allegations are difficult to resolve in a timely manner and that complainants lack access to relevant data. It considered that a complaint-driven process using Ofcom's dispute resolution powers also suffers from these weaknesses.[543] [✂] considered that "some form of effective *ex ante* margin squeeze test" would be more timely and would provide greater certainty.[544] [✂] considered that this would be consistent with the Draft EC Recommendation.[545]

TalkTalk

11.367 TalkTalk considered that the current regulatory approach is not effective for a number of reasons. First, any complaints would take years to resolve. Second, the 2010 WLA Statement did not make clear how Ofcom would calculate an appropriate margin. Third, the current approach lacks "dissuasive penalties" – BT can set a low margin knowing that, in the event of a finding against it, it would simply need to change that margin to a compliant level. TalkTalk considered that this lack of effectiveness was shown by BT's current pricing practices and the current lack of retail competition (see above).[546]

11.368 As set out at paragraph 11.277, TalkTalk considered that remedies should reflect our duty to promote competition.[547] TalkTalk considered that a wholesale price ceiling would not be sufficient to address concerns about retail margins.[548] Rather, TalkTalk considered that there was a clear need for a "pre-specified" margin.[549] This was "essential" since it provides greater certainty for both entrants and BT.[550] TalkTalk suggested that this requirement could be applied only to BT's most popular retail

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[542] P.18, Ibid.
[543] [✂];[✂]
[544] [✂]
[545] [✂].
[546] Paragraphs 8.7 and 8.41,*TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf; paragraph 5.2, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf.
[547] Paragraph 8.34, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf; paragraph 5.30, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf.
[548] Paragraph 8.31, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.
[549] Paragraph 8.7, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf. AlixPartners stated that it may be too early in the market review to set out a "fully specified remedy" (paragraphs 5.3 and 6.8, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf).
[550] Paragraphs 8.38-8.39 and 8.42, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.

packages, in order to retain BT's ability to experiment with pricing and to limit the burden when conducting the test.[551]

11.369 TalkTalk envisaged this protection as potentially being temporary (perhaps 3-5 years), until the point at which competition is reasonably well established and more traditional regulatory measures, such as wholesale price regulation, could be used.[552]

Tesco

11.370 Tesco considered that a charge control on VULA would reduce the risk of a margin squeeze.[553]

Options for addressing Potential Concern 2

11.371 We now assess a range of options for addressing Potential Concern 2. The options that we have considered are:[554]

- Option 1 – An obligation to supply VULA on fair and reasonable terms, conditions and charges supplemented by guidance on how we are likely to undertake our assessment when testing whether the VULA margin complied with that SMP condition;

- Option 2 – An obligation to supply VULA on fair and reasonable terms, conditions and charges supplemented by Ofcom systematically testing whether changes to BT's prices comply with this SMP condition; and

- Option 3 – An SMP condition specifying the minimum VULA margin that BT should maintain during the review period.

11.372 Below we describe each of these options in further detail and assess their advantages and disadvantages.[555]

Option 1: fair and reasonable SMP condition supplemented by guidance

11.373 As discussed above we are proposing to retain the requirement for BT to provide VULA and any ancillary services on fair and reasonable terms, conditions and charges. In proposing this condition we are satisfied that the conditions about network access pricing under section 88 of the CA03 are met. One of the issues that

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[551] Paragraph 8.48, Ibid.
[552] Paragraph 8.33, Ibid.
[553] P.4, *Tesco response to 2012 FAMR Call for Inputs,* www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Tesco_Broadband.pdf.
[554] We also considered not having any specific *ex ante* regulation aimed at controlling the VULA margin. This would reflect BT's view that we could use our competition law enforcement powers to address concerns about the VULA margin. However, as discussed, competition law is not suitable for addressing Potential Concern 2. The nature of this concern requires intervention beyond the level that would be caught by competition law alone. Tesco advocated the use of a charge control on VULA in order to address the risk of margin squeeze, although TalkTalk considered that this was unlikely to be sufficient. We set out in paragraphs 11.141-11.143 our provisional view why a charge control is not appropriate for VULA at this time. In any event, while a charge control would limit the price that BT is able to charge for VULA, it would not constrain the margin between that price and BT's downstream prices. We thus do not discuss this option further.
[555] We recognise that, in practice, there could be some similarities between these options. For example, if the guidance provided under Option 1 was extremely precise and detailed then it may be tantamount to specifying a minimum margin (Option 3). However by drawing out the essence of the different options in the analysis below we are able to weigh up their advantage and disadvantages.

we could consider, when assessing whether BT was complying with this SMP condition, would be whether the price BT charged for VULA allows for an appropriate differential compared to its downstream prices. Under Option 1 we would provide some form of guidance on how we are likely to undertake our assessment when testing whether the VULA margin was sufficient to comply with this SMP condition. This guidance would help BT set a margin that complies with its SMP obligation.

11.374 Under Option 1, there are a number of ways in which guidance could be provided, from articulating the principles that should likely be applied, to providing ranges for key parameters or a worked example.

11.375 Under this option, if a CP considered that BT was charging a VULA price that was not fair and reasonable then it could submit a dispute to us under sections 185-191 of the CA03. We can also investigate on our own initiative whether BT is in breach of an SMP obligation using our powers under sections 94-104 of the CA03. Option 1 thus involves Ofcom testing the margin, and the economic replicability of BT's retail products, in a targeted fashion.

11.376 Option 1 is a mechanism capable of addressing Potential Concern 2. In particular, our guidance could make clear the ways in which we would likely go beyond *ex post* competition law when testing whether BT was complying with its SMP condition.

11.377 The risk of regulatory failure under Option 1 is fairly small.[556] Provided the guidance given under Option 1 has appropriately drawn parameters, under this option there is the scope to take into account new data and developments that occur during the review period. Indeed, the guidance would set out our current view of the likely factors and parameters we consider we are likely to consider; it would be neither exhaustive nor definitively binding, and would be applied appropriately at the relevant time, taking into account then current relevant data and circumstances.

11.378 For example, when assessing a complaint we could use the most recent available data (this contrasts with Option 3, which depends on the data that is available at the time we publish our final statement in this review). Given that superfast broadband is a relatively new product, for which demand and business models are not mature, the ability to take recent data into account is likely to be important in minimising regulatory errors.

11.379 Option 1 is also similar (at a broad level) to the status quo. TalkTalk's criticisms of our current regulatory approach thus potentially apply to Option 2. Our assessment of TalkTalk's points is as follows.

11.380 TalkTalk stated that resolving any complaints is likely to take years. Except in exceptional circumstances we must make dispute determinations within four months (section 188(5) of the CA03).[557] We recognise the complexity of the issues involved in assessing whether the VULA margin is sufficient and have thus considered whether dispute resolution is likely to be feasible, given the statutory deadline.

11.381 Our draft guidance set out at paragraph 11.417 states that we would be likely to start from the general position in *ex post* competition law, using the modelling and analysis

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[556] An example of regulatory failure is if the margin that we calculate to be appropriate is in fact too high or too low.

[557] By contrast, competition law complaints have no such statutory requirement as to the timeframe within which we must make a decision.

carried out in relation to any *ex post* margin squeeze assessment (including any in relation to the current TalkTalk Competition Complaint) as the starting point for our analysis. We would then consider what further adjustments should be made.

11.382 This approach is likely to speed up the assessment of whether BT is complying with its obligation to supply VULA on fair and reasonable terms, for example by allowing the analysis to concentrate on the issue of further adjustments. Further, in a dispute the extent of our analysis and information gathering would need to reflect the statutory deadline. We are unlikely to be able to examine issues in the same depth that we would when, for example, setting a charge control.

11.383 We accept that carrying out an assessment under Option 1 would take longer to resolve than under Option 3 (where the exercise would simply involve comparing BT's actual margin against the minimum specified). However we consider that Option 1 could allow us to address disputes in a comparable timescale to Option 2 (four months).[558]

11.384 TalkTalk considered that the current approach fails to provide sufficient certainty. We consider that providing additional guidance, as we propose below, would increase the degree of certainty. Nonetheless we accept that Option 1 is unlikely to exactly identify the minimum appropriate differential between the price of VULA and downstream prices.

11.385 TalkTalk considered that the current approach lacks suitable penalties in the event that BT sets an inappropriately low VULA margin. We do not agree. In particular, if BT were found to have contravened its SMP condition then we have the ability to impose a penalty on BT under sections 96A-97 of the CA03.[559]

11.386 TalkTalk has also suggested that BT may currently be engaging in a margin squeeze. If correct then this would strengthen the case for a more intrusive remedy, such as Option 2 or 3. As explained in paragraphs 11.297-11.311, we have not in this review investigated whether BT is currently engaging in a margin squeeze as this is being assessed in a separate investigation. While TalkTalk has put it to us that BT is setting an inappropriately low retail margin, a possible alternative explanation is that the current market position reflects the different commercial strategies that CPs have adopted, rather than some form of abusive margin squeeze. For the avoidance of doubt, we do not take a view in this consultation on which of these two alternative interpretations is correct (or if there may be other reasons).

Option 2: fair and reasonable SMP condition supplemented by systematic testing of BT's prices

11.387 Similar to Option 1, under Option 2 we would require BT to provide VULA and any ancillary services on fair and reasonable terms, conditions and charges. However, under Option 2 we would also systematically test whether BT was complying with this SMP condition by regularly assessing whether BT's price for VULA allows for an appropriate differential compared to its downstream prices. We would begin that test

[558] Investigating whether BT has breached its SMP conditions, as we would do if investigating on our own initiative under Option 1, may take longer.

[559] In the event of a dispute, for the purpose of giving effect to a determination of the proper amount of a charge we can give a direction requiring the payment of sums by way of adjustment of an underpayment or overpayment (section 190(2)(d) of the CA03). Thus, in a dispute, if we were to find that BT's price for VULA was not fair and reasonable then it may be appropriate to require BT make repayments to other CPs, but we could not impose a financial penalty on BT.

(either on our own initiative or upon request from third parties) within three months of the launch of a relevant retail product. We would also begin the test if there was a material change in the price of an existing product.[560] We would seek to reach a view on whether BT's pricing complies with the SMP condition within four months.

11.388 In order to regularly test BT's margins, we would need to develop a model of BT's revenues and costs. Having that model already in place before we start testing the margin is likely to speed up the assessment. We would expect the structure of this model not to change during the review period (unless there was a significant change in the way superfast broadband is supplied) but there would be some scope to update the parameters using the most recently available data. The model would be designed to allow an operator that has slightly higher costs or some other slight commercial drawback relative to BT to profitably match BT's retail superfast broadband prices (i.e. it would be designed to address Potential Concern 2). In terms of the status of that model, there are two possibilities:

- the model could simply be a tool that we use to assess compliance with the SMP condition; or

- the model could be incorporated into the SMP condition itself.

11.389 The latter option is likely to be highly complicated and would require the ability to vary the SMP condition in order to vary details in the model. However it would provide greater certainty to stakeholders.

11.390 If BT was setting an inappropriate differential between the price of VULA and its retail prices, Option 2 may be more likely than Option 1 to uncover this due to its regular testing of the margin.[561] The regular testing process should also provide a reasonably degree of certainty to BT and other CPs about what margins are appropriate.

11.391 On the other hand, under Option 2, the risk of regulatory failure is likely to be higher than under Option 1. It would be difficult for a model appropriately to reflect the potential developments in superfast broadband products or to be adaptable in light of those developments.

11.392 To illustrate, given that superfast broadband is a relatively new product for which demand and business models are not mature, the products that are available may change in ways that do not fit comfortably with a modelling framework developed several years earlier. This is highlighted by BT's announcement in May 2013 that it would provide its BT Sport channels to its broadband subscribers for no additional charge. A model developed before this announcement might have treated the costs and revenues associated with pay TV in a rather different way to a model developed after this announcement. Similarly, BT may in the future introduce new superfast broadband products, such as new speeds. It is likely to be difficult to build a model that anticipates such developments and which is capable of incorporating them without significant changes.

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[560] Including material price changes (in addition to the launch of relevant retail products) would avoid the potential for BT to circumvent the test by carrying out a low-key product launch before repositioning that product and setting a much lower retail price. Doing so would also avoid the potential difficulty of having to define what constitutes a product launch, rather than a change to an existing product. Accordingly, we consider that it would be necessary to carry out the test if there was a material change in the price of an existing product.

[561] By this, we mean that under Option 1,if a stakeholder had not raised a dispute or we had not launched an own initiative investigation, then such an inappropriate differential may not be detected.

11.393 To avoid being obsolete and/or producing inaccurate results, any model would likely require continuous updating. This process would likely be complicated and create delays, particularly if fundamental changes are needed. Failure to revisit all aspects of the model during the testing process, perhaps merely updating parameters using the most recent data, would likely produce inaccuracies. These issues relating to updating and inaccuracy may be particular concerns if the model were incorporated into the SMP condition itself.

11.394 Option 2 is also likely to lead to BT's prices being tested more frequently than under Option 1. Regularly testing the margins on superfast broadband products, regardless of whether third parties have concerns about those margins, imposes a resource cost on BT (as well as Ofcom).

Option 3: specifying the minimum VULA margin

11.395 Option 3 involves specifying the minimum VULA margin in an SMP condition. For example, this condition could specify that the margin must be at least £X. That minimum margin could apply to each individual product or could apply to a weighted average of the margins on several products. This option reflects the "pre-specified" margin favoured by TalkTalk.

11.396 In order to specify that SMP condition we would need to calculate what margin would be expected to allow an operator that has slightly higher costs or some other slight commercial drawback relative to BT to profitably match BT's retail superfast broadband prices (i.e. what margin would be expected to address Potential Concern 2). Accordingly, prior to finalising the SMP condition, we would need to carry out a modelling exercise to determine a suitable minimum VULA margin.

11.397 In principle, Option 3 could effectively address Potential Concern 2. It also provides stakeholders with the greatest degree of clarity and certainty, since they know exactly what margin is appropriate.

11.398 The main drawback of Option 3 is the risk of significant regulatory failure i.e. that the minimum margin is set too high or too low. In particular, when we set the minimum margin we would need to make assumptions about costs and revenues over the course of the review period. Since superfast broadband is a relatively new product there is a significant risk that these assumptions would turn out to be incorrect. The risk of regulatory failure is higher under Option 3 than under Options 1 and 2, since the minimum margin would likely be specified in our final statement (in early 2013) and it would thus be difficult to take into account developments or new data that emerge during the review period. Under Option 3 there is a particularly acute risk that changes in BT's products (as illustrated by its inclusion of BT Sport in broadband packages) mean that our earlier margin modelling is no longer appropriate.

Provisional conclusion on the options for addressing Potential Concern 2

11.399 In the light of the analysis set out above, our provisional conclusion on the most appropriate approach for tackling Potential Concern 2 is as follows.

11.400 Options 1-3 involve a trade off between (possible) greater speed and certainty versus a greater risk of regulatory failure. Superfast broadband is a relatively new product. We are thus concerned that demand, prices, the products available (including how superfast broadband is combined with other services into bundles) and the costs incurred by BT could change in ways that are difficult to forecast in advance. Our provisional view is that that the risk of regulatory failure associated with Options 2 and 3 is particularly high. We therefore propose that Option 1 is the most appropriate since (depending on how our guidance is framed) it provides greater flexibility to take into account changes in the provision of superfast broadband that occur during the period covered by this market review.

11.401 We are also concerned that Option 2 would impose an undue regulatory burden on stakeholders, since it is not targeted at those cases that are considered problematic. Option 1 reflects the fact that BT's competitors include large, well resourced companies such as TalkTalk, EE and Sky. Such companies have considerable experience with the UK regulatory regime and are well placed to submit a dispute to Ofcom if they believe they are unable to obtain VULA on fair and reasonable terms.

11.402 TalkTalk has suggested that BT may currently be engaging in a margin squeeze. As discussed in paragraph 11.299, there is a possible alternative explanation for the current market position (namely that it reflects the different commercial strategies that CPs have adopted), although we do not take a view in this consultation on which of these two alternative interpretations is correct (or if there may be other reasons). We do not have any evidence, at present, of a specific risk of such a margin squeeze that requires a more specific, more prescriptive, form of remedy and have assessed Options 1-3 in this context. We may, of course, need to revisit our view should further evidence emerge.

11.403 Accordingly, our provisional conclusion is that Option 1, a fair and reasonable SMP condition supported by guidance, is the most appropriate approach for addressing Potential Concern 2. We have set out in paragraphs 11.101-11.107 how we consider the proposed condition requiring network access by means of VULA services meets the various legal tests in the CA03. We also set out at paragraphs 10.34-10.41how the requirement for VULA services to be offered on fair and reasonable terms, conditions and charges also meets the legal tests in the CA03.

Draft guidance on appropriate VULA margin

11.404 We now set out our draft guidance as to what is likely, in our current view, to constitute margin between the wholesale price of VULA and downstream prices that is consistent with the proposed obligation for BT to offer fair and reasonable terms, conditions and charges.

Stakeholders' views on an appropriate VULA margin

BT

11.405 BT suggested that our guidance on margin squeeze should use an EEO as the appropriate benchmark and should recognise that, where NGA services are offered as a bundle, the focus of any assessment should include bundles. In these respects, BT supported the approach in the Draft EC Recommendation.[562]

Confidential respondent: [✂]

11.406 [✂] argued that the margin between BT's retail and wholesale prices in relation to standard broadband needs to be replicated for superfast broadband. It considered

[562] P.18, *BT response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BT.pdf.

that this will allow other CPs to compete to the same degree as in standard broadband, where other CPs have significantly undercut BT's retail prices.[563] For illustrative purposes, [✂] calculated that the difference between BT's retail price and wholesale charges is £25.44 on standard broadband. This compares to £19.18 for VULA based products. This implies that the VULA margin should increase by £6.27.[564]

11.407 [✂] considered that the VULA margin should be based on the REO concept since competitors will generally have fewer economies of scale and scope than BT.[565] It stated that, in practice, many NRAs have adopted an REO standard when regulating margins using *ex ante* powers.[566] It considered that NRAs have considerable flexibility in making adjustments to reach a suitable REO test.[567] [✂] stated that an REO approach would be consistent with the 2010 WLA Statement, the 2010 Pay TV statement and the 2004 statement in relation to IPStream and that we should not depart lightly from these past approaches.[568]

TalkTalk

11.408 TalkTalk considered that, in order to promote competition and enable efficient entry, the margin should reflect the long run costs of an REO and that it is economically efficient to include a contribution to common costs (as well as incremental costs).[569] TalkTalk considered that the LRIC+ standard was appropriate.[570]

11.409 TalkTalk referred to BT Retail's high share of GEA connections and its strong brand (reflecting BT's marketing). TalkTalk claimed that an REO would lack economies of scale and would face higher branding and promotional costs than BT. It suggested assuming that an REO would have a 15% share of superfast broadband subscribers after three years (equivalent, according to TalkTalk, to 20-25% of GEA subscribers).[571] TalkTalk also claimed that an REO faces a higher cost of capital than BT due to the risk that BT engages in anticompetitive behaviour.[572]

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563 [✂]
564 [✂]
565 [✂]
566 [✂] referred to adjustments in relation to economies of scale and scope as well as entrant-specific costs by Ofcom, as well as the Irish, French and Belgian NRAs.
567 [✂].
568 [✂]; Ofcom, *Direction Setting the Margin between IPStream and ATM interconnection Prices*, 26 August 2004, www.stakeholders.ofcom.org.uk/binaries/consultations/adsl_price/statement/statement.pdf
569 Paragraphs 8.7 and 8.36, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf; paragraphs 4.4-4.8, *TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs*. www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_supplemental.pdf; paragraph 5.31, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf.
570 Paragraphs 4.9-4.10, *TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs*. www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_supplemental.pdf. In support of its position, TalkTalk also cited BEREC's opinion on the Draft EC Recommendation (BoR (13) 41, *BEREC Opinion on Commission draft Recommendation on non-discrimination and costing methodologies*, 26 March 2013, www.berec.europa.eu/eng/document_register/subject_matter/berec/opinions/?doc=1244).
571 Paragraph 4.11 and footnote 60, *TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs*. www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_supplemental.pdf.
572 Paragraph 4.11, Ibid.

11.410 TalkTalk considered that it was appropriate to "aim up" when calculating an appropriate VULA margin since the harm from setting a margin that is too low is greater than the harm from setting a margin that is too high. This is due to the benefits of promoting competition (e.g. innovation, product differentiation).[573]

11.411 TalkTalk considered that the margin test should apply to leading individual products, rather than portfolios of products, in order to protect the position of rival CPs that focus on particular products (e.g. entry level packages).[574]

Vodafone

11.412 Vodafone considered that an REO test should be adopted.[575]

Ofcom's draft guidance on an appropriate ex ante margin

11.413 Our draft guidance is based on our proposal that the margin between the wholesale VULA price and downstream prices should be sufficient to allow an operator that has slightly higher costs than BT (or some other slight commercial drawback relative to BT) to profitably match BT's retail superfast broadband prices. This reflects our objective of addressing Potential Concern 2.

11.414 Before setting out our draft guidance, it is important to bear in mind the following points:

- we discuss in further detail below what constitutes an operator that has slightly higher costs or some other slight commercial drawback relative to BT. Determining what constitutes such an operator inherently involves the exercise of regulatory judgement; and

- the approach adopted needs to be practicable. For example, even if a particular approach to allocating costs and revenues (say) is attractive in theory, it may be difficult to reliably implement in practice. As a result, adopting a simpler methodology may be reasonable.

11.415 Our draft guidance articulates key principles and provides an indication of the factors that may require adjustment and the approach that we may adopt. In combination with the explanation of our proposed policy position (namely addressing Potential Concern 2) we consider that we would have provided stakeholders with an indication of the likely order of magnitude of any adjustments we would make. We consider that this approach would provide a reasonable degree of clarity and certainty to

[573] Paragraphs 4.12-4.15, Ibid.
[574] Paragraphs 4.16-4.17, *TalkTalk April 2013 submission in response to the 2012 FAMR Call for Inputs*. www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_supplemental.pdf. AlixPartners highlighted this as a complexity that needs to be considered (paragraphs 5.28-5.29, AlixPartners for TalkTalk, *Economic issues relating to Ofcom's market review of wholesale local access*, 20 December 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf). At paragraphs 5.24-5.26, AlixPartners also referred the approach adopted by the Irish NRA and a 2009 ERG report (ERG, *Report on the Discussion on the application of margin squeeze tests to bundles*, ERG (09) 07, March 2009, www.irg.eu/streaming/ERG_(09)_07_Report_on_the_Discussion_of_the_application_of_Margin_Squeeze_tests_to_bundles.pdf?contentId=545844&field=ATTACHED_FILE).
[575] P.10, *Vodafone response to FAMR Call for Inputs 2012*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Cable_Wireless_Worldwide.pdf.

stakeholders and would help focus further analysis (such as BT's internal compliance processes or in the event that we need to assess whether BT is complying with the proposed fair and reasonable SMP condition).

Relationship with competition law

11.416 We discuss the general position in *ex ante* regulation and *ex post* competition law in paragraphs 11.292-11.295. This highlights that the approach adopted when carrying out an *ex ante* assessment of BT's retail margins need not be the same as the approach we would adopt when carrying out an *ex post* margin squeeze assessment under competition law. Indeed, Potential Concern 2 is explicitly intended to provide for measures to promote competition that may go beyond what is necessary to avoid abuse of dominance in breach of *ex post* competition law (Potential Concern 1).

11.417 However, this is not to say that every aspect of our modelling would differ. In the event that we received a complaint that BT had failed to offer a sufficient VULA margin (contrary to the proposed requirement for BT to offer fair and reasonable terms, conditions and charges), we would be likely to start from the general position in *ex post* competition law, using the modelling and analysis carried out in relation to any *ex post* margin squeeze assessment (including any in relation to the current TalkTalk Competition Complaint) as the starting point for our analysis.[576] We would then consider the extent to which that competition law analysis is relevant and, in particular, what further adjustments should be made in order to meet the objective of addressing Potential Concern 2. We consider that this is a practical way of carrying out the proposed *ex ante* margin assessment.

Appropriate concept for testing margins on an *ex ante* basis

11.418 When assessing whether a vertically integrated operator is allowing a sufficient margin between its wholesale price and its downstream price, it is possible to distinguish between three possible conceptual approaches:

- EEO test – this involves assessing whether the vertically integrated firm's downstream arm could operate profitably if it had to pay an equivalent wholesale price as charged to downstream competitors. This test assesses whether firms that are as efficient as BT would be able to match its retail prices;
- Adjusted EEO test – this is based on the vertically integrated firm's own costs but some adjustments are made to reflect cost advantages that the firm may have. This test will result in a larger minimum margin than the EEO test; and
- REO test – this involves examining whether the difference between the vertically integrated firm's retail and wholesale prices is sufficient for a 'reasonably efficient' downstream competitor to make a normal rate of return. Under this test, the costs of the entrant are the relevant costs, not those of BT. This test assesses whether firms that are reasonably efficient would be able to match BT's retail prices.

11.419 BT favoured an EEO test whereas [✂], TalkTalk and Vodafone favoured an REO test.

[576] Both BT and TalkTalk raised the issue of the relevance of margins on individual products and of margins on portfolios of products. Competition law provides guidance on these matters.

11.420 Given our objective of addressing Potential Concern 2, an EEO test is not appropriate. The EEO test is insufficient to allow a firm with slightly higher costs than BT (or some other slight commercial drawback relative to BT) to profitably match BT's retail superfast broadband prices.

11.421 Both an adjusted EEO test and an REO test are capable of addressing Potential Concern 2. There are differences between these two tests: an adjusted EEO test starts from the costs of the SMP operator while an REO test starts from the costs of a reasonably efficient firm. However, in practice these two tests may produce a similar (or even identical) outcome. Under an REO test, it may be reasonable for a rival operator to have higher costs than the SMP operator in some respects, but for other cost categories a reasonably efficient rival might be expected to have the same costs as the SMP operator. An REO test may thus produce the same result as starting with the SMP operator's costs but then making some adjustments to reflect where the SMP operator has an inherent cost advantage over any entrants.[577]

11.422 We consider that an adjusted EEO test best describes the likely approach that we would carry out in practice. As explained above, if we were to assess whether BT was complying with the proposed fair and reasonable SMP condition, we would likely start with the general position in *ex post* competition law before then considering what further adjustments should be made. The *ex post* margin squeeze assessment is likely to be heavily influenced by BT's costs. Similarly if BT were to assess its margin as part of its internal compliance processes, it is likely to begin with its own costs and then make adjustments to those (given that BT would not know its rivals' costs).

11.423 Accordingly, our provisional view is that, when assessing whether the appropriateness of the margin between the wholesale VULA price and downstream prices, an adjusted EEO test best describes the approach we are likely to adopt in practice. We recognise that this is different to the approach adopted in the 2010 WLA Statement (where we indicated that initially we would likely consider the costs of an REO).[578] However, we consider that an REO test could produce much the same outcome (depending on the adjustments to EEO that are made).

Description of benchmark operator used for adjusted EEO test

11.424 We now set out guidance on what constitutes an operator that has slightly higher costs or some other slight commercial disadvantage relative to BT. We refer to such an operator as our 'benchmark operator.' The benchmark operator informs the likely adjustments we would make to an EEO test.

11.425 Our provisional view is that our benchmark operator is likely to be broadly similar to BT's three largest rivals in the provision of retail broadband in the UK, namely Sky,

[577] For example, suppose the SMP operator incurs two categories of cost, the level of which are denoted X and Y. An entrant also incurs these two cost categories, the level of which are denoted x and y. The SMP operator thus has costs of X+Y whereas the entrant has costs of x+y. Under an adjusted EEO test, one might start with the SMP operator's costs (X+Y) but decide that it was appropriate to make an adjustment to the second cost category. If that adjustment effectively results in the use of y rather than Y then the relevant costs for the adjusted EEO margin squeeze benchmark would be X+y. In contrast, under an REO test one might start with the entrant's costs (x+y) but decide that it is only appropriate for an entrant to be less efficient than the SMP operator for the second cost category (i.e. for a reasonably efficient firm, cost x would not be greater than cost X). As a result, the relevant costs for the REO margin would be X+y (the same as the adjusted EEO test).

[578] Paragraph 8.132, *Review of the wholesale local access market*, 7 October 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf.

Virgin and TalkTalk.[579] This also reflects the current commercial situation in the supply of retail broadband – these three CPs account for the overwhelming majority of non-BT broadband subscribers.

11.426 Below we describe in further detail the following characteristics of our benchmark operator:

- its existing subscriber base;
- its telephony and broadband products;
- its copper access technology;
- the audio-visual services it supplies; and
- its customer lifetimes.

11.427 **Existing subscriber base:** Sky, Virgin and TalkTalk each account for around 20% of residential retail broadband subscribers.[580] Our provisional view is that our benchmark operator would have an existing subscriber base in this vicinity. Accordingly, while it may not be as large as BT (which accounts for around 30% of broadband subscribers), our benchmark operator would have a substantial existing subscriber base. As a result, our benchmark operator is likely to enjoy a degree of economies of scale.

11.428 For example, having a large existing subscriber base is likely to reduce average backhaul costs. Similarly, costs such as retail billing and advertising could be spread over a large subscriber base. In deciding whether to make a scale adjustment to reflect our benchmark operator's costs, we would consider whether there are specific cost items where the moderate difference in size between our benchmark operator and BT is likely to have a material impact.

11.429 An existing subscriber base also gives our benchmark operator the opportunity to attempt to transition its existing customers to superfast broadband over time.

11.430 **Telephony and broadband products:** Sky, Virgin and TalkTalk all offer telephony access and calls, standard broadband and a range of superfast speeds. This suggests that it is reasonable to assume that our benchmark operator does likewise. As a result, our benchmark operator is likely to enjoy some economies of scope. When our benchmark operator supplies superfast broadband to a customer, it will earn revenue (and incur costs) from the supply of these additional telephony services.

11.431 **Copper access technology:** In order to supply voice services alongside superfast broadband, BT Retail uses WLR. In contrast, in unbundled exchanges Sky and TalkTalk use MPF.[581] Our preliminary view is that it is reasonable to assume that our

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[579] Virgin uses services supplied by BT in order to supply customers in areas that are not covered by Virgin's own cable network. However, we consider that Virgin is relevant to our benchmark operator. From the perspective of final consumers, Virgin is likely to constitute an important retailer that offers a credible alternative to other leading broadband suppliers.

[580] Figure 5.32, Ofcom, *The Communications Market 2012*, 18 July 2013, www.stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/UK_5.pdf.

[581] MPF technology is already being used to supply standard broadband to these firms' other customers and voice services to both standard and superfast customers.

benchmark operator uses WLR technology (i.e. the same as BT). This is because assuming otherwise risks adopting a benchmark that is more efficient than BT – put simply, a firm will make use of MPF if this is less costly than purchasing WLR from BT. This assumption also seems reasonable since the relative attractiveness of MPF may decline as GEA take-up increases;

11.432 **Audio-visual services:** BT, Sky, Virgin and TalkTalk all offer some audio-services, although the scale differs substantially. Sky and Virgin have extensive pay TV operations.[582] At the end of Q1 2013 BT had 810,000 pay TV subscribers.[583] In addition, BT recently announced that it would launch a suite of sports channels in August 2013. Its channels, which will feature live FA Premier League football matches, will be available to all its broadband customers for no additional charge.[584] In contrast, at the end of Q1 2013 TalkTalk had 230,000 pay TV subscribers.[585]

11.433 There are differences between different operators' pay TV operations. The relevant question for the purposes of this guidance is whether or not to assume that our benchmark operator has a less profitable audio-visual offering than BT. However, we have not reached a view on this issue in this consultation document. We expect to develop our thinking on this issue further over the summer of 2013. We would also particularly welcome stakeholders' views on this issue.

11.434 **Customer lifetimes:** Where a retailer has a lower average customer lifetime then it will tend to need to earn a greater margin, since it has to recoup its up front subscriber acquisition costs over a shorter period. Our current view is that we may need to consider whether our benchmark operator experiences a shorter average customer lifetime than BT. We provide an overview of how we may approach this issue below.

11.435 We would likely consider data on customer lifetimes. BT stated that its churn is lower for superfast broadband customers[586], which would imply that they have a longer average lifetime than its standard broadband customers. It is unclear however whether this is because the majority of customers are likely to have only recently begun to subscribe to superfast broadband.[587] It is also unclear whether this is due to the alleged margin squeeze on superfast broadband or differences in CPs' commercials strategies which may change in the future. It may thus be appropriate to take into account data on customer lifetimes for purchasers of standard broadband. This seems reasonable since the essential difference between standard and superfast broadband is speed – the other characteristics of these services are similar

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[582] In Q1 2013, Sky had 10.4m TV subscribers (P.3, Sky, *Unaudited results for the nine months ended 31 March 2013*, www.corporate.sky.com/documents/pdf/latest_results/q3_1213_press_release.pdf) and Virgin had 3.3m paying TV customers (P.1, Virgin, *Virgin Media – first quarter 2013 results*, 24 April 2013, www.phx.corporate-ir.net/phoenix.zhtml?c=135485&p=irol-financial-results).

[583] P.11, BT, *Results for the fourth quarter and year to 31 March 2013*, 10 May 2013, www.btplc.com/News/ResultsPDF/q413_release.pdf.

[584] Ibid.

[585] P.1, TalkTalk, *Preliminary results for the 12 months to 31 March 2013*, 16 May 2013, www.talktalkgroup.com/~/media/Files/T/TalkTalk/pdfs/reports/2013/prelim-results-2013.pdf.

[586] P.16, BT, *Q4 2012/13 results presentation transcript – Part 1*, 10 May 2013, www.btplc.com/Sharesandperformance/Quarterlyresults/PDFdownloads/q413_transcript1.pdf.

[587] There is thus less evidence on how long superfast broadband subscribers are likely to remain with a particular supplier, particularly as CPs have minimum contract periods.

– and since there is strong competition in the provision of CGA broadband services.[588]

11.436 We have considered BT's average CGA broadband customer life using BT's churn data for Q2 2009 to Q3 2012.[589] Enders Analysis has compiled quarterly data on churn for Virgin, TalkTalk and Sky between Q4 2011 and Q4 2012. This suggests that:

- TalkTalk's average customer life lies between 4.5 and 5.0 years (the mean is 4.8); and
- Virgin's average customer life lies between 5.4 and 6.8 years (the mean is 6.1).[590]

11.437 Comparing the TalkTalk data and BT's data on CGA broadband suggests that TalkTalk's expected customer lifetime is shorter than BT's, although the difference is small. For Virgin, expected customer lifetimes may be longer than for BT. This suggests that an adjustment to expected customer lifetimes could be appropriate (subject to the important qualifier below about the cause of any differences) but that the size of any adjustment is likely to be small.

11.438 It is, of course, important to recognise that, in the event that more reliable and/or up to date information were available, we may not use the figures discussed above to assess whether BT was complying with its fair and reasonable SMP condition.

11.439 Further, we have not investigated the extent to which the churn figures presented above are comparable between different CPs.[591] In any event, in deciding whether our benchmark operator has a shorter customer lifetime than BT, we are likely to consider the cause of any difference in observed consumer lifetimes. For example, if differences largely reflected factors such as the quality of CPs' customer service or complaints handling then it is less likely to be appropriate to make an adjustment. However, to the extent that observed differences in customer lifetimes are plausibly a consequence of BT's historic position then an adjustment may be appropriate. In particular, if we reached the view that BT enjoys a longer customer lifetime due to its position as the legacy telephony operator then it may be appropriate to assume that our benchmark operator's customer lifetime will be shorter.[592] At this stage, we have not investigated whether the evidence exists to support such a hypothesis.

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[588] However, it may be necessary to consider whether standard broadband consumers are likely to be representative of superfast broadband consumers.

[589] We have put greater emphasis on the more recent part of this data series. BT response to s.135 notice of 7 June 2013.

[590] Average customer lifetimes were calculated as -1/ln(1-X) where X>0 is the churn rate expressed as a decimal. This is the same formula that we used in our *Freeserve* decision. Sky's average customer lifetime was in the region of 9 years. However, the Sky data appears to relate to its entire subscriber base (i.e. including consumers that only subscribe to pay TV) and thus we do not discuss it further (Pp.19, 21 and 23, Enders Analysis, *UK broadband, telephony and pay TV trends Q4 2012*, 4 March 2013; footnote 172, Ofcom, *CW/00613/04/03: Investigation into BT's residential broadband pricing*, 2 November 2010, www.stakeholders.ofcom.org.uk/binaries/enforcement/competition-bulletins/closed-cases/all-closed-cases/cw_613/decision.pdf.

[591] For example, whether different companies treat consumers that move house in the same way when calculating churn rates.

[592] This may occur if, for example, consumers that are conservative or prone to inertia have remained with the legacy operator (BT) whereas other CPs that have had to win customers from BT tend to have a more 'footloose' subscriber base.

Cost standard

11.440 To assess whether the margin between the wholesale VULA price and downstream retail prices is appropriate, we would compare that margin against the costs of our benchmark operator. This begs the question of what cost standard we would apply.

11.441 In the 2010 WLA Statement we stated that we are initially likely to consider whether the margin was above "the current long-run incremental cost … including an allowance for subscriber acquisition costs".[593] The "economic replicability test" referred to in the Draft EC Recommendation refers to an assessment of whether the margin covers "the incremental downstream costs and a reasonable percentage of common costs".[594]

11.442 As discussed above, it is reasonable to assume that our benchmark operator offers other products, such as standard broadband and telephony services. In principle, this implies that such an operator could profitably match BT's superfast broadband prices provided that the VULA margin was sufficient to cover its long run incremental cost of providing superfast broadband.[595] This is because such an operator could potentially recover all its fixed and common costs from other products. However, such a pattern of prices may not be economically (allocatively) efficient and thus may ultimately not provide the greatest benefits to consumers. Rather it is likely to be more efficient to recover a contribution to fixed and common costs from superfast broadband.[596] This is particularly likely to be the case as superfast broadband take-up grows, as is expected to be the case over the period covered by this market review.

11.443 Accordingly, having also weighed up the impact of efficient prices on consumers, we consider that the appropriate cost standard is likely to be long-run incremental cost plus a contribution to fixed and common costs (i.e. a "LRIC+" standard).

Factors that we would not take into account

11.444 As set out above, [✂] proposed an approach that ensures that BT's VULA margin is broadly the same as BT's margin on CGA broadband. This is to allow other CPs to be able to offer superfast broadband at a systematic "discount" to BT's retail price. [✂]'s approach is conceptually very different to the approach set out in our proposed guidance and we do not consider that it is appropriate. Our draft guidance reflects our provisional policy position, namely addressing Potential Concern 2. In contrast, [✂] seeks to go further in order to allow other CPs to systematically (and profitably) undercut BT's prices (i.e. Potential Concern 3). For the reasons set out above, we do not consider that this alternative objective is appropriate.

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[593] Paragraph 8.132, *Review of the wholesale local access market*, 7 October 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf.

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

[595] The long run incremental cost of a service is likely to vary depending on precisely what increment is selected. For the purposes of explaining our reasoning on this particular point, the increment in question is the provision of superfast broadband.

[596] Ramsey pricing suggests that the mark-up over incremental cost should be inversely related to the price elasticity of demand. This implies that it is efficient for a product not to contribute to the recovery of fixed and common costs only if its demand is very much more elastic than for other products. While we are very unlikely to be able to determine the precise allocation of costs using a Ramsey pricing approach (due to insufficient data), this nonetheless implies that it is likely to be efficient for superfast broadband products to make at least some contribution to fixed and common costs.

11.445 TalkTalk also proposed that we should "aim up" when calculating an appropriate VULA margin due to the positive effects such as innovation and product differentiation that flow from promoting competition. However we took the positive dynamic effects from promoting competition into account in reaching our provisional policy position, namely that our approach is to address Potential Concern 2 (rather than Potential Concern 1 or 3) – see paragraphs 11.358-11.363. Accordingly our current view is that the "aim up" approach suggested by TalkTalk is unlikely to be appropriate since it has already been taken into account.

11.446 TalkTalk claimed that an REO faces a higher cost of capital than BT due to the risk that BT engages in anticompetitive behaviour. Absent clear evidence to substantiate this claim, our current view is that it is unlikely to be appropriate to adjust the cost of capital for this reason. BT is subject to the competition law prohibitions on anticompetitive behaviour. This is in addition to the additional regulatory obligations on BT, including the proposed measure to require VULA to be supplied on fair and reasonable terms, conditions and charges.

Other potential adjustments

11.447 We anticipate that stakeholders may highlight a wide variety of possible adjustments in the event that we were to assess whether the margin between the wholesale VULA price and downstream prices was appropriate. We have provided draft guidance on some of the key aspects of that margin assessment that we are likely to adopt. However, it is unlikely to be practicable for our guidance to exhaustively address all the possible adjustments that could be made. Rather we would consider the facts of each case, in the light of our overall policy position (addressing Potential Concern 2) and our statutory duties.

11.448 For example, TalkTalk claimed that a reasonably efficient operator would face higher branding and promotional costs than BT. Such a claim might be put to us in the event that we were to assess BT's VULA margin. If this were the case then we would consider whether there was evidence that £X of advertising or promotional expenditure by our benchmark operator was less effective than £X of such expenditure by BT. In carrying out that assessment we would have regard to the description of a benchmark operator, as set out in draft form above. Moreover we would expect a clear explanation of why such an operator (which has a substantial existing subscriber base and therefore a pre-existing consumer brand) suffers from a commercial disadvantage relative to BT in terms of promotional and advertising expenditure.

Consistency with the EC Recommendations and BEREC Common Position

11.449 In devising the proposals set out above we have taken the utmost account of the NGA Recommendation and the BEREC Common Position. We have also considered the Draft EC Recommendation although the final recommendation may incorporate changes

The NGA Recommendation and the BEREC Common Position

11.450 The NGA Recommendation and the BEREC Common Position both discuss the possibility of some form of regulatory safeguard to ensure that a suitable margin is available on NGA products. These documents do not frame the discussion of the objectives underlying that margin safeguard in the same way as the discussion of

Potential Concerns 1-3 above. Nonetheless, going beyond competition law is consistent with these documents.[597]

11.451 The NGA Recommendation refers to the use of a "reasonably efficient competitor test" when setting "*ex ante* price controls aiming to maintain effective competition between operators not benefiting from the same economies of scale and scope and having different unit network costs."[598]

11.452 The BEREC CP lists a number of "Competition issue[s] which arises frequently" including "SMP operators may still have an incentive to margin squeeze in relation to downstream products."[599] Accordingly, "NRAs should put in place obligations preventing SMP operators from engaging in margin squeeze". Further, when "considering the minimum acceptable margin" the BEREC CP refers to the "need to strike a balance between short term efficiency, derived from the economies of scale and scope realisable by an SMP player, and the longer term benefits … of a more competitive downstream market, brought about by new entrants which should, in due course and to a reasonable extent, be able to match those economies".[600] In doing so, "NRAs should evaluate which imputation test (EEO, REO or a combination of both) is better suited to attain the regulatory objectives pursued."[601]

11.453 Our proposal to adopt Option 1 (a SMP condition supplemented by guidance) is consistent with these provisions. Similarly, addressing Potential Concern 2 (by means of an adjusted EEO test, which could produce much the same outcome as a REO test) could also be consistent with them.

11.454 In more detail, we consider that our proposed approach (Option 1) is broadly consistent with each of the relevant documents in the following aspects.[602]

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[597] Our choice of benchmark operator (as set out in our draft guidance) is a consequence of the Potential Concern that we are addressing and is thus also consistent with these documents. We note that the NGA Recommendation and the BEREC Common Position did not refer to adjustments to reflect differences in customer lifetimes (one of the topics covered in our draft guidance above). However, adjusting customer lifetimes where differences are a consequence of BT's historic position appears consistent with the approach to economies of scale and scope in these documents, i.e. that such adjustments can be appropriate in order to support competition.

[598] Recital 26, EC, *Commission recommendation of 20 September 2010 on regulated access to Next Generation Access Networks (NGA)* OJ L251/35, 20 September 2010, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:251:0035:0048:EN:PDF.

[599] P.19, BEREC, BoR (12) 127, *BEREC common position on best practice in remedies on the market for wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location imposed as a consequence of a position of significant market power in the relevant market*, 8 December 2012, www.berec.europa.eu/files/document_register_store/2012/12/20121208163628_BoR_(12)_127__BEREC__COMMON_POSITION_ON_BEST_PRACTICE_IN_REMEDIES_ON_THE_MARKET_FOR_WHOLESALE.pdf.

[600] This document also refers to the use of an EEO test or an REO test or both (Rec 49, BEREC, BoR (12) 127, *BEREC common position on best practice in remedies on the market for wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location imposed as a consequence of a position of significant market power in the relevant market*, 8 December 2012, www.berec.europa.eu/files/document_register_store/2012/12/20121208163628_BoR_(12)_127__BEREC__COMMON_POSITION_ON_BEST_PRACTICE_IN_REMEDIES_ON_THE_MARKET_FOR_WHOLESALE.pdf).

[601] Rec 49(a) and (c), BEREC, BoR (12) 127, *BEREC common position on best practice in remedies on the market for wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location imposed as a consequence of a position of significant market power in the relevant market*, 8 December 2012, www.berec.europa.eu/files/document_register_store/2012/12/20121208163628_BoR_(12)_127__BEREC__COMMON_POSITION_ON_BEST_PRACTICE_IN_REMEDIES_ON_THE_MARKET_FOR_WHOLESALE.pdf.

[602] Although we note that, since the Draft EC Recommendation may change, going beyond a consideration of consistency with its general aims may be premature.

11.455 The NGA Recommendation states that "To foster predictability, NRAs should properly specify in advance the methodology they will follow to identify the imputation test, the parameters to be used and the remedial mechanisms in case of established margin squeeze."[603] Setting out guidance provides predictability about the methodology we would follow. In terms of remedial mechanisms, as explained above we could assess BT's conduct either in the context of a dispute (under sections 185-191 of the CA03) or as a possible breach of the proposed SMP condition (under sections 94-105 of the CA03). In both cases, the remedies available to Ofcom are clearly set out in the CA03. In particular, if we were to find against BT, it would be required to increase its VULA margin in order to comply with the (proposed) obligation to set fair and reasonable terms, conditions and charges for VULA.

11.456 Setting out guidance also goes to BEREC's Common Position that, " …. alternative operators may face uncertainty regarding the principles and methodology for the assessment of margin squeeze which in turn could result in complaints not being resolved quickly."[604] Likewise, it follows the Common Position that, "The chosen principle and methodology for the assessment of a margin squeeze should be made known in advance (e.g. by advance publication)".[605]

The Draft EC Recommendation

11.457 The Draft EC Recommendation, meanwhile, states that, if various conditions are met, including an "economic replicability test", an NRA should not impose a wholesale price control obligation on wholesale NGA inputs. It further says that, to impose such a test, the NRA should specify its "final measure" setting out "The procedure according to which the NRA will conduct an *ex ante* economic replicability test, specifying that the NRA will start such procedure on its own initiative or upon request from third parties no later than three months after the launch of the relevant retail product and will conclude it within the shortest possible time and in any case within four months". It also indicates that the final measure should set out the details of that test, including "specify[ing]" various parameters[606] and the remedies the NRA will adopt when the test is not passed.[607]

11.458 Of the four options considered above, Options 1 and 2 are most closely aligned with these provisions. Option 1 provides a means by which Ofcom can test, in a targeted way, the VULA margin and the economic replicability of BT's retail products. As explained in paragraph 11.375, we can investigate potential breaches of SMP conditions on our own initiative and third parties can bring disputes to us to resolve. We are required, except in exceptional circumstances, to resolve dispute within four months. Our draft guidance provides details on how we would be likely to assess the relevant parameters when considering whether the VULA margin is fair and

[603] Recital 26, EC, *Commission recommendation of 20 September 2010 on regulated access to Next Generation Access Networks (NGA)* OJ L251/35, 20 September 2010, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:251:0035:0048:EN:PDF. Recommendations 27 and 36 relate to margin squeeze tests in specific contexts.
[604] P.19, BEREC, BoR (12) 127, *BEREC common position on best practice in remedies on the market for wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location imposed as a consequence of a position of significant market power in the relevant market*, 8 December 2012, www.berec.europa.eu/files/document_register_store/2012/12/20121208163628_BoR_(12)_127__BEREC__COMMON_POSITION_ON_BEST_PRACTICE_IN_REMEDIES_ON_THE_MARKET_FOR_WHOLESALE.pdf.
[605] Rec 49(d), Ibid.
[606] Rec 53(b), EC, *Commission recommendation of 20 September 2010 on regulated access to Next Generation Access Networks (NGA)* OJ L251/35, 20 September 2010, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:251:0035:0048:EN:PDF.
[607] Rec 53(c), Ibid.

reasonable. In other words, by that means we pursue the same objectives of certainty and predictability as the EC.

11.459 Option 2 goes further than Option 1 in systematically and regularly testing the margin (whether there is a concern or not). Using a pre-specified model would assist in concluding the test in the shortest time possible and could provide increased certainty as a result of the greater pre-specification of the parameters. However, we note that any detailed analytical framework and modelling developed for the first test carried out under Option 1 (updated as necessary) could also provide considerable detail of the parameters we are likely to use in subsequent tests, as well as make such assessments faster.

11.460 We also note that, as a draft, there remains a degree of uncertainty around the proposals in the Draft EC Recommendation. However, insofar as we were to depart from the final version of this recommendation in adopting Option 1 rather than Option 2, for the reasons set out above we consider that this option is more appropriate in the UK context. First, in proposing Option 1 over Option 2, as set out in paragraph 11.400, we put particular emphasis on the risk of regulatory failure, given superfast broadband products in the UK are at a relatively early stage in their commercial development. Second, our proposed approach reflects the fact that BT's rivals are large, well resourced companies that are well placed to submit disputes (if they consider it appropriate).

11.461 Annex II of the Draft EC Recommendation provides further details on the parameters of an "economic replicability test". Our draft guidance that we would adopt a LRIC+ cost standard is consistent with the Draft EC Recommendation. Our draft guidance also discusses the factors set out in Annex II but does not reproduce the text set out by the EC. Rather, we are proposing to give guidance by indicating the likely type and order of magnitude of the adjustments we would make to the position under *ex post* competition law to implement an adjusted EEO test.

11.462 We again note that we share the EC's aims of "increasing legal certainty and predictability". However, insofar as our approach to providing certainty and predictability differs from the Draft EC Recommendation, this reflects the difference between our policy position and that of the EC. In other words, because we consider that the balance between fostering NGA investment and promoting competition should be different in the UK, we consider that our approach to remedies and our guidance on the matters such as the relevant retail products and the relevant time period should be different (following our approach on remedies). Such certainty and predictability in these circumstances is, in our provisional view, most appropriately provided through the *ex post* competition law case law supplemented by the guidance set out above.

11.463 The Draft EC Recommendation also discusses the possibility of some form of regulatory safeguard to ensure that a suitable margin is available on NGA products. We have also considered the consistency of our proposed approach (addressing Potential Concern 2) with the approach set out in the Draft EC Recommendation. In this regard, we make the following observations.

11.464 The Draft EC Recommendation's aim "… *is to improve the regulatory conditions to promote competition, enhance the single market for electronic communications* *networks and services, and to foster investments in next generation access (NGA) networks …*"[608]; in other words, its aims relate to both competition and investment.

11.465 It may be the case that the EC is placing greater emphasis on fostering NGA investment.[609] In particular, the Draft EC Recommendation states that the "*ex ante* economic replicability test" should reflect an "equally efficient competitor" test.[610] Such a test is likely to allow the SMP operator to set a smaller margin between its wholesale charges and its downstream prices. As a result, such a test is less likely to promote competition (since if the SMP operator enjoys cost advantages such as economies of scale or scope then its rivals may be unable to match its prices) and is less likely to affect the SMP operator's investment incentives (by reducing the likelihood that wholesale charges need to be reduced in order to set a larger margin). This appears to be closer to an approach that could address Potential Concern 1.

11.466 Insofar as the EC has placed greater weight on fostering NGA investment than on promoting competition, we consider that the balance between these objectives should be different in the UK. We weighed up the potential benefits for competition of addressing Potential Concern 2 against the drawbacks, including the potential impact on investment incentives. In doing so we took into account the circumstances that are expected to prevail in the UK during the period covered by this market review. As explained above, we expect BT to cover up to 90% of premises during the market review period (with public funding). Part of the backdrop for BT's investment strategy is the approach set out in the 2010 WLA Statement which explicitly went beyond competition law in order to "to promote the development of a competitive market."[611]

11.467 That said, the Draft EC Recommendation also states that "*The guidance provided for the ex ante economic replicability test … is limited to the purposes of this Recommendation, which … is … different in aim and scope and entirely without prejudice to the application of competition rules by the Commission and the relevant national competition authorities …*"[612] This indicates that the aim of the Draft EC Recommendation is not simply to address Potential Concern 1. We also note BEREC's comments in its March 2013 press release relating to the Draft EC Recommendation, that "*BEREC agrees with the Commission that ex ante economic replicability tests may be needed to prevent abusive pricing behaviour by dominant operators. It welcomes the Commission's clarifications during recent discussions that*

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[608] Rec 1, Ibid.

[609] In a speech on 30 January 2013, Vice President Kroes referred to the importance of broadband investment and stated "for fixed broadband, stimulating that investment needs the right regulatory framework. Last July I set out just that …" (Vice President N. Kroes, *Building our Digital Single Market: 10 steps to deliver broadband*, 30 January 2013 www.europa.eu/rapid/press-release_SPEECH-13-80_en.htm#PR_metaPressRelease_bottom. The reference to July 2012 is to a policy statement that announced the EC's intention to issue recommendations on costing methodologies and non-discrimination).

[610] Annex II, point (i), EC, *Commission recommendation of 20 September 2010 on regulated access to Next Generation Access Networks (NGA)* OJ L251/35, 20 September 2010, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:251:0035:0048:EN:PDF.

[611] Paragraph 8.128, *Review of the wholesale local access market*, 7 October 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf.

[612] Annex II, EC, *Commission recommendation of 20 September 2010 on regulated access to Next Generation Access Networks (NGA)* OJ L251/35, 20 September 2010, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:251:0035:0048:EN:PDF. See also Rec 53(b) which stated that NRAs "should make clear that the *ex ante* economic replicability test … is different from and without prejudice to margin squeeze tests that may be conducted ex-post in the context of competition law enforcement."

the appropriate test (i.e. EEO or REO) will depend on the NRA's regulatory objective …"[613]

11.468 In light of these points, and having taken relevant account of the Draft EC Recommendation, we note the following about our proposed approach (of addressing Potential Concern 2, using an adjusted EEO test):

- first, that approach, for the reasons set out, is consistent with the Draft EC Recommendation's broad aims of promoting competition and fostering investment; and

- second, we have considered how those broad aims should be balanced in the UK. Insofar as the Draft EC Recommendation places greater weight on fostering NGA investment than on promoting competition, we consider, for the reasons we have set out, that the balance between these objectives should be different in the UK. Our provisional view that an adjusted EEO test is appropriate is a consequence of our policy position. In other words, the extent of investment in NGA networks already expected in the UK implies that an adjusted EEO test, which is more likely to promote competition while appropriately reflecting BT's network investment, is appropriate.

VULA margin proposals

11.469 As discussed, we are proposing to retain the requirement for BT to provide VULA and any ancillary services on fair and reasonable terms, conditions and charges. For the reasons set out above, our provisional conclusion is that this proposed SMP condition, supplemented by guidance as to our likely approach, is appropriate for ensuring that BT maintains a suitable margin between the VULA price and its downstream prices. Our draft guidance is set out in paragraphs 11.413-11.448.

11.470 If a CP considered that BT was not complying with the above requirement then it could submit a dispute to us under sections 185-191 of the CA03. We can also investigate on our own initiative whether BT is in breach of an SMP obligation using our powers under sections 96A-104 of the CA03.

11.471 Given BT will be obliged to comply with our proposed SMP condition, we expect that it will need to maintain financial models that contain relevant information on VULA and downstream product costs and prices, and their development over time.

Consultation question(s)

11.5 Do you agree with our proposed approach to regulating the margin between the VULA price and BT's downstream prices? In particular:

(a) Do you agree that our objective should be to ensure that BT sets a VULA margin that allows an operator with slightly higher costs than BT (or some other slight commercial drawback relative to BT) to profitably match BT's retail superfast broadband prices?

(b) Do you agree that we should achieve this objective by requiring BT to set fair and reasonable terms, conditions and charges and setting out guidance on how we would interpret this requirement?

[613] BEREC, BoR (13) 33, *BEREC provides an update on its opinion on the Commission's draft Recommendation on cost orientation and non-*discrimination, 11 March 2013, www.berec.europa.eu/eng/document_register/subject_matter/berec/press_releases/?doc=1222.

> (c) *Do you agree with our draft guidance? In particular, do you agree with our benchmark operator and the ways in which such an operator differs from BT?*
>
> *Please provide reasons in support of your views.*

Summary of VULA proposals

11.472 The proposals in this document relating to VULA are set out in two sections.

11.473 Section 10 set out that proposed obligations on BT that include (but are not limited to), an obligation to provide VULA on:

- the basis of no undue discrimination;
- an EOI basis; and
- fair and reasonable terms, conditions and charges.

11.474 In addition to these requirements, this section proposes:

- that, subject to the proposed fair and reasonable terms, conditions and charges obligation, BT should have pricing flexibility over VULA pricing and terms;
- that the proposed fair and reasonable charges obligation not be applied to the GEA migration charge, for which we are instead proposing a charge control, such that this charge must be no higher than a figure in the range of £10 to £15; and
- to provide a Direction that requires BT to have a minimum contract term of no more than one month following a GEA migration.

11.475 The section also set out guidance on our current thinking of:

- how we are likely to undertake our assessment when testing whether the VULA margin complied with the proposed fair and reasonable terms, conditions and charges condition; and
- how we are likely to interpret the proposed no undue discrimination and fair and reasonable terms, conditions and charges obligations in relation to services consumed primarily by CPs other than BT.

Sub-Loop Unbundling

Introduction

11.476 SLU allows CPs to rent the copper access connection between end users and an intermediate point in BT's access network, usually the street cabinet. As with LLU, CPs can either rent the entire sub-loop connection or share it with BT. The CP establishes a fibre backhaul connection from the intermediate point, thus creating its own FTTC network.

11.477 An obligation to provide SLU was introduced by the EC in January 2001[614] and BT issued its Reference Offer at that time. An SLU obligation was subsequently introduced by Ofcom in the 2004 WLA Statement and re-imposed without any changes in the 2010 WLA Statement.[615] The current obligation requires BT to provide SLU, along with necessary ancillary services, in response to a reasonable request and on fair and reasonable terms, conditions and charges. No detailed product characteristics are specified, and pricing is subject to cost orientation.

2010 WLA Review

11.478 In the 2010 WLA Statement we considered that SLU, as with PIA, had a different purpose to VULA – facilitating NGA roll-out where BT was yet to deploy NGA. We considered that, as demand for higher speed services increased and this facilitated higher value services, then this could outweigh the higher cost of SLU-based services (we also considered that technological changes would also reduce equipment costs). We concluded that the current requirements on the SLU product were sufficient and provided flexibility for CPs and BT to develop the most suitable products.

Use of SLU

11.479 As of the end of 2012, SLU has been deployed in [✂] out of approximately 90,000 cabinets (or around [✂]% of cabinets). [✂]% of these are accounted for by a single CP, Digital Regions Limited (DRL). DRL covers around 80% of premises in South Yorkshire (approximately 500,000 premises).

2012 FAMR Call for Inputs

11.480 In the 2012 FAMR Call for Inputs, we suggested that, provided it remained appropriate to impose an SLU remedy, we would expect to continue with the current approach unless there was evidence that issues such as vectoring presented a significant threat to the effectiveness of the SLU remedy over the review period. We asked:[616]

> *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.*

Imposing an SLU obligation

11.481 Only six of the 21 respondents to the 2012 FAMR Call for Inputs addressed SLU in any way (BT, Colt, [✂], The Bit Commons, TalkTalk and Virgin).[617] Although none, including BT, suggested that SLU should not be imposed as a remedy, Colt and The Bit Commons observed that SLU was not viable except over larger areas due to the smaller number of customers served by individual cabinets compared to exchanges. No one responding indicated future plans to use SLU, with [✂] and TalkTalk stating

[614] EC, *Regulation (EC) No 2887/2000 of the European Parliament and of the Council of 18 December 2000 on unbundled access to the local loop*, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32000R2887:EN:HTML.
[615] Condition FAA10.
[616] Paragraph 4.20, Ofcom, *Fixed access market reviews: wholesale local access, fixed analogue exchange lines*, 9 November 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/summary/condoc.pdf.
[617] We note that DRL, the largest user of SLU, did not respond to the 2012 FAMR Call for Inputs.

that the remedy was not effective and needed to be improved (in terms of pricing and developing automated processes). In addition, we are not aware of any plans by any other CP to deploy or expand use of SLU on any material scale.

11.482 This lack of use appears to be a reflection of the challenging economics of SLU deployment. Fixed costs (such as cabinets and backhaul infrastructure) have to be recovered from fewer customers than LLU given the smaller areas covered by cabinets as opposed to exchanges, which is likely to result in higher prices for SLU-based services. In addition, the static costs of competition (the cost difference between there being single and multiple FTTC networks) were found in the 2010 WLA Statement to be between 37% and 79% (depending on the level of equipment and labour duplication, network utilisation and end user churn costs)[618], and we have no evidence to suggest that these costs have materially changed.

11.483 Further, as noted in paragraph 11.10, BT's commercial fibre roll-out is forecast to cover 19 million (66%) of premises by Spring 2014[619] (and may extend as far as 90% with State aid funding). This may reduce opportunities for SLU deployment given that CPs will have to recoup costs from an even smaller set of consumers for any one cabinet (i.e. there will be some consumers that will not switch from BT).

11.484 However, the lack of use could also be a function of the relative lack of demand over the period for SFBB (i.e. with around 18% take-up there has been limited scope for the higher costs of SLU services to be outweighed by greater revenue from SFBB services). Aside from the main infrastructure owners (BT and Virgin), other CPs only have a relatively small number of subscribers on superfast, fibre-based products, regardless of whether GEA or SLU is used (or the network has been built independently of BT's).

11.485 Yet, the forecasts discussed in paragraph 11.10-11.15 suggest that superfast broadband will account for a significant proportion of broadband connections by the end of the review period. Should this increase in demand occur, it is possible that the higher costs associated with SLU could begin to be outweighed by the additional revenue. Further, despite a lack of firm plans by CPs to use SLU, CPs did engage in previous SLU trials and others have indicated that SLU might form part of future proposals.

11.486 Consequently, we propose to maintain an obligation on BT to offer an SLU product, along with those ancillary services as may reasonably be necessary for the use of SLU, on fair and reasonable terms and conditions to all CPs who reasonably request in writing such services. BT should also provide such ancillary services or other network access as Ofcom may from time to time direct to ensure the provision of SLU (we discuss below our proposals for a Basis of charges obligation for SLU rather than a fair and reasonable charges condition). We propose to maintain the SLU obligation for the reasons set out below.

11.487 As our assessment of the WLA market shows, the level of investment required by a third party to replicate BT's NGA network on a sufficiently large scale to compete at this level is a significant barrier to entry. In the absence of access to BT's infrastructure for the purposes of providing retail NGA services, we consider that BT

[618] Paragraph 6.106, Ofcom, *Review of the wholesale local access market – statement*, 7 October 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf.
[619] BT, *BT speeds up fibre plans once again,* 1 November 2012, www.btplc.com/News/Articles/Showarticle.cfm?ArticleID=B95CCF6C-F125-4ABF-A78D-82476B31A07C.

would have an incentive and ability to refuse access at the wholesale level and thereby favouring their own retail operations with the effect of hindering sustainable competition on the corresponding downstream markets, ultimately against the end users interests. Therefore, we propose that it is it appropriate to maintain the current SLU remedy to allow third party CPs to deploy their own FTTC NGA network.

11.488 As explored from paragraph 11.10-11.15, we consider that superfast broadband will play an increasingly important role in this market. As such, there is the potential that the demand for NGA may improve such that it supports the economics of CPs deploying NGA *in competition* with BT.

11.489 This proposal would, in addition, continue to enable those that have already deployed SLU-based networks to offer services to consumers, in particular DRL, which has recently partnered with Axione, a subsidiary of the French infrastructure company ETDE, to run its network[620], thereby maintaining the existing level of downstream competition.

11.490 The retention of SLU would thus continue to support investment and competition (with CGA) where BT was not investing, potentially by non-BT CPs utilising State aid funding, e.g. in the last 10%.

11.491 Finally, we note that while the SLU product has been developed using significant BT, industry and Ofcom resources, we consider there would be limited additional resource required to support its continuation.

Vectoring

11.492 Vectoring uses noise cancellation technology standardised by the International Telecommunications Union to mitigate the effect of the electromagnetic interference that occurs on copper-based networks, also known as cross-talk.[621] Cross-talk can have a significant effect on VDSL speeds, reducing them by up to 50% or more.

11.493 The principal issue with vectoring at present is that the technology currently requires all the copper lines in the cable to be controlled and vectored by the same system for it to work effectively (i.e. vectoring can only be deployed on a single DSLAM or interconnected DSLAMs from the same manufacturer). This would be complicated in an SLU environment where two or more CPs use separate equipment.

11.494 Of those that addressed SLU in response to the 2012 FAMR Call for Inputs, BT, TalkTalk and [✂] noted the incompatibility issue raised by vectoring and indicated that Ofcom needed to consider the effect of vectoring on the viability of SLU, with BT noting that the Belgian and Irish regulatory authorities had removed the SLU obligation to encourage vectoring investment.[622] [✂] stated that promoting competition should nonetheless be our principal duty in this regard.

[620] ISPreview, *Digital Region picks new operator to run its South Yorkshire network,* 7 February 2013 www.ispreview.co.uk/index.php/2013/02/digital-region-pick-new-operator-to-run-its-south-yorkshire-uk-network.html.

[621] Vectoring equipment measures the crosstalk on every copper line in a cable and applies an anti-phase signal to remove the cross-talk (i.e. the equipment generates a frequency with the mirror image of that causing the interference, which cancels it out).

[622] The Belgian Institute for Postal services and Telecommunications (BIPT) removed the SLU obligation in its entirety in 2011, while in January 2013 the Irish Commission for Communications Regulation (ComReg) partially removed the SLU obligation in areas where the incumbent, Eircom, planned to roll out vectoring. Both regulators

11.495 While at this stage, vectoring has not been rolled out in the UK, BT stated it was about to commence a trial on three cabinets in Barnet and three in Braintree. The trial was to start in May and run for three to six months, with a review of the trial aimed for Q3 2013. We expect that BT is more likely than not to roll out vectoring at some point in the review period, possibly as early as late 2013.[623] It is therefore appropriate for us to consider in this review the options for addressing the potential impact vectoring might have on the SLU remedy.

11.496 We consider that there are two ways in which vectoring and SLU may work together. First, CPs may be able to utilise existing technical solutions which facilitate the use of vectoring with SLU. We are aware of at least two current solutions:

- 'Central Dynamic Spectrum Management,' which requires CPs to submit their preferred xDSL technology and DSLAM systems to a centralised management system which automatically adjusts the signal strength of each connection to ensure minimum interference on other lines; and

- each CP uses DSLAM systems from the same vendor and establish a common vectoring system on all sub-loop copper lines.

11.497 Second, we note that vectoring technology is in its infancy and could conceivably evolve to be compatible with SLU, for example, allowing coordination between the vectoring systems of CPs using equipment from different vendors, potentially without centralised control.[624]

11.498 Given the likelihood that BT will deploy vectoring in its NGA network during the market review period, we now consider the scenario that it may face if another CP wished to deploy SLU where BT was offering vectored FTTC (noting that are not aware of any plans by any other CP to deploy or expand use of SLU on any material scale). We consider in such a case, BT will want to ensure its investment is protected and that its customers are not deprived of the higher speeds provided. Similarly, the unbundling CP will want to cooperate with BT in order to offer its customers the higher speeds offered by vectoring.

11.499 We note that the current (FAA10.1) and proposed conditions (Condition 2 in Part I of Annex 11) states that BT must provide SLU services where a third party "reasonably requests" them. We consider that if BT had deployed vectoring to a cabinet (that did not have SLU at the time of that deployment) and a CP requested SLU at that cabinet, then BT should take steps to set out how that CP can coordinate or cooperate with BT's vectoring (noting that such steps may depend on the technology available at the time). Although it would depend on the specific facts of any case, if it had done so, then a request for new SLU access at a vectored cabinet might be considered unreasonable if BT could demonstrate it had taken all reasonable steps to coordinate the vectoring, based on the available technology at the time, or otherwise

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justified their decision by noting the low demand for SLU and a lack of evidence of future use, along with a desire to facilitate vectoring investment. We also note that some other regulators, including BNetzA, have also recently made specific proposals in relation to SLU and vectoring.

[623] "[Openreach's director of network investment, Mike Galvin] said vectoring would likely be deployed into the network later in 2013, " ZDNet, *NBN: Fibre to the world*, 24 March 2013 www.zdnet.com/nbn-fibre-to-the-world_p3-7000012385/

[624] The European Competitive Telecommunication Association (ECTA) noted to ComReg (Paragraph 4.46, ComReg, *Next Generation Access: Remedies for Next Generation Access market, 31 January 2013,* www.comreg.ie/_fileupload/publications/ComReg1311.pdf) that further generations of the technology will likely facilitate working with SLU.

cooperate, but that despite these steps, it was not possible for SLU to be deployed without significantly degrading the service of existing customers at that cabinet. We note that if a CP did not think that its request had been refused on reasonable grounds, then it could bring a dispute to us.

11.500 If the use of SLU over the review period (during which we expect significant take-up of SFBB) remains low, this will be a relevant consideration in the next market review as to whether it is appropriate to reconsider the imposition or form of the SLU remedy.

11.501 We welcome comments from stakeholders on the issue of vectoring and SLU.

Changes to remedy

11.502 Two stakeholders responding to the 2012 FAMR Call for Inputs on SLU ([✂] and TalkTalk) suggested that the SLU remedy could be improved by making changes to the product, particularly through automation[625] (improvements to pricing was also mentioned and is discussed further in the section on pricing from paragraph 11.507).

11.503 We first note that, since the 2010 WLA Statement, a number of changes to the SLU product have been progressed through the industry working group, facilitated by OTA2. It is not clear what further precise changes would directly result in the SLU product being used to deploy a network of a material size. Further, changes such as automation may involve costs disproportionate to the relatively low demand for the product. While it could be argued that making this change could help prompt demand, in order to justify imposing any requirement on BT we would need to have sufficient evidence that CPs would deploy SLU on a material scale were any changes imposed. Despite requesting it in the 2012 FAMR Call for Inputs we have yet to receive such evidence.

11.504 As such, we do not propose to specify any particular product characteristics, allowing the product to remain flexible and adaptable to CPs' specific needs. We consider that the most appropriate way for CPs to seek changes they consider necessary to fulfil their SLU product requirements is to raise a request with BT through the SoR process. We note that if a CP does not consider BT has adequately responded to a reasonable request for network access, it could consider raising this as a dispute with us.

11.505 We similarly do not propose to require EOI for SLU on the grounds that to do so would be too costly. We agreed a variation to the Undertakings in 2009 allowing BT to operate as a vertically integrated operator across the SLU boundary for this reason[626], and we consider that there is no evidence to suggest a change in approach is appropriate or proportionate.

11.506 We would however expect BT to use the same, or very similar, products, processes and systems for both SLU and its own FTTC deployments where this is practical. Indeed, we consider that BT's ability to artificially introduce differences between SLU and its own FTTC deployments or maintain differences without an objective

[625] The development and use of equipment and/or systems that would automate the processes involved in setting up SLU. Automation could range from high level business processes all the way down to technical processes (e.g. management of equipment), and from automating selected (e.g. time consuming) tasks towards fully automated processes.
[626] Ofcom, *Variation to BT's Undertakings under the Enterprise Act 2002 related to Fibre-to-the-Cabinet*, 11 June 2009, www.ofcom.org.uk/consult/condocs/fttc/statement/.

justification will be addressed by the requirement not to unduly discriminate which we are proposing to impose on BT.

Pricing of SLU

11.507 In the 2010 WLA Statement, we imposed a Basis of charges condition requiring BT to set cost orientated charges in respect of SLU. Specifically, this condition set out that LRIC+ was the most appropriate basis for setting the charges for SLU. We set out that it was too early for us to be able to set a meaningful SLU charge control (in addition to the general cost orientation obligation) given the limited demand for SLU to date and, because of this, very limited information on the cost of providing it.

11.508 We note that there were limited comments in response to the 2012 FAMR Call for Inputs on the issue of SLU pricing. BT stated that pricing had been reviewed as part of a formal investigation by Ofcom since the last review, and hence it would not support significant changes in approach or price levels. As noted in paragraph 11.502 [✂] and TalkTalk made comments in relation to pricing. [✂] stated that issues such as the current pricing of SLU were still proving to be a bar to its attractiveness. In commenting on barriers to entry in the WLA market, TalkTalk noted that SLU was "far from fit for purpose given its high price" and in a footnote on this comment noted, *inter alia*, that the SLU MPF rental charge was higher than the rental charge for the whole loop (i.e. MPF).

11.509 As noted by BT, since the last review, a dispute on SLU pricing was raised by DRL (the '2011 SLU Dispute Determination'). In this dispute, we found that SLU pricing was broadly consistent with the guidance for cost orientation set out in the 2010 WLA Statement (with the exception of some items from the cost stack which were removed as they were not relevant for SLU provision).[627]

11.510 We continue to consider that some form of price regulation is appropriate to support the obligation to provide SLU. This is on the basis of our provisional view that because competition is not effective in the WLA market (as set out in Section 7), BT has the ability and incentive to set excessive prices both in order to maximise its profits and, because BT is vertically integrated, to increase the costs of competing providers. Such price regulation would guard against the risk of adverse price effects, such as excessively high SLU prices that undermine the effectiveness of the obligation to supply this service and/or result in higher retail prices which would be detrimental to consumers. We have therefore considered whether it is appropriate to maintain a Basis of charges condition specifying that BT's charges should reflect its costs or whether we should instead set an explicit charge control for SLU services[628].

11.511 Our provisional view is that it is appropriate to continue to apply a Basis of charges condition. The benefits of adopting an explicit charge control are likely to be limited given the low current and expected take-up of SLU. In our provisional view, the limited benefits of a charge control are outweighed by the drawbacks. In particular, any charge control would probably be more onerous to set for stakeholders and would be dependent on forecasts (e.g. of costs, take-up) which may not be reliable,

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[627] Frames engineering costs were removed from SLU SMPF connections (Ofcom, *CW/01067/02/11: Determination to resolve a dispute between DRL/Thales and BT relating to Sub Loop Unbundling charges*, 15 July 2011, www.stakeholders.ofcom.org.uk/enforcement/competition-bulletins/closed-cases/all-closed-cases/cw_01067/.

[628] We note that Ofcom recently published "Ofcom, C*ost orientation"*, 5 June 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/cost-orientation/summary/Cost_orientation.pdf.

whereas a more general obligation requiring BT to set cost-reflective charges provides greater scope to reflect changes in factual circumstances during the period covered by this market review. While an explicit charge control would provide greater certainty to stakeholders, a reasonable degree of certainty about prices can still be achieved under a Basis of charges condition.[629] Below we set out the guidance we propose to give to provide this certainty, and the 2011 SLU Dispute Determination (which involved BT and the main purchaser of SLU) is likely to provide further clarity as to what prices would be appropriate.

11.512 We consider (as in the 2010 WLA Statement) that, where parts of the SLU product or process are the same as products or processes within other products, then we would typically expect BT to take a consistent approach when assessing costs. In such situations we would therefore expect these parts of the cost stack to be the same. The costs recovered from SLU should only differ from the costs BT recovers from other services that use equivalent components where there is an objective justification for the difference.

11.513 We thus propose to adopt a Basis of charges condition for SLU where charges are reasonably derived from the costs of provision by reference to relevant LLU charges. We propose that this should apply on an annual basis, such that prices should reflect average costs in any year. Specifically, we propose that SLU charges should be based on equivalent LLU charges, with any differences between the two reflecting differences in forward looking long run incremental cost, including an appropriate return on capital employed. Where there are charges for which there is no LLU equivalent, we propose they are set on a forward looking fully allocated cost basis. Unlike the SLU rental charge, which involves use of duct and copper, we consider that minor SLU charges are likely to be largely incremental in nature, and so we would expect that the allocation of common costs would only have a small impact on the other minor SLU charges. Because of this, we have not proposed a cost orientation obligation specified in terms of long run incremental cost plus an appropriate mark up for the recovery of common costs.

Summary of SLU proposals

11.514 We propose an obligation on BT to offer an SLU product to all CPs who reasonably request in writing such services. BT would also be required to provide such ancillary services as may be reasonably necessary for the use of SLU (including backhaul to the cabinet). This would provide CPs with a complementary alternative to VULA to offer superfast services over FTTC networks, or to exploit areas where NGA has not been deployed footprint (e.g. final 10%). In order to constrain SLU pricing, we propose to impose a Basis of charges condition as described.

11.515 The proposed condition is set out in full in Annex 11.

11.516 The proposed requirement to offer SLU, on the basis of these specific proposals, is in addition to the proposed general remedies.

Consultation question(s)

11.6 Do you agree that we should continue to require SLU and that it should be offered subject to a Basis of charges requirement? Please provide reasons in support of your views.

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[629] Ibid.

11.7 Do you agree with our proposed approach on the issue of SLU and vectoring? Please provide reasons in support of your views, including, if you disagree with our approach, evidence as to why an alternative approach is more appropriate (e.g. in the form of business plans)

Consistency with the EC recommendations and BEREC Common Position

11.517 We consider that the application of an SLU remedy along with those ancillary services as may reasonably be necessary for the use of SLU is consistent with Recommendation 29 of the NGA Recommendation which states that NRAs should impose an obligation of unbundled access to the copper sub-loop. The same article states that an SLU remedy should be supplemented by backhaul measures "including fibre and Ethernet backhaul where appropriate". In this regard, we note that BT is already required to supply leased line products which can be used for SLU backhaul under the provisions of the BCMR that PIA supports the deployment of backhaul for SLU use, and that CPs can build their own backhaul (as DRL has done). We do not consider it would be proportionate to require BT to expend resources developing a fourth backhaul option, noting the relative use of SLU.

11.518 The Draft EC Recommendation sets out that NRAs should consider, if they believe that a non-discrimination obligation is appropriate, whether it would also be proportionate to impose EOI (Recommendation 7). We do not consider it proportionate to require BT to provide SLU on an equivalence basis, as this would likely require BT to re-engineer existing products and processes, which could be both costly and disruptive and hence disproportionate given the current and projected low level of use of SLU.

11.519 We also note the Draft EC Recommendation recommends not imposing pricing obligations, including cost orientation, where certain conditions are met (Recommendations 49 and 50). These conditions include requirements such as EOI, which could act to constrain prices in a way that makes additional pricing obligations unnecessary. Since, for the reasons given, we do not consider it appropriate to propose an EOI requirement for SLU, our proposal to impose a Basis of charges obligation is consistent with the Draft EC Recommendation.

11.520 We consider that the proposal to require SLU is consistent with BP7 and that the requirements to make available the specified ancillary services with associated pricing obligations fulfils BP16.

Legal tests

Obligation to supply SLU

11.521 Section 87(3) of the CA03 authorises Ofcom to set SMP services conditions requiring the dominant provider to provide network access as Ofcom may from time to time direct. These conditions may, pursuant to section 87(5) of the CA03, include provision for securing fairness and reasonableness in the way in which requests for network access are made and responded to and for securing that the obligations in the conditions are complied with within periods and at times required by or under the conditions.

11.522 In setting this condition, we have also taken account of the factors set out in section 87(4) of the CA03. In particular, the economic viability of CPs other than BT building alternative access networks in the absence of regulatory intervention. We consider the economic case for doing so is challenging. We have also taken account of the feasibility of BT providing SLU services, noting that it already does so. We consider the obligation should also continue to help secure effective competition in the long term and have taken account of BT's investment in its NGA network, both as set out above.

11.523 We have considered our duties under section 3 and the Community requirements set out in section 4 of the CA03. In particular, the obligation to provide network access in the form of SLU is aimed at encouraging network access. This promotes and secures efficient and sustainable competition and the maximum benefit for customers because it would continue to enable third party CPs to compete with BT downstream with respect to FTTC-based services. The limitations we propose on our intervention in relation to vectoring and other changes to the remedy, as well as our proposals for a Basis of charges obligation based on a LRIC+ cost standard, are consistent with both securing those ends and securing (and appropriately reflecting) efficient investment.

11.524 We consider that the performance of our principal duty in section 3 of the CA03 (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) would also be secured or furthered by the SLU obligation through promoting competition in this upstream access market.

11.525 The proposed obligation satisfies the criteria set out in section 47(2) of the CA03 because it is:

- objectively justifiable, in that the obligation relates to the need to ensure that competition develops ultimately to the benefit of consumers. SLU services are aimed at stimulating competition in the provision of broadband and telephony services and enhancing competition in areas of limited local access competition. Removing the obligation could result in BT withdrawing the product or otherwise changing it to the detriment of the existing level of downstream competition;

- not unduly discriminatory, in that the obligation aims to address BT's market power in the relevant market of the UK excluding the Hull Area, in which it is the only CP in respect of which we have made a provisional finding of SMP (and as the obligation imposed on KCOM to provide network access on reasonable request is sufficient to ensure that KCOM provides SLU services should a reasonable request be made);

- proportionate, in that the obligation is necessary, but no more than necessary, to promote efficient and sustainable competition and the maximum benefit of customers of CPs, taking into account the fact that BT already supplies this service; and

- transparent, in that the obligation is clear in its intention to require BT to provide an SLU product and ancillary services to other CPs.

Basis of charges condition

11.526 Section 87(9)(a) of the CA03 authorises the setting of SMP services conditions imposing on the dominant provider such price controls as Ofcom may direct in relation to matters connected with the provision of network access to the relevant network, or with the availability of relevant facilities. Section 87(9)(b) further authorises SMP services conditions imposing such rules as they make for the purposes of matters connected with the provision of network access to the relevant network, or with the availability of relevant facilities about the recovery of costs and cost orientation. In each case, in setting such conditions, we must be satisfied that the conditions about network access pricing set out in section 88 of the CA03 are also satisfied.

11.527 We also consider that the proposed condition satisfies the requirements of section 88(1) of the CA03 as our analysis indicates that there is a risk of adverse effects arising from price distortion. Moreover, the proposed condition promotes efficiency and sustainable competition and provides the greatest possible benefits to end users by enabling competing providers to buy network access and supporting ancillary services at levels that might be expected in a competitive market. The extent of investment of the dominant operator has been taken into account as set out in section 88(2), as the obligation provides for an appropriate return on the capital employed to be included in the charges. In addition the control only applies to existing products and services in this market, and not to newer and less established NGA services in the market (i.e. VULA).

11.528 Ofcom has also considered its duties under section 3 and all the Community requirements set out in section 4 of the CA03. In particular, the condition is aimed at promoting competition and securing efficient and sustainable competition for the maximum benefit of consumers by ensuring that charges for wholesale services are set at a level that enable CPs to compete downstream. For those reasons, we also consider that, together with any pricing to be charged on a fair and reasonable basis under the proposed network access obligations, the proposed condition would be appropriate in order to promote efficiency and sustainable competition and to provide the greatest possible benefits to end users by enabling competing providers to buy network access at levels that might be expected in a competitive market. At the same time, given the proposed cost standard, we consider that the proposed condition is also consistent with the purpose of securing efficient investment.

11.529 Section 47 requires conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. The proposed condition is:

- objectively justifiable, as the condition would ensure that competing CPs could purchase services at charges that would enable them to develop competing services to those of BT in downstream markets to the benefit of consumers;

- not unduly discriminatory, as no other operator provisionally has SMP in the relevant market of the UK excluding the Hull Area (in the case of KCOM we are not proposing to require it to provide SLU as a specific access remedy);

- proportionate, as the condition would ensure, but does no more than ensure, that BT is unable to exploit its market power, while at the same time allowing BT a fair rate of return that it would expect in competitive markets; and

- transparent, in that it is clear in its intention, in particular to ensure that BT should set charges on a LRIC+ basis, as set out in this document.

Physical Infrastructure Access

Introduction

11.530 We introduced PIA as a remedy in the 2010 WLA Statement. PIA requires BT to provide third parties with access to its duct and pole network that could facilitate the deployment of alternative NGA infrastructure.

11.531 We considered that allowing BT's competitors to use this physical infrastructure in BT's access network could promote competition and investment in NGA network deployment by removing a significant barrier to infrastructure deployment.

11.532 While we considered that VULA would be the primary focus of NGA-based competition over the review period (i.e. where BT had deployed its NGA network), we envisaged that PIA could be attractive to companies wishing to address market opportunities in advance of BT's NGA deployment and in locations which may be in receipt of public funding support.

11.533 While a number of CPs took part in trials of PIA following the introduction of the remedy, there has been very little use of PIA on a commercial basis. [✂] A key use of PIA – by those receiving public funding, such as in BDUK areas – has not borne out, as no CP other than BT has yet won contracts to deploy NGA in these areas.

<u>2012 FAMR Call for Inputs</u>

11.534 In the 2012 FAMR Call for Inputs, we referred to the view we expressed in the 2010 WLA Statement in relation to PIA potentially being attractive where BT was not deploying NGA, but noted the limited usage of PIA. We acknowledged that the remedy had 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 became more certain. We also stated that we were open to evidence that changes to PIA could unlock NGA investment that was not possible under the current implementation of PIA. We asked the following 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.*

Imposing a PIA obligation

11.535 In response to the 2012 FAMR Call for Inputs questions, no stakeholder specifically sought removal of the obligation. BT suggested Ofcom should consider whether PIA remained appropriate as a national remedy, i.e. whether it should be retained in areas where BT or others were deploying their own NGA networks. The Bit Commons suggested CPs should be given a final opportunity to make clear their intentions for infrastructure investment and the conditions under which their investment would be made.

11.536 Vodafone and Verizon said that PIA should be retained and [✂], Colt and Virgin pointed to the potential for greater competition based on competing infrastructures that PIA could support. TalkTalk did not consider that PIA would exert any meaningful constraint on BT during the market review period, even if it was rapidly improved, instead suggesting that Ofcom should ask itself whether it wants PIA to work in the longer term. Similarly, Virgin called for a detailed review of passive remedies, arguing that to withdraw the remedy without further review would not be appropriate, but nor would "patching up" the existing remedy.

11.537 A number of respondents identified improvements to the PIA product, with some arguing that a lack of use of PIA could be ascribed to problems with the PIA product itself and that improvements could unlock investment. These issues are further discussed below. However, no stakeholder provided evidence of plans to deploy NGA network using PIA – even with a PIA product that implemented their suggested improvements.

11.538 However, notwithstanding this, our proposal is to impose PIA as a remedy to BT's SMP in this market. As our assessment of the WLA market shows, the level of investment required by a third party to replicate BT's NGA network on a sufficiently large scale to compete at this level (in the absence of regulatory intervention) is a significant barrier to entry. In the absence of access to BT's infrastructure for the purposes of providing retail NGA services, we consider that BT would have the incentive and ability to refuse access at the wholesale level and thereby favouring their own retail operations with the effect of hindering sustainable competition on the corresponding downstream markets, ultimately against the end users interests. Therefore, we propose that it is it appropriate to maintain the current PIA remedy to allow third party CPs to deploy their own NGA network.

11.539 As explored at paragraph 11.10, we consider that superfast broadband will play an increasingly important role in the retail broadband market. As such, there is the potential that the demand for NGA may increase such that it supports the economics of CPs deploying their own NGA networks. PIA lowers the barriers for such deployment by reducing the cost of deployment compared to deploying a network entirely separate from BT's – whether in competition with BT's NGA network or the deployment of new NGA infrastructure where it does not exist (and thus in competition with BT's CGA network).

11.540 Further, in supporting deployment of NGA by other CPs, PIA could provide dynamic benefits from giving other CPs more control over how to compete. This could include the deployment of fibre closer to end users' premises than supported by BT's predominantly FTTC network (the availability of BT's FTTP on Demand product notwithstanding). Further, CPs may be able to leverage any existing base of superfast broadband customers (e.g. using VULA) which could provide a stronger basis for investing in the deployment of their own NGA infrastructure using PIA.

11.541 While PIA is not currently being used for any State aid contracts, the removal of PIA would be likely to increase the barriers to non-BT CPs being able to win such contracts to deploy NGA networks (whether using BDUK or other potential State aid funding), including in the last 10%, as it would significantly increase the cost of physical network deployment. The retention of PIA would thus continue to support investment and competition (with CGA) where BT was not investing.

11.542 Finally, PIA has been in place for less than three years, and BT's current pricing only in place for around 18 months. While the PIA product has been developed using significant BT, industry and Ofcom resources, we consider that limited additional resource would be required to support its continuation. On this basis, we consider it 'too early to remove' due to the need to allow sufficient time for business models to develop based on PIA.

11.543 We therefore propose to require PIA to be offered on a national basis to enable CPs to deploy NGA networks. This is consistent with our proposed finding that BT has SMP across the UK excluding the Hull Area. We do not consider it appropriate to require PIA only where NGA has not been deployed, as one of the key reasons for PIA is to support competition with both CGA *and* NGA networks. However, nor do we consider it appropriate to extend the use of PIA to non-local access services, such as leased lines, for which we now set out the reasons.

Allowed uses of PIA

11.544 In the 2012 FAMR Call for Inputs, we asked stakeholders what changes could be made to the PIA product that could increase NGA investment by other CPs, specifically inviting the submission of business plans that could be made viable by such changes. The change most commonly requested was the ability to use PIA to deploy business services, i.e. leased lines[630] (other proposed changes are discussed from paragraph 11.558). Support for this was expressed by Colt, Verizon, Vodafone, Derby City Council, Manchester City Council, The Bit Commons and [✂]. Sky and TalkTalk argued for relaxing or removing restrictions on the uses of PIA (although they did not explicitly state this meant use of PIA for leased lines). While BT did not specifically state its position on this issue, it suggested Ofcom take into account the conclusions that it reached on this issue in the Business Connectivity Market Review (BCMR) (see paragraph 11.546).

11.545 The general argument put forward was that being able to use PIA for leased lines deployment could support greater investment in the backhaul market, which in turn could improve investment and competition in the access market. Vodafone specifically argued, in a paper sent to Ofcom following the 2012 FAMR Call for Inputs, that being able to use PIA for mobile backhaul could support greater deployment of LTE, which it considered could be a competitor to NGA. A number of stakeholders, such as Colt, Vodafone and [✂], cited other European countries where PIA had been used to deploy leased lines including mobile backhaul, sometimes in combination with access networks.

11.546 The use of PIA to deploy leased lines (including mobile backhaul) was specifically considered in the recent BCMR statement, where we decided not to impose passive remedies in markets for leased line services.[631] We note in this regard that Colt recently lodged an appeal of this decision with the Competition Appeals Tribunal.[632]

11.547 In the 2010 WLA Statement, we considered the argument that using PIA for leased lines could improve the case for NGA deployment. However, we concluded that, in general, the contribution made by leased line deployments to an NGA business case was likely to be weak. We specifically asked in the 2012 FAMR Call for Inputs for

[630] PIA can be used to deploy access networks. Within these, it can be used for either business or residential services.
[631] See Section 8, Ofcom, *Business Connectivity Market Review Statement* 28 March 2013, www.stakeholders.ofcom.org.uk/consultations/business-connectivity-mr/.
[632] Communication Appeal Tribunal, *Notice of Appeal under Section 192 of The Communications Act 2003 Case No 1212/3/3/13,* 30 May 2013, www.catribunal.org.uk/237-8028/1212-3-3-13-Colt-Technology-Services.html.

evidence of specific business plans which could be made viable by changes to PIA (including leased lines). However, no such evidence was forthcoming. We note, for clarity, we do not consider that a lack of use of PIA to date is in and of itself 'evidence' that usage of PIA should be expanded to leased lines.

11.548 Without such evidence – e.g. in the form of business plans or a specific intention to invest – then it is difficult to assess whether this change might be appropriate and the ways in which this may be facilitated. In particular, whether the possible benefits might outweigh any potential adverse consequences and how such an outcome might be achieved. As such, our proposal is to continue to allow PIA to be used for the deployment of local access networks only.

11.549 We note that since the publication of our 2012 FAMR Call for Inputs, BT published an update to its PIA pricing that amended its implementation of PIA to allow use for "non-NGA" purposes in some circumstances. We note that BT specifically states that these changes set out its commercial approach to meeting the conditions which flow from the EC Decision concerning the use of public funding for the roll out of superfast broadband in rural areas under the BDUK initiative and were not part of BT's UK regulatory obligations.[633]

Pricing of PIA

11.550 TalkTalk said that the only way PIA would work is if Ofcom gives "proper attention" to it, including that prices are "sensibly set". [✂] considered that PIA still had the potential to promote valuable infrastructure based competition, subject to revision of pricing. However BT thought that its current pricing was in line with European benchmarks.

11.551 We set out in the 2010 WLA Statement that prices for PIA services should be designed to cover the efficiently incurred long run incremental costs including a return which reflects the associated risks, plus an appropriate contribution to common costs (i.e. LRIC+). This built on our approach in the Superfast Broadband Statement which concluded that prices should reflect the risk at the time the investment was made. We also set out in detail how BT might go about developing its prices and what we would do if it was unable to come to agreement with CPs. BT subsequently produced an initial set of charges in early 2011 and then, after a process of review, put in place a set of lower charges in October 2011. As noted above, there is currently low demand for PIA; we also do not have evidence that it is the price of PIA itself that is the cause of this.[634] We further note that BT recently reduced some PIA prices following the outcome of the appeal of the 2012 Regulatory Asset Value (RAV) adjustment.[635]

11.552 We nonetheless consider that some form of price regulation is appropriate to support the obligation to provide PIA. This is on the basis that in markets where competition is not effective, dominant providers are likely to set excessive prices, in order to maximise their profits and, where the dominant provider is vertically integrated, to increase the costs of competing providers. Such price regulation would guard against the risk of adverse price effects, such as excessively high PIA prices that undermine

[633] Openreach, *GEN027/13 Physical Infrastructure Access (PIA) Update*, 17 May 2013, www.openreach.co.uk/orpg/home/updates/briefings/generalbriefings/generalbriefingsarticles/gen02713.do.
[634] Cullen research indicates that BT's pricing of monthly rental fees for ducts are amongst the lowest of eight comparable European countries (Cullen, *Duct sharing – Prices*, www.cullen-international.com/report/3294/t2456).
[635] Openreach, *GEN037/13 Physical Infrastructure Access Update*, 17 June 2013 www.openreach.co.uk/orpg/home/updates/briefings/generalbriefings/generalbriefingsarticles/gen03713.do.

the effectiveness of the obligation to supply this service and/or result in higher retail prices which would be detrimental to consumers. We have therefore considered whether it is appropriate to maintain a Basis of charges condition specifying that BT's charges should reflect its costs or whether we should instead set an explicit charge control for PIA.

11.553 Our provisional view is that it is appropriate to continue to apply a Basis of charges condition. While an explicit charge control would provide greater certainty to stakeholders, a degree of certainty about prices can still be achieved under a Basis of charges condition. In addition, the benefits of adopting an explicit charge control are likely to be limited given the very low current and expected take-up of PIA. In our provisional view, the limited benefits of a charge control are outweighed by the drawbacks. In particular, any charge control would probably be more onerous to set for stakeholders and would be dependent on forecasts (e.g. of costs, take-up) which may not be reliable, whereas a more general obligation requiring BT to set cost-reflective charges provides greater scope to reflect changes in factual circumstances during the period covered by this market review. The risk of forecast error (i.e. regulatory failure) seems particularly high in the case of PIA given the negligible current take-up of PIA.

11.554 We have considered ways in which uncertainty could be minimised under a Basis of charges condition. In particular, whether and how that condition can provide guidance about which of the costs should be reflected in PIA prices.

11.555 In our view, the appropriate cost standard for PIA pricing remains LRIC plus an appropriate allowance for fixed and common costs (i.e. the LRIC+ cost standard), including a "risk premium" where appropriate, such that prices can earn a reasonable rate of return on the basis of the expected cash flows from the investment at the time of deployment.

11.556 We also consider that the treatment of the RAV when setting PIA prices should be consistent with the approach which we propose to take for the purposes of setting the LLU and WLR charge controls, on which we will be consulting separately.

11.557 We thus propose to adopt a Basis of charges condition for PIA where charges are reasonably derived from the costs of provision based on a forward looking long run incremental cost approach. This allows an appropriate mark up for the recovery of a fair and reasonable share of common costs including an appropriate return on capital employed, which might include a "risk premium" where appropriate. We propose that this should apply on an annual basis, such that prices should reflect average costs in any year.

Other changes to the product

11.558 Sky said a primary reason for the low use of PIA was lack of information on BT's duct network and called for an 'as-built' database to be created. TalkTalk argued that PIA was only really fit for "micro" deployments and supported industrialisation[636] of the product, pointing to a cycle whereby BT would only make improvements in response to demand but where there cannot be material demand until improvements are made. However, BT argued that low take-up has not helped to make a business case for large scale investment in the development of PIA.

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[636] We interpret this to mean the ability to order PIA in an automated way, e.g. through Openreach's Equivalence Management Platform system, similar to the way products such as LLU and VULA can be purchased.

11.559 In relation to calls for a nationwide database, we stated in the 2010 WLA Statement that the provision of infrastructure databases and operational support systems would be likely to depend on the level of demand for PIA, which was at the time unclear. Although we can see the theoretical value in such a database, given the lack of evidence of the likely future material use of PIA, it would not appear proportionate to impose requirements on BT to publish more information, such as in the form of a national database.

11.560 Regarding industrialisation (i.e. automating the ordering process), given the current and projected level of demand for PIA, we consider it would be difficult to justify requiring BT to spend significant amounts to automate the product. This could simply increase the price of PIA (which would have to be recovered from CPs) and if PIA continued to see little use – even after this change – then this cost may have to be absorbed or recovered from other products. We also consider that there are likely to be other contributory factors to why we have not seen material demand to use PIA, such as the underlying economics, rather than just the PIA product itself.

11.561 Overall with respect to changes to PIA, we consider that, without evidence stakeholders will use PIA on a material scale, it would be disproportionate to impose a greater regulatory burden on BT or to dedicate substantial industry resource to improving a product that could continue to see little use, even with such improvements. We note that, despite being presented with opportunities to do so in the 2012 FAMR Call for Inputs, no stakeholders provided evidence that PIA would see greater use if any changes were made. We note also that the SoR process remains open to CPs and they can raise disputes with us if they do not consider BT has complied with its regulatory obligations.

Summary of proposals

11.562 We propose to impose an obligation on BT to offer a PIA product on the basis of fair and reasonable terms and conditions, to all CPs who reasonably request in writing such services for the deployment of access networks. This will provide CPs with a complementary alternative to VULA to offer superfast services by deploying their own NGA networks in competition with BT, or to exploit areas where NGA has not, or will not, otherwise be deployed. We consider it is proportionate to maintain this remedy not least as we are not requiring BT to make changes to the product. In order to constrain PIA pricing, we propose to impose a Basis of charges condition as described above.

11.563 The proposed condition is set out in full in Annex 11.

11.564 The proposed requirement to offer PIA and to offer it on the basis of these specific proposals is in addition to the proposed general remedies.

Consultation question(s)

11.8 Do you agree that we should continue to require PIA and that it should be offered subject to a Basis of charges requirement? Please provide reasons in support of your views.

11.9 Do you agree that PIA should continue on the same bases as it is currently applied? Please provide reasons in support of your views, including, if you disagree with our approach, evidence of specific business plans or *intentions to invest in deploying NGA networks that are currently unviable, but would become viable with your suggested changes.*

Consistency with the EC recommendations and BEREC Common Position

11.565 In developing our proposals, we have taken utmost account of the NGA Recommendation and BEREC Common Position. We consider that our proposals are consistent with the NGA Recommendation. It states that, where duct capacity is available, NRAs should mandate access to civil engineering infrastructure (Recommendation 13 of the NGA Recommendation) and that NRAs should ensure that access to existing civil engineering infrastructure is provided at cost-oriented prices (Recommendation 14 of the NGA Recommendation and BP12(c) of the BEREC Common Position).

11.566 Recommendation 17 of the NGA Recommendation and BP28 of the Common Position propose the creation of a database containing information on civil engineering infrastructure. However, having taken utmost account of those provisions, for the reasons described at paragraph 11.559, we do not consider this a proportionate requirement in the context of the WLA market.

11.567 Article 13 of the NGA Recommendation sets outs that access to civil engineering infrastructure should be provided in accordance with the principle of equivalence. The Draft EC Recommendation also sets out equivalence as a best practice. Having taken utmost account of those provisions, we do not consider it proportionate to require BT to provide PIA on an equivalence basis, as this would be likely to require BT to re-engineer existing products and processes which could be both costly and disruptive and hence disproportionate given the current and projected low level of use of PIA.

11.568 We also note the Draft EC Recommendation recommends not imposing pricing obligations, including cost-orientation, where certain conditions are met (Recommendations 49 and 50). These conditions include requirements such as EOI, which could act to constrain prices in a way that makes additional pricing obligations unnecessary. Since, for the reasons given, we do not consider it appropriate to propose an EOI requirement for PIA, our proposal to impose a Basis of charges obligation is consistent with the Draft EC Recommendation.

11.569 We consider that the requirements to make available the specified ancillary services with associated pricing obligations fulfils BP16 which states that "*NRAs should impose obligations with regard to the provision of co-location and other associated facilities on a cost-oriented basis under clear rules and terms approved by the regulator to support viability of the access products mentioned above.*"

Legal tests

Requirement to offer a PIA product

11.570 We consider that the proposed obligation to provide network access by means of PIA, together with such ancillary services as may be reasonably necessary for the use of those services, is appropriate and satisfies the legal tests set out in the CA03.

11.571 Section 87(3) of the CA03 authorises Ofcom to set SMP services conditions requiring the dominant provider to provide network access as Ofcom may from time to time direct. These conditions may, pursuant to section 87(5), include provision for securing fairness and reasonableness in the way in which requests for network access are made and responded to and for securing that the obligations in the conditions are complied with within periods and at times required by or under the conditions.

11.572 In applying this condition, we have also taken into account the factors set out in section 87(4) of the CA03. In particular, the economic viability of CPs other than BT building alternative access networks in the absence of regulatory intervention. We consider the economic case for doing so is challenging. We have also taken into account the feasibility of BT providing PIA services, noting that it is already in position to do so. We also consider the condition should help ensuring the need to secure effective competition in the long term.

11.573 We have considered our duties under section 3 and the Community requirements set out in section 4 of the CA03. In particular, the proposed PIA obligation is aimed at encouraging network access and thereby promoting and securing efficient and sustainable competition and maximum benefit for customers. It will continue to enable third party CPs to compete with BT downstream with respect to CGA- and NGA-based services. We consider that NGA services are likely to become an important element of the market over the period of this review. At the same time, given the proposed cost standard, we consider that the proposed conditions are also consistent with the purpose of securing efficient investment.

11.574 We consider that the performance of our general duties under section 3 of the CA03 – to further the interests of citizens in relation to this sector and to further the interests of consumers in relevant markets – will also be secured or furthered by the proposed PIA obligation through promoting competition in this upstream access market. We have also had particular regard to the desirability of encouraging the availability and use of high speed transfer services throughout the UK in proposing this condition.

11.575 The proposed obligation satisfies the criteria set out in section 47(2) of the CA03 because it is:

- objectively justifiable, as the proposed obligation relates to the need to ensure that competition develops ultimately to the benefit of consumers. PIA services are aimed at stimulating competition in the NGA networks. Not imposing the proposed PIA obligation could result in BT withdrawing the existing PIA product or otherwise changing it to the detriment of any level of downstream competition;

- not unduly discriminatory, as the proposed obligation aims to address BT's market power in the relevant market, it being the only operator provisionally assessed as having SMP in that market in the UK excluding the Hull Area (and as the obligation imposed on KCOM to provide network access on reasonable request is sufficient to ensure that KCOM provides PIA services should a reasonable request be made);

- proportionate, as the requirement is necessary, but no more than necessary, to promote competition and secure efficient investment in NGA networks for the maximum benefit of retail customers. We note that we are not proposing that BT makes changes to the existing product, given that current and future expected usage is low; and

- transparent, as the obligation is clear in its intention to require BT to provide a PIA product to other CPs.

Basis of charges condition

11.576 Section 87(9)(a) of the CA03 authorises the setting of SMP services conditions imposing on the dominant provider such price controls as Ofcom may direct in relation to matters connected with the provision of network access to the relevant network, or with the availability of relevant facilities. Section 87(9)(b) further authorises SMP services conditions imposing such rules as they make for the purposes of matters connected with the provision of network access to the relevant network, or with the availability of relevant facilities about the recovery of costs and cost orientation. In each case, in setting such conditions, we must be satisfied that the conditions about network access pricing set out in section 88 of the CA03 are also satisfied.

11.577 We also consider that the proposed condition satisfies the requirements of section 88(1) of the CA03 as our market analysis indicates that there is a risk of adverse effects arising from price distortion. Moreover, the proposed condition promotes efficiency and sustainable competition and provides the greatest possible benefits to end users by enabling competing providers to buy network access at levels that might be expected in a competitive market. The extent of investment of the dominant operator has been taken into account as set out in section 88(2), as the obligation provides for an appropriate return on the capital employed to be included in the charges.

11.578 Ofcom has considered its duties under section 3 and all the Community requirements set out in section 4 of the CA03. In particular, the condition is aimed at promoting competition and securing efficient and sustainable competition for the maximum benefit of consumers by ensuring that charges for wholesale services are set at a level that enable CPs to compete downstream. Under the proposed network access obligations, the proposed condition would be appropriate in order to promote efficiency and sustainable competition and provide the greatest possible benefits to end users by enabling competing providers to buy network access at levels that might be expected in a competitive market. At the same time, given the proposed cost standard, we consider that the proposed condition is also consistent with the purpose of securing efficient investment.

11.579 Section 47 requires conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. The proposed condition is:

- objectively justifiable, in that it would enable competitors to purchase services at charges that would enable them to develop competing services to those of BT in downstream markets to the benefit of consumers;
- not unduly discriminatory, as no other operator provisionally has SMP in the relevant market of the UK excluding the Hull Area (in the case of KCOM we are not proposing to require it to provide PIA as a specific access remedy);
- proportionate, in that it would ensure, but do no more than ensure, that BT is unable to exploit its market power, while at the same time allowing BT a fair rate of return that it would expect in competitive markets; and
- transparent in that it is clear in its intention, in particular to ensure that BT should set charges on a LRIC+ basis, as set out in this document.

Alternative remedies

Introduction

11.580 In considering the remedies to propose applying on BT with respect to NGA, we have also considered whether specific remedies other than VULA, SLU and PIA would be appropriate.

11.581 In the 2010 WLA Statement, the main alternative remedy we considered was fibre access. This concerned access to the fibre that BT was to deploy, predominantly for its proposed FTTP network. We concluded that there should not be a specific fibre access requirement on BT (including wavelength unbundling, or 'WLU'), for the period of the review. Instead, we concluded that CPs would be able to seek fibre access products under BT's general network access obligation to meet reasonable requests for network access should they require this.

11.582 In the 2012 FAMR Call for Inputs we highlighted that, in the 2010 WLA Statement, we did not consider it appropriate to apply a WLU obligation due to the immaturity of the standards and associated products for WLU at that time.[637] We went on to say that we had not seen evidence that this situation had materially changed since 2010 and we also noted the small amount of FTTP currently being planned or deployed in the UK. We sought views on whether that position remained appropriate and if not, what form of remedy should be imposed and the likely effectiveness of that remedy in addressing competition issues.

11.583 We also said we were interested in whether any other specific access product remedies, whether previously considered but not imposed (e.g. dark fibre[638]) or potential new access product remedies (e.g. remedies based on FTTDP), were likely to become appropriate in addressing competition issues over the review period, assuming such issues were to be identified.

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

11.585 In the 2012 FAMR Call for Inputs, we asked the following questions.[639]

> *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.*

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

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

[639] Ofcom, *Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 – Call for Inputs*, 9 November 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/summary/condoc.pdf.

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.

FTTP unbundling

Physical fibre unbundling

11.586 In the 2010 WLA Statement we stated we did not consider that it would be proportionate to require BT to provide access to unbundled fibre (‘dark fibre’). This was due to the sparse availability of suitable fibre in BT’s access network and the likely technical feasibility of accessing fibre.

11.587 In response to the 2012 FAMR Call for Inputs, Verizon stated that dark fibre would assist in tackling market distortions resulting from SMP. [✂] noted that remedies providing access to dark fibre are in place in several other European Member States, and stated it could be usefully employed in the UK to encourage further infrastructure-based competition. Sky, TalkTalk and The Bit Commons also expressed interest in dark fibre.

11.588 It is not clear where use of dark fibre as an access remedy would be possible in the UK, predominantly because dark fibre is not compatible with the passive optical network (‘PON’) architecture being deployed by BT.[640]

11.589 The only point in a PON architecture that physical unbundling of the fibre is possible is at the passive optical splitter. However, there is likely to be a high number of passive optical splitter locations so the process for disconnecting/reconnecting end user fibres would require significant manual intervention. Additionally, the addressable market would be very small with typically up to 32 connections per individual splitter (much smaller than for SLU, for example). Given these factors we consider this type of fibre unbundling is likely to be costly and impractical and we therefore do not consider this to be a suitable remedy at this time.

Wavelength unbundling

11.590 WLU requires a number of individual wavelengths to be supported on the PON. These individual wavelengths could then be unbundled and allocated either on a per CP or per end user basis. WLU would enable CPs to have dedicated bandwidth via their own wavelengths. We understand that retro-fitting WLU to BT’s PON is likely to be possible.

11.591 In the 2010 WLA Statement we concluded that we did not consider that it would be appropriate to implement such an obligation at that time due to the current immaturity of the standards and associated products for WLU.

[640] A PON is a point-to-multipoint architecture based on a shared infrastructure topology. A single fibre from the exchange is shared by several end users by means of a passive optical splitter which is deployed somewhere between the exchange and the end users’ premises.

11.592 In its response to the 2012 FAMR Call for Inputs, BT noted that it would not be technically viable to consider deploying WLU systems until around 2016 at the earliest and that systems would likely be prohibitively expensive in advance of any mass deployment. BT stated that multiple interventions (i.e. in addition to those already present in the WLA market) could cause regulatory arbitrage and hence potentially undermine its already very risky and long term investment in fibre. It also noted the very low volumes of FTTP it expected to deploy in the review period.

11.593 TalkTalk noted in its 2012 FAMR Call for Inputs responses that WLU was viable and Sky considered that WLU warranted Ofcom's attention in order to make existing regulation more effective. Vodafone commented that WDM-PON standards and price maturity were expected around 2015.

11.594 Virgin stated in relation to WLU that Ofcom should consider the effect of creating a further 'unbundling' remedy, when (depending on its form and implementation) this may not promote infrastructure based competition. Virgin did not elaborate on this but elsewhere in the 2012 FAMR Call for Inputs it said that PIA had turned out to be unfit for purpose and so competing providers have necessarily focused their provision of NGA services on VULA (i.e. rather than deploying their own networks).

11.595 We consider that WLU is still not technically mature enough to commercially deploy on a large scale and that in any case the number of connections it could be used for would currently be limited by the small size of BT's FTTP network. As such we do not consider that it would be proportionate to require BT to provide WLU during this market review period. However, we recognise that standards are continuing to be developed and it is possible that the technical situation may have changed by the next WLA market review. We would be interested in hearing from stakeholders about WLU developments and the likely role and size of demand for such a product (taking into account the amount of FTTP deployed). We would encourage BT when deploying its network to, where possible, adopt technology that enables WLU to be adopted in the future.

FTTC unbundling

11.596 FTTC unbundling, also known as SLU Bitstream, could allow a CP to rent DSLAM ports at a cabinet where BT had deployed FTTC. This could provide it with more control over the connection, including through the use of its own backhaul. As with SLU, there are a number of ways in which the CP could arrange backhaul to the cabinet, including self-build, PIA or renting an active or potentially passive or wavelength connection from another CP such as BT.[641]

11.597 In its 2012 FAMR Call for Inputs response, Sky stated that it and other CPs were soon to recommence commercial discussions with BT for the provision of such a product. It also said that if, as in the past, BT was not minded to provide such an unbundled access with the flexible backhaul options proposed, there would be considerable merit in Ofcom considering during this market review whether BT should be required to provide a SLU bitstream product.

11.598 We note this is currently the subject of an SoR that has been raised by Sky and which we understand has the backing of other CPs. We are generally supportive of products that offer increased dynamic benefits arising from a greater level of control,

[641] These are provided for example only; they do not represent an endorsement or proposal to adopt any specific approach, were such a remedy to be introduced by BT or imposed by Ofcom as a remedy.

such as greater innovation and retail product differentiation. However, the CP demand and precise requirements (including the preferred backhaul option) for this product has yet to be established, which makes it difficult to assess what those dynamic benefits would be, particularly what those benefits would be above and beyond the current VULA product.

11.599 We therefore do not propose to require BT to implement such a product as a specific access remedy at this stage. However, we invite interested parties to keep us updated on the progress of the SoR.

FTTDP

11.600 Installing FTTDP with the existing copper wire being used for the final few meters could be more cost effective than deploying fibre all the way to the premise. It is generally considered that FTTDP would be most effective when used with a developing technology called G.fast, which can be thought of as an evolution of VDSL.

11.601 [✂] We understand that a number of CPs are interested in FTTDP trials, perhaps initially using VDSL so that the physical engineering aspects can be trialled prior to the G.fast standard being available.

11.602 [✂]

11.603 It is likely to be a number of years before G.fast is technically mature enough for commercial deployment. As such we do not consider that it would currently be appropriate or proportionate to require BT to provide access for FTTDP unbundling. We do however, consistent with the proposed general remedies, continue to propose to require that BT provide network access on reasonable request and note that a trial or pilot of FTTDP within the period of this market review may be appropriate.

Consultation question(s)

11.10 Do you agree that we should not require BT to offer any other Please provide reasons in support of your views provide reasons to support your views, including, if you disagree with our approach, evidence of your likely demand (e.g. in the form of business cases or specific intention to invest) for any suggested alternative forms of network access.

Consistency with the EC recommendations and BEREC Common Position

11.604 After taking utmost account of the NGA Recommendation in this section, we have decided not to implement the following provisions as part of the obligations on BT:

- providing access to the terminating segment in the case of FTTH (notwithstanding Recommendations 18-20 of the NGA Recommendation);
- unbundled access to the fibre loop (notwithstanding Recommendations 22-28, in particular Articles 22 and 23, of the NGA Recommendation), including fibre backhaul for SLU where appropriate (notwithstanding Recommendation 29 of the NGA Recommendation and BP 13 of the BEREC Common Position); and
- providing multiple fibre lines in the terminating segment when deploying FTTH (notwithstanding Recommendation 21 of the NGA Recommendation).

11.605 We consider, that unbundling BT's GPON network (either of the terminating segment, notwithstanding Recommendations 18-20 or the entire fibre loop, notwithstanding Recommendation 22 and 23) would be unlikely to support effective competition, due to significant cost disadvantages[642] and because of the impracticality of physically unbundling a GPON (in the case of unbundling the entire fibre loop). We addressed fibre backhaul for SLU at paragraph 11.517 above.

11.606 On multi-fibre deployments, we note there is a lack of clear demand and that imposing such an obligation could disincentivise investment. We do not have evidence to suggest that these issues are likely to change materially over the course of the review period.

11.607 In all the circumstances, therefore, it does not appear to us that imposing the two unbundling measures listed above would be likely to promote investment, competition and innovation in line with the aims set out in Article 1 of the NGA Recommendation.

[642] BT's chosen technology means that passive optical splitters are likely to be located close to or at the distribution point, meaning each would cover an even lower number of customers than SLU at the cabinet, while there is a high cost to manually unbundling a large number of splitters.

Section 12

Remedies: WLA current generation access

Introduction

12.1 In Section 7 we set out our provisional conclusion that BT has SMP in the market for WLA. In Section 10 we propose general remedies that we consider appropriate to apply in this market and in Section 11 we propose specific access remedies on BT concerning NGA products. In this section we set our proposals for specific access remedies on BT with respect to CGA products in the WLA market.

12.2 Note that, as discussed in Section 10, we consider that imposing specific network access remedies on KCOM in the same form as BT, in the absence of clear evidence of demand for the particular access products currently supplied by BT to be disproportionate and inappropriate at this time. We consider that opportunities for competition are best met by continuing to rely instead on the general network access obligations we propose in Section 10.

12.3 We set out proposals to impose:

- a specific access remedy on BT in the form of a requirement to offer LLU services, including ancillary services necessary to enable and support the provision of LLU;
- a charge control on BT for certain LLU services;
- a Basis of charges obligation on BT for LLU related Time Related Charges (TRCs);
- a Basis of charges obligation on BT for an LLU ancillary service called Special Faults Investigations (SFIs); and
- a Basis of charges obligation on BT for electricity charges for LLU services.

12.4 We also describe our policy as to what we expect to include in the cost accounting Direction for the WLA market made under our proposed cost accounting condition. While we are not proposing or setting that Direction in this market review and will be consulting separately on it as part of our annual update of BT and KCOM's regulatory and financial reporting, this is intended to help stakeholders understand our overall policy approach and broadly what information any future Direction is likely to require.

Requirement for BT to provide LLU

2012 FAMR Call for Inputs

12.5 In the 2012 FAMR Call for Inputs, we set out that in the 2010 WLA Statement we had considered 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 that review. We noted that in April 2012 (as part of the 2012 LLU WLR Charge Control Statement) we had satisfied ourselves that there had been no material change in the WLA market since our 2010 market power determination and, accordingly, we imposed a charge control on LLU services for BT.

12.6 We therefore proposed in the 2012 FAMR Call for Inputs that, in the absence of material market developments in relation to LLU, we would expect to continue with our current approach to LLU regulation. We asked for stakeholders' views on whether there had been any such developments:

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.

12.7 There were limited responses from stakeholders in relation to this question, with many of the issues raised relating to the pricing approach, the LLU/WLR charge control and quality of service. Those responses specific to the charge control and quality of service are considered in Sections 4 and 5 of the forthcoming 2013 LLU WLR Charge Control Consultation and Section 9 of this consultation respectively

12.8 BT stated that it did not expect a major change in LLU regulation to result from this review, but it did believe that it was the right time to look again at the appropriateness of regulating beyond the core LLU products. In particular, BT argued for flexibility of pricing on ancillary services.[643]

12.9 Vodafone considered that the LLU remedies would remain important and relevant over the period. Virgin argued that no significant change to the approach to remedies was needed given the recent no material change finding as part of the 2012 LLU WLR Charge Control Statement. The Bit Commons also did not think there had been any significant changes.

Impact of LLU

12.10 LLU is a remedy that requires BT to allow CPs to partly or wholly rent a customer's local 'copper' access connection, so that they can provide voice and/or data services directly to end users using their own equipment, which they deploy in BT's exchanges.

12.11 LLU provides CPs with greater control of their communication services, providing them with a significant ability to innovate and to differentiate their products from BT. This enables CPs to potentially support a broader range of applications, products, and services than if they had less control. It is the additional control and flexibility provided by LLU that offers increased benefits over resale products.

12.12 LLU can be in the form of either MPF or SMPF which provides a CP with the choice to provide either voice and broadband or just broadband services to end users. In addition to the core access products, a number of ancillary services are necessary to enable and support the provision of LLU, including tie cables, site access, space and power.

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[643] P.12, *BT response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BT.pdf.

12.13 LLU has resulted in positive outcomes for industry and consumers alike. There has been increased take-up of wholesale access products, with CPs deploying their own networks in competition with BT, changing the competitive landscape in fixed telecoms. Consumers increasingly have adopted fixed broadband services, benefited from greater choice and more affordable packages of fixed telecommunications services, and as a result have derived greater satisfaction from those services.

12.14 As at the end of 2012, over 93% of UK premises were served from an exchange where LLU is being used.[644] In these areas there are now at least two CPs (including BT) which are able to provide LLU-based products and which are in direct competition with each other for fixed telecoms services. CPs have taken advantage of the opportunities offered by LLU and have invested in networks to provide services to consumers in downstream markets. The take-up of these LLU-based services has grown from just over 210,000 lines in Q4 2005[645] to over nine million as of April 2013.[646]

12.15 The major CPs have indicated plans for more LLU deployment over the market review period, although the rate at which CPs are expanding their LLU footprint is anticipated to be relatively slow compared to previous periods.[647] This reflects the high percentage of premises already covered and that the remaining exchanges have a lower number of premises served.

12.16 The level of take-up of LLU services is likely to remain strong over the market review period – even as the number of NGA connections increases (which in some cases is sold in combination with MPF).

Proposal to require BT to provide LLU

12.17 The existing set of LLU services has been developed and refined by BT and industry over a number of years, involving significant time, effort and investment and are currently not the subject of significant contention.

12.18 The impact on BT of retaining the existing remedy would therefore likely be very limited. Supplying LLU requires ongoing resource from BT, but we do not consider this to have a great impact on BT.

12.19 For CPs, a requirement on BT to provide LLU would reduce the entry barriers for those CPs wishing to provide telecommunication services to consumers based on LLU. Continuing the existing LLU requirement makes it more likely that BT would maintain an appropriate set of product standards. Therefore, the impact on CPs of keeping the existing LLU requirement would be beneficial, providing certainty in respect of their existing and any future investment in LLU products.

12.20 Accordingly, a requirement on BT to provide LLU would promote competition in the supply of fixed telecommunications services. This would benefit consumers in terms

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[644] This is further discussed in the geographic market definition section of the forthcoming 2013 WBA Consultation. Ofcom, *Communications Market Report 2012* 18 July 2012, www.stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/CMR_UK_2012.pdf.

[645] Figure 3.4, *The Communications Market 2006,* July 2006*,* www.stakeholders.ofcom.org.uk/binaries/research/cmr/main.pdf.

[646] Ofcom, *UK broadband competition reaches new milestone*, 25 April 2013, www.media.ofcom.org.uk/2013/04/25/uk-broadband-competition-reaches-new-milestone/.

[647] These plans are further discussed in the geographic market definition section of the forthcoming 2013 WBA Consultation.

of increased choice of provider and a wider range of products with improved quality of service and better value for money.

12.21 By contrast, if the obligation to provide LLU were removed, this may result in BT withdrawing the product or otherwise changing it to the detriment of LLU users. Specifically, entry barriers would be increased, CPs' existing investments could be unwound and planned LLU investments could be withdrawn. Each of these factors could have a significant negative impact on the competitive constraints faced by BT in the future, including competition in downstream markets.

12.22 We therefore propose retaining the requirement on BT to provide LLU services. As our assessment of the WLA market shows, the level of investment required by a third party to replicate BT's CGA network on a sufficiently large scale to compete at this level is a significant barrier to entry. In the absence of access to BT's infrastructure for the purposes of providing retail CGA services, we consider that BT would have the incentive and ability to refuse access at the wholesale level and thereby favouring its own retail operations with the effect of hindering sustainable competition on the corresponding downstream markets, ultimately against the interests of end users. Therefore, the aim of retaining this requirement is directly to address BT's SMP in the wholesale access market by requiring it to make available a product which allows other CPs to compete with BT's downstream businesses.

12.23 The proposed condition is set out in full in Annex 11.

12.24 We note the proposed obligation to provide LLU is on the basis of fair and reasonable terms and conditions (and in some cases, charges, as discussed below) as proposed in Section 10.

Consultation question(s)

12.1 Do you agree with our proposal to continue to require BT to provide LLU? Please provide reasons in support of your views.

Legal tests

12.25 We consider that the proposed obligation to provide LLU services, together with such ancillary services as may be reasonably necessary for the use of those services, is appropriate and satisfies the other legal tests set out in the CA03.

12.26 Section 87(3) of the CA03 authorises Ofcom to set SMP services conditions requiring the dominant provider to provide network access as Ofcom may from time to time direct. These conditions may, pursuant to section 87(5), include provision for securing fairness and reasonableness in the way in which requests for network access are made and responded to and for securing that the obligations in the conditions are complied with within periods and at times required by or under the conditions.

12.27 In proposing this condition, we have also taken into account the factors set out in section 87(4) of the CA03. In particular, the economic viability of CPs building alternative access networks (they are unlikely to do so, given the costs involved and the transition from current to next generation access networks), and the feasibility of BT providing LLU services (demonstrated by their very widespread existing provision). We consider the condition should also continue to help ensure that the need to secure effective competition in the long term is met.

12.28 We have also considered our duties under section 3 and the Community requirements set out in section 4 of the CA03. In particular, the condition is aimed at encouraging network access and thereby promoting and securing efficient and sustainable competition and the maximum benefit of customers of communications providers. It will continue to enable CPs to compete effectively with BT in downstream broadband and narrowband markets with respect to CGA services. We consider that these services will remain a very important element of this market over the forward looking period of this review.

12.29 In that way, we consider that the performance of our general duties in section 3 of the CA03 will also be secured or furthered by or in relation to this proposed LLU remedy, namely to further the interests of citizens in relation to this sector specific regulation and to further the interests of consumers in relevant markets, by promoting competition in this upstream market.

12.30 The proposed condition satisfies the criteria set out in section 47(2) of the CA03 because it is:

- objectively justifiable, in that it relates to the need to ensure that competition develops ultimately to the benefits of consumers. LLU services are aimed at stimulating competition in the provision of broadband and telephony services and enhancing competition in areas of limited local access competition. Removing the condition could result in BT withdrawing the product or otherwise changing it to the detriment of the existing level of effective downstream competition (limiting the extent to which regulatory intervention addresses BT's SMP);

- not unduly discriminatory, as the condition aims to address BT's market power in the market of the UK excluding the Hull Area, in which we provisionally consider that only BT has SMP (and as the obligation imposed on KCOM to provide network access on reasonable request is sufficient to ensure that KCOM provides LLU services should a reasonable request be made);

- proportionate, in that the requirement is necessary, but no greater than necessary, to promote efficient and sustainable competition for the maximum benefit of customers of communications providers, also taking account of the fact that BT already supplies this service; and

- transparent, as it is clear in its intention to require BT to provide LLU services to CPs and its intended operation should also be aided by our explanations in this document.

LLU pricing approach

2012 FAMR Call for Inputs

12.31 In the 2012 FAMR Call for Inputs, we asked stakeholders whether we should accompany any potential charge control in the WLA market with a Basis of charges obligation (i.e. cost orientation). We deal with responses to this question in this section as these were mostly relevant to LLU. We also deal with some more general comments on cost orientation below, which could apply across any market considered in this review. We asked stakeholders:

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

12.32 EE said that Basis of charges should not be removed, in particular where basket controls were set because it provides important additional regulatory protection that individual charges within a basket are not able to be moved outside reasonable cost based bounds. It said that basket subcaps were not a robust replacement for cost orientated services. It also said that the current cost orientation review consultation provides another example of policy continuing to be developed in the context of individual market reviews without stakeholders having clarity over the wider approach which Ofcom is or is not developing in relation to this very important existing remedy.

12.33 TalkTalk argued that it considered that where there were baskets cost orientation charges are, overall, better (than subcaps) to constrain prices (including individual product ones within the basket), and said that if we proposed to rely on subcaps we must provide a proper analysis of how in each case safeguard caps will maintain prices below the desired ceiling.

12.34 Verizon stated that it strongly held the view that where a charge control was necessary, it should be underpinned by a Basis of charges obligation, as it was a well-established and well-understood remedy. It was concerned with signals in the BCMR that Ofcom may be moving away from Basis of charges, and said we must adequately explain the rationale for decisions not to impose Basis of charges. It said that it was concerned that Ofcom appeared to be signalling an intention to consider shifting to an "either or" approach generally (i.e. either using Basis of charges or charge control) which was bad for regulatory certainty, and would herald undue relaxation of regulation on BT.

12.35 Vodafone argued that Basis of charges should be retained where there were charge control baskets, particularly where Ofcom has taken a less in depth cost modelling approach for these services.

12.36 Sky argued that the design of a charge control (e.g. a basket of services subject to a charge control and any subcaps) should ensure prices of individual services are not excessive and, if not, a Basis of charges obligation should also be used. It said that a Basis of charges obligation with a charge control was also necessary to ensure there was some control on prices in situations where Ofcom was unable to implement a new charge control before an existing control expired (but where a voluntary charge control remained in place).

12.37 Virgin said that it reserved making any additional comment on this issue until it had had the opportunity to respond to the 2013 Cost Orientation Consultation. It said that it was generally in favour of a Basis of charges obligation (in combination with a charge control) for protection from excessive pricing, but also other pricing concerns – protection from predatory pricing/price squeeze; exploitation of new services entering the market in combination with a charge control; protection from charge control failure due to forecasting errors, especially where the market is unstable/not well established; and protection in relation to the pricing of individual services within the wider defined basket.

12.38 BT was concerned that the implementation of Basis of charges with charge controls had resulted in overly complex and unnecessarily intrusive regulation and legal challenge which creates uncertainty for all stakeholders, with no clearly identified benefits. It supported the approach taken in the BCMR where concerns on excessive pricing were addressed by the design of charge control baskets and subcaps negating the need for a Basis of charges

Proposal to impose an LLU charge control on BT

12.39 We first consider whether it is appropriate to continue to impose a charge control that would set prices for the period of the market review. Having set out these considerations, we then discuss whether we should further impose a Basis of charges obligation alongside a charge control.

12.40 The aim of a charge control would be to prevent excessive pricing (i.e. pricing above the competitive level). We believe that a well designed charge control which sets charges within a basket so that they are constrained to a reasonable level of cost would achieve this aim. Moreover, we also consider that a charge control would continue to provide certainty and transparency with regard to charges over the course of the charge control period, particularly as a charge control would allow charges to be set in advance. It would also act as a constraint in the downstream WBA market.

12.41 We consider that a charge control would be appropriate to continue to prevent the risk of BT pricing excessively. The identification of the risk of excessive pricing is a necessary precondition under section 88 of the CA03 to enable us to set an SMP condition imposing a charge control. That risk arises here because, as our analysis of the WLA market shows, in the absence of any such control, BT would have the ability and incentive to price at an excessive level, leading to excessive prices for consumers and inhibiting downstream competition. A charge control would address this risk and protect consumers. We note that, overall, no stakeholder specifically argued for the removal of the LLU charge control.

12.42 We therefore propose that, in principle, we should impose a charge control on BT for LLU, including certain ancillary services. We intend to set out our full cost analysis and specific pricing proposals on how the controls are sufficient to prevent excessive pricing for individual charges in the forthcoming 2013 LLU WLR Charge Control Consultation, including through the use of sub caps. We consider that our proposals on the form, level and structure of the LLU controls, on which we will be consulting shortly, address our concerns in the WLA market of a relevant risk of adverse effects arising from a price distortion if BT fixes and maintains its prices at an excessively high level for LLU services. These controls will be aimed at ensuring that charges are constrained to an appropriate level, while at the same time ensuring that BT is able to recover its efficient costs. As a result, the charge control will be designed in a proportionate manner such that it does not produce any adverse affects which are disproportionate to our competition concern. Therefore, on this basis, we also consider that a charge control would be the most proportionate remedy to achieve the aim of addressing the risk of BT realising its ability and incentive to engage in excessive pricing in this market.

Whether to impose an additional Basis of charges obligation

12.43 Having set out our provisional considerations on the need for a LLU charge control, we now turn to the question of whether we should have a Basis of charges obligation in addition to that charge control, for the purposes of constraining prices within the proposed basket.[648]

12.44 We have explained above why we consider that the LLU charge control is the most proportionate remedy to address our competition concern of BT acting on its ability and incentive to engage in excessive pricing in the relevant markets. Given that we consider that an appropriately designed charge control, constraining prices but allowing for the recovery of efficiently incurred costs, is proportionate to address our competition concern, we take the provisional view that the imposition of an additional Basis of charges obligation would be unnecessary and disproportionate. We will set out in more detail in Section 4 of the forthcoming 2013 LLU WLR Charge Control Consultation how exactly the design of our charge control results in a Basis of charge obligation being unnecessary, including through the use of sub caps.

12.45 We note as an established product with certainty over volumes, we do not face the same difficulties in setting an *ex ante* price with a sufficient degree of confidence. Moreover, we also consider the proposed charge control, with sub caps, provides greater pricing certainty and transparency over the course of the charge control period than a Basis of charges obligation, particularly as prices will be set in advance, whereas (at best) actual costs under a Basis of charges obligation would be known to CPs only with a lag in time.[649] We note stakeholder concerns that the design of the charge control should ensure that the levels of individual services are constrained and we set out in more detail in Section 4 of the forthcoming LLU WLR Charge Control Consultation how exactly the design of our charge control further addresses our competition concern in this respect, without the need for a Basis of charge obligation and how these proposals specifically relate to the our consultation on cost orientation.

<u>Other comments on Basis of charges</u>

12.46 Respondents have also raised a number of other points relevant to the WLA market, along with more general comments which could apply to any fixed access market, which we deal with below.

12.47 Virgin argued that the Basis of charges obligation was necessary in addition to a charge control in the WLA market in order to protect the market from other competition concerns (e.g. predatory pricing/price squeeze). However, we consider that further pricing regulation would be unnecessary in the context of this market. We consider that *ex post* competition law is sufficient. We also note that a Basis of charges obligation would anyway not be well suited to addressing a margin squeeze concern, because it would not relate to the retail price.

12.48 We note Virgin's point about the need for Basis of charges to prevent exploitation of new services in combination with a charge control. However, the scope of the proposed charge controls cover all of the major services which BT offers in this market, and so it is likely that most new services which BT introduces during this review period would wholly or substantially replace existing services, and we propose

[648] We note we have recently published "Ofcom, C*ost orientation*", 5 June 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/cost-orientation/summary/Cost_orientation.pdf.
[649] We also set out more detail on how the design of the charge control allows pricing certainty and transparency, but without the need for additional imposition of an addition Basis of charges obligation in Section 4 of the forthcoming LLU WLR Charge Control Consultation. We also address Virgin's comments that a Basis of charge obligation would allow protection from charge control failure due to forecasting errors, especially where the market is unstable / not well established.

to make provisions in the forthcoming 2013 LLU WLR Charge Control Consultation for such services to be incorporated into the charge control scope to ensure continuity of charge controls. In any event, if services were introduced which were not within the charge control, the obligation to set fair and reasonable charges would apply, as set out in Section 10. Therefore, no additional Basis of charges obligation appears necessary on this ground.

12.49 With respect to Sky's general point that Basis of charges obligations could provide some constraint on charges after charge controls expire (but where a voluntary charge control remains in place), it is preferable to align the implementation of new charge controls with the expiry of existing controls but in any event the expiry of the charge control would mean that the requirement for fair and reasonable charges would apply which would provide protection in the interim period.

12.50 Some respondents commented on a perceived lack of regulatory certainty from taking different approaches in different market reviews and noted in this context Ofcom's consultation on cost orientation. In considering remedies in any market review Ofcom has to impose such remedies as are appropriate and proportionate to the particular competition concerns identified. That said, Ofcom also recognises that it has a duty to have regard to the need for consistency in our regulatory decisions where appropriate.

Consultation question(s)

12.2 Do you agree with our proposal to continue to apply a charge control on LLU? Please provide reasons in support of your views. (Comments on the specifics of the charge control should be made in response to the forthcoming 2013 LLU WLR Charge Control Consultation.)

Legal tests

12.51 We specifically consider how the legal tests laid down in section 47 and 88 of the CA03 are met in Section 8 of the forthcoming 2013 LLU WLR Charge Control Consultation. However, we consider that, in principle, the proposed charge control would meet the criteria set out in section 47(2) of the CA03 because it is:

- objectively justifiable, in that our provisional view is that BT has SMP in the market and is unlikely to be incentivised to reduce its costs and set prices at the competitive level;

- not unduly discriminatory, in that BT is the only operator provisionally found to have SMP in the relevant market (in the UK excluding the Hull Area) and in the case of KCOM we are not proposing to require it to provide LLU as a specific access remedy;

- proportionate, in that we will ensure that it will allow BT to make a return on efficient investment and costs while doing no more than necessary to constrain BT's ability to set prices above the competitive level which may result in consumers paying higher retail prices; and

- transparent, in that the intent and effect of any condition would be clear.

12.52 As noted above, any price control imposed under section 87(9) of the CA03 would also need to satisfy the tests set out in section 88. We consider that the basis for setting a price control exists based upon the identified market conditions. Specifically, we have identified a relevant risk of adverse effects arising from price distortion (excessive pricing) and therefore the gateway to setting a condition under section 88 is present. Our provisional view is that the imposition of the proposed charge control, allowing recovery of efficiently incurred costs, would be appropriate to promote efficiency and sustainable competition, and thereby confer the greatest possible benefits on end users of relevant communications services.

Pricing approach for ancillary services outside the scope of the proposed LLU charge control

12.53 Having provisionally concluded above that certain BT LLU services should be charge controlled, this section now deals with our proposed approach for the pricing of certain LLU ancillary services which fall outside the scope of the LLU charge control.

12.54 In its response to the 2012 FAMR Call for Inputs, TalkTalk queried the current pricing approach for LLU Time Related Charges (TRCs), Electricity, Special Fault Investigations (SFIs), and LLU Enhanced care services. We set out below the current regulation, Talk Talk's responses to the 2012 FAMR Call for Inputs, and our pricing proposals for these services as part of this review.

<u>LLU TRCs and SFIs</u>

12.55 TRCs refer to the provision of additional services where the work is not covered within BT service level agreements.[650] TRCs are provided across BT's portfolio of products and not just for LLU services. They are charged on a per-visit or per-hour basis for an engineer and can vary depending on when the work takes place e.g. weekday, business hours, outside normal business. The costs included in these charges largely relate to the cost of an engineer's time (including the direct and indirect costs – such as travelling costs and system management costs), and comprise a relatively small amount of BT core or access network assets cost. Total revenue spend from CPs and third party organisations on these services was around £58m in 2011/12.[651]

12.56 SFIs are products requested by CPs to further investigate faults on the MPF or SMPF line, where the MPF or SMPF line seems to be testing as 'ok' on BT's system. The product is sold in individual modules for both MPF and SMPF.[652]

12.57 The investigative work for SFIs is carried out at various points between (and including) the exchange and customer premise/wiring. CPs often request more than one module to locate and fix a fault. Modules are charged on a per hour cost of an engineer visit, and can vary depending on the module chosen, from £55 up to £130 (for the new SFI services which replaced the pre-existing SFI service).

12.58 We understand that the cost of SFI work is largely based on direct and indirect labour engineering time charged on an hourly incremental basis, and end-user or exchange

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[650] BT, *Fact sheet: Time Related Charges*, www.openreach.co.uk/orpg/home/products/serviceproducts/timerelatedcharges/timerelatedcharges/downloads/TRCs.pdf.

[651] BT response to s.135 notice of 8 February 2013. Note that this total includes WLR TRCs. This includes both internal and external TRCs, and relates not solely to WLA TRCs, but also includes TRCs related to other markets (including WFAEL).

[652] The modules being: Base, Network, Frame, Internal wiring, Internal equipment, Coop, and Frame direct.

visit costs where applicable. Total revenue spend from CPs was around £27m for these services in 2011/12.[653]

Background

12.59 In the 2011 LLU WLR Charge Control Consultation we noted that, while LLU TRCs may to some extent be contestable, it is debatable how far some CPs are practically able to use alternative suppliers to BT.[654] We therefore considered that some form of pricing protection was necessary. We also considered that where SFI services are reasonably necessary for the provision of LLU services, they should also be subject to a form of pricing protection.

12.60 We decided that both LLU TRCs and SFIs should be subject to general remedies, including a general Basis of charges obligation.

12.61 We also considered that the underlying costs are likely to be broadly similar for MPF and SMPF SFI services, and so set a provision in the SMP conditions requiring BT to maintain alignment of MPF and SMPF SFI service charges in order to prevent competitive distortions from arising. We do not consider whether this alignment should be maintained as part of this consultation but instead set out our provisional view on this particular aspect in Section 4 of the forthcoming 2013 LLU WLR Charge Control Consultation.

2012 FAMR Call for Inputs

12.62 In its response to the 2012 FAMR Call for Inputs, TalkTalk argued that we should charge control these services in a basket. It said that CPs effectively had no choice but to purchase them from BT.

Assessment of whether potential competition is likely to constrain TRCs and SFIs sufficiently

12.63 We have considered whether Openreach's TRCs are likely to be constrained by potential competition. This depends on whether it would be realistic for non-Openreach engineers to undertake the work. We obtained a breakdown of TRCs for 2012/13 from Openreach. The two largest categories of TRCs related to:

- first, repair visits where the fault was shown not to be on Openreach's network and no other action was taken (around 47% of TRCs); and
- second, providing internal wiring for large organisations, such as campus sites, where the contact would normally be with the end user rather than a CP (around 30%).

12.64 Work that could only have been done by an Openreach engineer, as it related to Openreach's network, accounted for only around 13% of TRCs revenue in 2012/13. This suggests that in principle it would be possible for a large majority of TRC services to be undertaken by other CPs and that it might be possible to rely on potential competition to constrain prices.

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[653] BT response to s.135 notice of 8 February 2013. This includes both internal and external SFIs, and relates not solely to WLA SFIs, but also includes SFIs related to other markets (including WFAEL).
[654] Paragraphs 4.120 to 4.122, Ofcom, *Charge control review for LLU and WLR services, 31 March 2011,* www.stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/summary/wlr-cc-2011.pdf.

12.65 However, we think that this overstates the commercial constraint on Openreach's TRCs. This is because it is difficult for CPs to know in advance of an engineer's visit whether any TRCs would be applied or not. We illustrate this with repairs given these constitute the majority of TRCs:

- TRCs will not be charged if the fault was found to be on Openreach's network and can only be repaired by an Openreach engineer. There are no TRCs because the visit and repair are part of normal service delivery; or

- TRCs will be charged if:

    - the fault is found to be not on Openreach's network (and could be repaired by a non-Openreach engineer);[655] or

    - the fault is on Openreach's network but the damage has been caused by the end user. In this case only an Openreach engineer can make the repair.

12.66 The higher the proportion of visits where a fault is found on Openreach's network, the less economic it would be to send a non-Openreach engineer. As CPs do not know for certain whether TRCs will be charged, this tends to make it uneconomic to send a non-Openreach engineer when the fault could be repaired as part of Openreach's normal service delivery.

12.67 CPs can try to determine with the end user whether the fault is likely to be on Openreach's network or not through diagnostic tests. However, even if nothing is found using the diagnostic tests, there can still be faults on the Openreach network. For example, in the case of intermittent faults, a line may pass the diagnostic checks but still have a problem.

12.68 We therefore remain of the view that while in theory many of these services can be provided by any telecoms engineer and do not have to be provided by Openreach, Openreach's TRCs are unlikely to be constrained sufficiently by competition because in reality it is unlikely to be economic to use non-Openreach engineers in most cases.

12.69 We consider the situation with SFIs is broadly similar to that of TRCs. Some of the work undertaken on SFIs (that is, work on Openreach's network and frame) can only be undertaken by Openreach. Moreover, in advance of the visit to the consumers' premises, CPs do not know whether any work required will be on Openreach's network or beyond the NTE. We therefore consider that similar reasoning for TRCs is likely to apply to SFIs, and that Openreach's SFI charges are also unlikely to be constrained sufficiently by competition.

Pricing approach

12.70 Given TRCs and SFIs that these services share common features and characteristics, we propose a common pricing approach for both.

12.71 In a competitive market, the pricing of services on the basis of the commercial judgements of individual companies could be expected to deliver cost reflective pricing. However, where competition cannot be expected to provide effective constraints, as we believe is the case here, there is a risk of excessive pricing derived

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[655] The fault may or may not be repaired by the Openreach engineer depending on whether prior authorisation has been given by the CP, but a charge will anyway be made for the visit.

from the dominant provider's ability and incentive to price at an excessive level, inhibiting downstream competition and/or lead to excessive prices for consumers. The identification of such a risk is a necessary precondition under section 88 of the CA03 to enable us to set an SMP condition. *Ex ante* regulation may therefore be desirable to prevent excessive pricing and allow for the development of effective competition in downstream markets.

12.72 For the reasons set out above, we consider there is limited competitive constraint in TRCs and SFIs. On that basis, we provisionally consider that BT has both the incentive and ability to price the services above the competitive level, hence there is a risk of excessive pricing. We therefore propose imposing some form of pricing protection for the services.

12.73 We have considered whether a Basis of charges obligation is appropriate.[656] Our provisional view is that it is appropriate to apply a Basis of charges condition. Specifically, we propose imposing separate Basis of charges obligations for both TRCs and SFIs which require BT to set charges for relevant TRCs and SFIs so they are reasonably derived from the costs of provision on a forward looking fully allocated cost basis, including allowing for an appropriate return on capital employed.

12.74 We consider this approach will allow the recovery of directly allocated costs, most obviously those involved with the engineer's time (including travelling time and associated costs such as taxes, holidays and employer pension contributions). It will also allow recovery of a reasonable allocation of more indirect costs, such as costs associated with vehicles, service centre costs, training, and general overheads. The costs of provision need to allow for a normal profit to be earned, consistent with achieving an appropriate return on capital employed.

12.75 The costs of TRCs and SFIs are largely incremental in nature. So, unlike some other access products (for example, those which use duct and copper), we would expect that the allocation of common costs would only have a small impact on TRCs and SFIs. Because of this, we have not proposed a cost orientation obligation specified in terms of long run incremental cost plus an appropriate mark up for the recovery of common costs.

12.76 Prices should reflect the costs of provision for the period for which they apply, and we propose that this should apply on an annual basis, such that prices should reflect average costs in any year. As set out in the cost orientation consultation, this can be difficult to achieve if costs are volatile over time, because actual costs may only be known after the period for which prices have been set (typically annually).[657] Past cost information is likely to be an important input into an assessment of future costs but needs to be considered together with reasonable forecasts of how costs may change in the future. One approach would be to set the condition using a fully allocated cost ('FAC') + approach, with a small '+' to allow for the uncertainty involved in setting prices before costs are fully known. For TRCs and SFIs, we consider it unlikely that there would be a significant cost forecasting problem because the main components, such as wages, should be reasonably predictable, and therefore we consider it appropriate to use an FAC approach rather than a FAC+ approach.

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[656] We note that Ofcom recently published "Ofcom, C*ost orientation"*, 5 June 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/cost-orientation/summary/Cost_orientation.pdf.
[657] See especially paragraphs 3.54-3.61 and 3.85-3.88 in Ofcom, C*ost orientation*, 5 June 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/cost-orientation/summary/Cost_orientation.pdf. We will take into account responses to the cost orientation consultation in reaching our final decision on the proposals set out in this consultation.

12.77 While our preferred option is not to adopt a FAC+ approach, we welcome stakeholders' views on whether that would be more appropriate. We consider that if we were to adopt a FAC+ approach, the '+' would be small. For example, given that we consider these costs should be reasonably predictable, any '+' would not be more than 5% and could be significantly less.

12.78 Our initial view is that a Basis of charges obligation would be appropriate and that without it there would be a risk of BT setting TRCs and SFIs at an excessive level. We consider that this cost orientation obligation will promote allocative efficiency by requiring BT to set relevant TRCs and SFIs in line with costs.

12.79 We consider that this Basis of charges obligation would be proportionate in that it would meet our objectives of ensuring efficient prices and do this in a way that is no more onerous than necessary to achieve this objective, as it allows BT to recover its costs. Given this, we do not propose to impose a price control as TalkTalk has argued.

Consultation question(s)

12.3 Do you agree with our proposed approach, including on pricing, to LLU TRCs and SFIs? Please provide reasons in support of your views.

Legal tests

12.80 We consider that the proposed Basis of charges condition meets the tests set out in the CA03.

12.81 Section 87(9)(a) of the CA03 authorises the setting of SMP services conditions imposing on the dominant provider such price controls as Ofcom may direct in relation to matters connected with the provision of network access to the relevant network, or with the availability of relevant facilities. Section 87(9)(b) further authorises SMP services conditions imposing such rules as they make for the purposes of matters connected with the provision of network access to the relevant network, or with the availability of relevant facilities about the recovery of costs and cost orientation. In each case, in setting such conditions, we must be satisfied that the conditions about network access pricing set out in section 88 are also satisfied.

12.82 We consider that the proposed condition would satisfy the requirements of section 88(1) as our market analysis indicates that there is a risk of adverse effects arising from price distortion. Moreover, the proposed condition promotes efficiency and sustainable competition and provides the greatest possible benefits to end users by enabling competing providers to buy network access and supporting ancillary services at levels that reflect costs. The extent of investment of BT has been taken into account as set out in section 88(2), as the obligation provides for a mark-up for an appropriate return on capital employed.

12.83 We have also considered our duties under section 3 and all the Community requirements set out in section 4 of the CA03. In particular, the condition is aimed at promoting competition and securing efficient and sustainable competition for the maximum benefit of consumers by ensuring that charges for wholesale services are set at cost. The proposed condition would be appropriate in order to promote efficiency and sustainable competition and provide the greatest possible benefits to end users by enabling competing providers to buy network access and supporting ancillary services that reflect costs. At the same time, given the proposed Basis of charges for each of LLU TRCs and SFIs we consider that the proposed condition is also consistent with the purpose of securing efficient investment.

12.84 Section 47(2) of the CA03 requires conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. In our provisional view, the proposed condition is:

- objectively justifiable, in that the condition is required to address the risk that TRC and SFI charges are likely to be priced above the competitive level in the absence of such a condition;
- not unduly discriminatory, as we have provisionally found that BT is the only operator with SMP in the relevant market of the UK excluding the Hull Area and in the case of KCOM we are not proposing to require it to provide LLU as a specific access remedy;
- proportionate, as it would ensure, but do no more than ensure, that BT is unable to exploit its market power, while at the same time allowing BT a fair rate of return that it would expect in competitive markets; and
- transparent in that it is clear in its intention, in particular to ensure that BT should set charges for each of LLU TRCs and SFIs as set out in this section.

Electricity

12.85 CPs buy electricity from BT to provide power to the equipment used for LLU. The prices which BT charges CPs for electricity is to a large extent based on the wholesale price that BT itself is charged for electricity. The remainder of the price forms common BT network costs.

12.86 BT's charges for electricity have fluctuated, reflecting variations in the prices at which it purchases electricity. Table 12.1 illustrates these fluctuations since February 2007.

Table 12.1: Charges for electricity usage per kWh

Operative date	Charge £ Excl. VAT
09/02/2007 - 09/11/2008	0.082
10/11/2008 - 31/03/2009	0.0968
01/04/2009 - 31/12/2009	0.1118
01/01/2010 - 31/03/2010	0.1007
01/04/2010 - 30/08/2010	0.0862
31/08/2010 - 31/03/2011	0.0812
01/04/2011 - 31/03/2012	0.0852
01/04/2012 - 31/03/2013	0.0905
01/04/2013	0.1151

Source: BT price list

Background

12.87 We decided in the 2012 LLU WLR Charge Control Statement that electricity should remain outside the scope of the charge control, but subject to the general remedies (including Basis of charges) set in the 2010 WLA Market Statement. We considered that a charge control on electricity charges would not be appropriate, largely because of the volatile nature of the wholesale price that BT pays, but also because a charge control on the very low allocation of common cost in BT's electricity charge[658] would be over prescriptive and disproportionate. We said that we would further consider the application of the Basis of charges obligation in the future.

2012 FAMR Call for Inputs

12.88 In response to the 2012 FAMR Call for Inputs, TalkTalk said that we should charge control electricity (or at least the common cost element), as it had no choice but to purchase it from BT. It noted that electricity charges had increased by 27% recently, even though the underlying costs had remained the same.

Pricing approach

12.89 In a competitive market, the pricing of services on the basis of the commercial judgements of individual companies could be expected to deliver cost reflective pricing. However, where competition cannot be expected to provide effective constraints, there is a risk of excessive pricing, derived from the dominant provider's ability and incentive to price at an excessive level, inhibiting the development of effective competition in downstream markets and/or lead to excessive prices for consumers (and which may require addressing through *ex ante* regulation). The identification of that risk is a necessary precondition under section 88 of the CA03 to enable us to set an SMP condition.

12.90 For the reasons set out above, BT's SMP means that CPs have no option but to purchase electricity services from BT. Therefore, given that these services for Electricity are not open to competition from the market, BT has both the incentive and ability to price the services above the competitive level: a risk of excessive pricing by BT. We therefore consider that some form of pricing protection is required, in order that downstream competition is not inhibited. Our objective is that the prices for these services should reflect an appropriate level of cost.

12.91 As in the 2012 LLU WLR Charge Control Statement, our provisional view is that a charge control on electricity charges would continue to be inappropriate. The principal reason is the volatile nature of electricity purchase costs. A charge control therefore carries undue risk of regulatory failure, i.e. of the charge being set at an inefficient level, whether too high or too low. We also consider that, given the very low allocation of common cost in BT's electricity charge, a charge control may be over-prescriptive and disproportionate.

12.92 An alternative remedy to address our concerns would be to set a Basis of charges obligation that sets out a specific measure of costs that should be applied[659]. Our provisional view is that it is appropriate to apply a Basis of charges condition and we

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[658] In the 2011 LLU WLR Charge control consultation (paragraph 4.134) we said that BT revenues for the mark up element of LLU electricity were [✂].

[659] We note that Ofcom recently published "Ofcom, C*ost orientation"*, 5 June 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/cost-orientation/summary/Cost_orientation.pdf.

therefore propose a Basis of charges obligation that requires BT to set electricity charges that are derived from its relevant electricity purchase costs plus a small mark-up to reflect its own internal costs related to electricity purchasing and electricity charge setting. Unlike a charge control, this option would not carry the same risk of regulatory failure as mentioned in paragraph 12.91 given that BT would have more flexibility to vary charges in line with changes in costs.

12.93 We have again considered whether a FAC+ approach would be appropriate for electricity charges to allow for the uncertainty involved in setting prices before costs are fully known. We understand that BT buys electricity under fixed price contracts, that it does not make spot market purchases and that it reviews the level of electricity revenues and costs on a quarterly basis. Given this, we consider it reasonable that over the course of a year BT is able to ensure that its revenues from electricity sales are in line with its costs. We therefore consider that it is appropriate to use a FAC approach rather than a ‘FAC+’ approach.

12.94 While our preferred option is not to adopt a FAC+ approach, we welcome stakeholders’ views on whether that would be more appropriate. We consider that if we were to adopt a FAC+ approach, the ‘+’ would be very small. For example, given that we consider these costs should be reasonably predictable, any ‘+’ would not be more than 2% and could be less.

Consultation question(s)

12.4 Do you agree with our proposed approach, including on pricing, for electricity? Please provide reasons in support of your views.

Legal tests

12.95 We consider that the proposed Basis of charges condition meets the tests set out in the CA03.

12.96 Section 87(9)(a) of the CA03 authorises the setting of SMP services conditions imposing on the dominant provider such price controls as Ofcom may direct in relation to matters connected with the provision of network access to the relevant network, or with the availability of relevant facilities. Section 87(9)(b) further authorises SMP services conditions imposing such rules as they make for the purposes of matters connected with the provision of network access to the relevant network, or with the availability of relevant facilities about the recovery of costs and cost orientation. In each case, in setting such conditions, we must be satisfied that the conditions about network access pricing set out in section 88 are also satisfied.

12.97 We consider that the proposed condition would satisfy the requirements of section 88(1) as our market analysis indicates that there is a risk of adverse effects arising from price distortion. Moreover, the proposed condition promotes efficiency and sustainable competition and provides the greatest possible benefits to end users by enabling competing providers to buy network access and supporting ancillary services at levels that might be expected in a competitive market. The extent of investment of BT has been taken into account as set out in section 88(2), as the obligation provides for a mark-up for an appropriate return on capital employed.

12.98 We have also considered our duties under section 3 and all the Community requirements set out in section 4 of the CA03. In particular, the condition is aimed at promoting competition and securing efficient and sustainable competition for the maximum benefit of consumers by ensuring that charges for wholesale services are set at the level of costs. For those reasons, we also consider that the proposed condition would be appropriate in order to promote efficiency and sustainable competition and provide the greatest possible benefits to end users by enabling competing providers to buy network access and supporting ancillary services at levels that might be expected in a competitive market. At the same time, given the proposed Basis of charges for electricity services, we consider that the proposed condition is also consistent with the purpose of securing efficient investment.

12.99 Section 47 requires conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. In our provisional view, the proposed condition is:

- objectively justifiable, in that the condition is required to address the risk that electricity charges are likely to be priced above the competitive level in the absence of such a condition;
- not unduly discriminatory, as we have provisionally found that BT is the only operator with SMP in the relevant market of the UK excluding the Hull Area and in the case of KCOM we are not proposing to require it to provide LLU as a specific access remedy;
- proportionate, in that it would ensure, but do no more than ensure, that BT is unable to exploit its market power, while is allowed a fair rate of return that it would expect in competitive markets and
- transparent in that it is clear in its intention, in particular to ensure that BT should set charges for Electricity services as set out in this document.

Cost accounting proposals for LLU

12.100 While we will be consulting separately on the Direction specifying the cost accounting requirement (pursuant to our proposed cost accounting condition) as part of our annual update of BT and KCOM's regulatory and financial reporting, we here describe our policy as to what we expect to include in the cost accounting Direction for CGA LLU services.

12.101 We believe it is appropriate to have cost reporting in the Regulatory Financial Statements for LLU CGA services on a fully allocated cost (FAC) basis, in line with the FAC information that is currently produced.

12.102 As we propose not to impose a separate Basis of charges obligation on services that are separately charge controlled, we propose not to require the publication of DLRICs and distributed stand alone costs ('DSACs') as CPs no longer need these to monitor compliance regarding Basis of charges. This is consistent with our approach and reasoning in other recent decisions where we have removed Basis of charges obligations.[660] However, we propose that BT is required to maintain DLRIC and DSAC data as required by the cost accounting conditions that are set out in Section 10.

[660] Ofcom, *Business connectivity market review - final statement,* 28 March 2013, www.stakeholders.ofcom.org.uk/consultations/business-connectivity-mr/final-statement/, and Ofcom, *Review of the fixed narrowband services markets,* 5 February 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/nmr-2013/summary/NMR_Consultation.pdf.

12.103 We propose to require that BT publishes cost information on a FAC basis for TRCs. We will consult on the detail of this but where it is not possible to show them separately for the WLA market we are likely to require that these be aggregated across all markets. Provided that the allocation methods used are reasonable we would expect the FAC costs to be comparable to revenue. We are not likely to require the FAC for each individual TRC service to be provided but would expect aggregated figures for specific cost categories across all TRCs. We would welcome views from stakeholders on what level of detail of FAC should be published to aid transparency and support the Basis of charges obligation on TRCs.

12.104 For Electricity, we note that the purchase costs which underpin the Electricity charge may be confidential and commercially sensitive, as they relate to charges negotiated with energy suppliers. Where this is the case, we would not expect these to be published. However, we would aim to require the publication of such other information as is needed for the purposes of providing transparency. Whether or not published, BT will need to demonstrate to us that its charges are reasonably derived from the costs of provision, and therefore meet the Basis of charges obligation. For this purpose, we are likely to require that it provides Ofcom with its methodology for how charges have been derived and a compliance statement on an annual basis.

Consultation question(s)

14.2 Do you agree with our proposal to continue to apply a charge control on WLR? Please provide reasons in support of your views. (Comments on the specifics of the charge control should be made in response to the forthcoming 2013 LLU WLR Charge Control Consultation.)

Consistency with the EC recommendations and BEREC Common Position

12.105 We consider that our proposal to require LLU is consistent with the BEREC Common Position, in particular BP7a which states "*NRAs should impose unbundled access to the copper loops at the MDF*". In terms of BP9-10 concerning the provision of products CPs can use to reach the point at which LLU is made available (i.e. the exchange), we note that BT is already required to supply leased line products under the provisions of the BCMR which can be used for such purposes.

12.106 We consider that the requirements to make available the specified ancillary services with associated pricing obligations fulfils BP16 which states that "*NRAs should impose obligations with regard to the provision of co-location and other associated facilities on a cost-oriented basis under clear rules and terms approved by the regulator to support viability of the access products mentioned above*."

12.107 However, based on the existing level of competition in the relevant downstream markets, we consider that *ex post* competition law is adequate to deal with the risk of margin squeeze so do not consider it necessary to put in place specific obligations preventing SMP CPs from engaging in margin squeeze as detailed in BP49.

12.108 We note that the NGA Recommendation does not address LLU as it is a CGA remedy. We also note that key elements of the Draft EC recommendation presuppose the application of LLU e.g. its recommendations on the appropriate costing methodology for LLU. These are addressed in more detail in the forthcoming 2013 LLU WLR Charge Control Consultation.

Section 13

Remedies: WLA conclusion

Introduction

13.1 In Sections 11 and 12 we considered a number of potential specific access remedies on BT in the WLA market. We considered them individually, both in terms of the case for requiring each of them, and in terms of their optimal design when assessed against the objectives of promoting competition and investment.

13.2 We now move on to consider these potential specific access remedies in combination, including considering stakeholders' responses to the 2012 FAMR Call for Inputs on this question. We consider that the potential remedies are best assessed together because our proposals on each remedy are linked logically to the approach taken on the others.

13.3 This section covers:

- consideration of how well the current set of remedies has worked in combination to promote competition and investment in WLA services;
- our view of the role of LLU in promoting competition in CGA services over the market review period;
- our view of the role of VULA, SLU and PIA in promoting competition and investment in NGA over the market review period; and
- consistency of our proposals with certain aspects of the EC Recommendations and BEREC Common Position.

The 2010 WLA Review and the 2012 FAMR Call for Inputs

Introduction

13.4 In the 2012 FAMR Call for Inputs, we described the four specific access remedies we imposed as part of the 2010 WLA Review – LLU, VULA, SLU and PIA. We noted that we had set out in the 2010 WLA Statement how we considered that this combination of remedies would support the two objectives of promoting competition and investment. We stated that we had:

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

13.5 We sought stakeholders' views on how these remedies had worked in combination to achieve the two objectives of promoting competition and investment, asking:

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.

Stakeholder responses on this question

13.6 BT believed the current remedies had worked well, having promoted significant investment in NGA and competition in CGA voice and broadband. It considered that VULA was the most economic and efficient method of generating competition in the NGA market and was now seeing major investment by CPs in it. It also considered that CGA competition had continued to grow rapidly since 2010. On PIA and SLU, BT considered the economics of deploying alternative networks using these access products continued to be challenging, especially in less populated areas.

13.7 Vodafone considered that the current remedies had fallen short in their goal to promote efficient and sustainable competition in NGA service provision. It considered that by allowing BT to develop VULA as it saw fit, BT had developed a product that suited its own network, which was exclusionary of suitable interconnection, only suited its downstream retail businesses and prevented CPs from being able to achieve economies of scale and scope in the provision of these services, e.g. by allowing synergies with products in the business connectivity market.

13.8 Sky did not see sufficient change in the markets, since 2010 or over the forthcoming review period, that warranted a change to the set of regulatory remedies in place.

13.9 Birmingham City Council thought that some of the proposals discussed in the 2012 FAMR Call for Inputs, rather than stimulating more investment and competition, would leave customers more reliant on BT. It considered that the discussion in the 2012 FAMR Call for Inputs appeared to point to allowing BT to dictate the pace, cost and time of their investment which it considered effectively prevented new competition into the market place.

13.10 Cumbria County Council considered that Ofcom had made progress on VULA, but was concerned about our possible proposals, including basing forward cost projections on BT's copper costs rather than using a fibre network. It was also concerned about the continued focus on re-use of copper which it considered reflected the short term commercial goals of the incumbent rather than users' needs. It was also concerned that Ofcom was minded to stop work on PIA, WLU and dark fibre, which it considered were essential to support a choice of NGA products.

13.11 Derby City Council did not think the existing VULA product was sufficient of itself to achieve the transformational change it considered ubiquitous FTTP capable of.

13.12 Manchester City Council, while also welcoming the progress on VULA, did not think it provided adequate opportunity for digital businesses to innovate, add value and differentiate, even where FTTP is available. It wanted to see competition based on open wholesale access at all layers from ducts to IP. It was also concerned that Ofcom was minded to stop work on PIA, wavelength unbundling and dark fibre products. It called for improving the availability of open access connectivity to suitably located carrier neutral aggregation points and for greater infrastructure sharing.

13.13 The Bit Commons pointed to success in getting LLU to the point where TalkTalk and Sky were committed to this form of competition and that VULA offers at least a choice of retail provider, where it is impractical or too costly to have more than one NGA network in rural areas. It considered the decisions on SLU and PIA taken in the 2010 WLA Statement were probably correct at the time as there was little meaningful evidence of actual demand from alternative network providers. It did not consider this surprising as it considered there was little perceived need for FTTP.

13.14 Verizon considered that VULA and PIA had had little if any impact on competition, certainly in relation to business markets. It considered it essential that BT was incentivised to offer PIA for business connectivity.

13.15 Virgin considered that a more equal take-up of VULA and PIA would have balanced the market in terms of investment being made at different levels of the market. However, other CPs had focused on providing NGA services using VULA because, in Virgin's view, PIA was unfit for purpose. It considered that these CPs' investment in VULA meant they would now be unwilling to switch to an alternate product and lose sunk costs. Virgin thought having only an active remedy for NGA risked distorting investment decisions, which could increase BT's dominance and foreclose true product differentiation. It called for a detailed review of passive remedies.

Our response

13.16 Section 11 discussed in detail stakeholders' proposals for changes to VULA, PIA and SLU. We do not repeat this discussion here. Rather, we address some of the themes that stakeholders have raised in the comments summarised above.

13.17 In relation to arguments that VULA may by insufficient to promote investment and competition, we first note that over the last market review period we have seen a significant investment in NGA under a regulatory approach that sought to incentivise such investment while promoting competition. The majority of this investment (to 66% of UK premises) is being undertaken commercially by BT. Without this investment, other CPs that had not invested in their own network would be unable to offer any NGA services to their customers. While the present numbers of non-BT Retail customers (i.e. that ultimately consume VULA) is relatively low, VULA is currently the sole focus of CPs such as Sky, TalkTalk and EE in offering NGA services to their customers.

13.18 With respect to the argument that VULA is not sufficient or adequate to support innovation and transformational change, particularly in relation to FTTP applications, in our preliminary view we consider that VULA (which is technologically neutral) offers the most practical and appropriate upstream unbundling of BT's NGA network, which in any case is predominately FTTC-based. If there was greater deployment of FTTP, then we note that in the future it may be possible to unbundle at a deeper level (e.g. using WLU, as discussed from paragraph 11.590 *et seq.*). We also consider it appropriate to provide some flexibility for BT to design its implementation of VULA through GEA, given that NGA products are continuing to be developed (as discussed at paragraph 11.99).

13.19 We recognise that other CPs may want to invest at a deeper level in order to deploy NGA technologies such as FTTP, accessing a greater proportion of the value chain and gaining a higher degree of control which could allow them in innovate in the services they offer to their customers. PIA and SLU provide such CPs with a lower cost way of doing so compared to a self-built network. To this end, we consider that PIA and SLU could still have a role to play, particularly as, with only around 15% of broadband lines being superfast today, there are still a significant number of future

NGA customers to be won and, further, the rate at which NGA is taken up and the premium that customers are willing to pay for NGA remains subject to a degree of uncertainty.

13.20 We do not, however, in our preliminary view consider that an increased focus on VULA is necessarily detrimental to the prospects for alternative network deployment. Virgin argues that having invested in VULA, CPs will now be unwilling to switch to an alternate product and lose sunk costs. Given major CPs like Sky and TalkTalk already have LLU networks, which include backhaul to the exchanges where VULA can be accessed, the incremental level of investment for VULA is low (for example compared to LLU investment which involved the deployment of DSLAM equipment in the exchanges). We also consider that, by using VULA as the basis to compete in the first instance, other CPs could build their customer base in the supply of NGA services which could provide a stronger basis for investing in their own networks in the future.

13.21 However, the deployment of alternative networks (including FTTP) requires a willingness to invest, either commercially or in conjunction with some form of State aid. At present, as noted in paragraph 11.20, despite being invited to provide it we do not have from CPs (or other sources) evidence that a material deployment of this kind is likely to occur in the future.

13.22 In terms of investment more generally, our focus is on putting in place the right regulatory incentives to encourage CPs to make further investments in NGA, for example, in deploying NGA to 90% and beyond using State aid funding or making investments to further increase the capacity of NGA networks (e.g. larger or more cabinets), as well as in technologies such as vectoring, FTTP (including through FTTP on Demand) and potentially FTTDP.

13.23 In summary, following close to a decade's worth of investment in LLU, the current market review period has in turn seen substantial investment by BT in its predominantly FTTC-based NGA network. As we anticipated in the 2010 WLA Statement, where BT has deployed NGA, the main remedy that CPs have used to offer NGA services to their customers has been VULA. We acknowledge that the role we had anticipated that PIA and SLU would have to play in areas where BT did not deploy its NGA network – potentially in conjunction with State aid – has not (yet at least) been borne out.

13.24 However, our preliminary view a lack of use of PIA and SLU is not cause for us to significantly change our proposed remedies. Therefore, in addition to the proposal to continue to require LLU, we propose to continue to require its NGA equivalent, VULA in order to enable other CPs to offer NGA services to their customers in competition with BT and to maintain incentives on BT to continue to invest in NGA and future enhancements. Through our proposal to continue to require PIA and SLU, this will provide other CPs with the option to deploy their own networks in competition with BT's and outside BT's NGA area, which could potentially mean deployment of fibre closer to end users' premises.

The remedy for CGA services

13.25 During the period covered by this market review, it is expected that the majority of services provided over BT's access network will be based on its existing copper network. A small portion of BT's NGA investment is in 'new build' areas where customer premises do not currently exist. However, in general, BT's NGA network is an overlay, i.e. it will be run alongside its CGA network rather than replacing it (at least for the foreseeable future). Therefore, while much of the discussion on WLA access remedies involves NGA issues, it is important that regulation of CGA continues to be effective.

13.26 LLU has been an effective specific access remedy, so much so that it has enabled a significant degree of deregulation in the downstream WBA market. Were we to remove the existing LLU remedy, this could lead to a need to re-impose some regulation in the WBA market. Keeping LLU as an effective remedy enables CPs to continue to compete with BT, and is likely to lead to the greatest benefit for citizens and consumers. It would ensure that CPs are able to innovate and differentiate their products to the greatest extent technically and economically feasible, ensuring that we retain the existing benefits of LLU-based competition without limiting development of competition and investment in downstream markets.

The remedies for NGA services

13.27 Given the level of investment BT has made in its NGA network, our primary objective when considering specific access remedies on BT, in relation to NGA, is to promote effective competition to address the concerns that we identified in our market analysis. In promoting competition, we are, of course, also mindful of our duties in relation to investment, as our proposals on NGA remedies have the potential to affect the level of investment in NGA networks. We now discuss how we have considered these objectives in relation to potential remedies for NGA.

13.28 In our preliminary view, we consider that it is necessary to have specific access remedies to support competition and investment in NGA, as well as continuing with the LLU remedy. This is because this enables BT's competitors to compete effectively by providing a full range of CGA and NGA services in downstream markets. Also, we consider that having this range of NGA remedies available increases the prospects that other CPs would compete based on control of more elements in the value chain. Where BT does not deploy an NGA network, other CPs' ability to compete in the WLA market would continue to be limited by the extent of BT's NGA deployment, unless BT provides specific physical access products that lower barriers to entry into NGA provision for other CPs.

13.29 We consider VULA likely to be the primary focus of NGA competition, supplementing the continuing LLU remedy over the market review period. By using VULA, other CPs can provide NGA services at lower risk, as they do not have to invest in their own infrastructure and as such do not have to incur as significant sunk costs or overcome as significant economies of scale. By using VULA as the basis to compete in the first instance, other CPs would be able to build their customer base in the supply of NGA services, which could provide a stronger basis for investing in physical remedies in future.

13.30 While VULA, because it does not involve a significant additional outlay by other CPs to use it, currently compares favourably with other remedies on the basis of static costs, this is not the only basis on which to consider our approach to remedies. We also need to consider the potential dynamic benefits available from giving other CPs more control over how to compete, through the use of passive remedies to construct their own network. Physical remedies could increase competition in the WLA market by lowering barriers to deployment of additional infrastructure by other CPs, which can be used to compete with BT's CGA network. At the same time, physical remedies can thereby also support investment in NGA networks.

13.31 We are therefore proposing two different types of physical remedies that could potentially be used in different areas (and together in the case of using PIA to deploy fibre to an SLU cabinet). In some cases, SLU may be preferred, for example in areas with a large cabinet and relatively dense market for NGA services. In other cases, access to ducts and poles through PIA might be more suitable, for example where there is usable spare capacity in the local duct network.

13.32 A further argument for allowing alternative (i.e. in addition to LLU and VULA) forms of access remedies is that there are a number of uncertainties that are likely to affect the optimal choice. Firstly, the future demand profile for NGA services is not necessarily settled, including the premium that consumers are willing to pay and there is also the potential for changes in technology (as occurred with LLU), that could change the relative economics of different ways to compete.

13.33 We therefore consider that a 'mixed economy' of access products should be available to allow for variations in the relevance of each product, and for various market uncertainties. In turn, having this range of SMP remedies should promote better outcomes for consumers in terms of the price and availability of retail services. We consider that our overall approach is proportionate because we are, in our view, proposing fewer obligations on BT in relation to the physical remedies, in advance of clear expressions of demand and given the uncertainty about the feasibility of those physical remedies.

Consistency with the EC recommendations and BEREC Common Position

13.34 In developing our proposals on the mix of access remedies to be imposed, we have had utmost account to the NGA Recommendation and the BEREC Common Position. We have also had regard to the Draft EC Recommendation. We consider our proposals are generally consistent with these documents (where we have departed on specific remedies for reasons relating to the circumstances of the UK market, we have explained this above). In terms of consistency, we note in particular:

- NGA Recommendation 3 which states "*The regulatory framework provides NRAs with a range of remedies, allowing them to design appropriate measures to tackle market failures and achieve intended regulatory objectives in each Member State*" and BEREC Common Position BP1, which states "*NRAs should impose the appropriate and proportionate combination of access products that properly reflect their national circumstances...*" We have detailed above the roles we expect the proposed remedies will play in the UK market over the review period in light of current and expected future investments;

- NGA Recommendation Recital 3 which states "*The appropriate array of remedies imposed by an NRA should reflect a proportionate application of the ladder of investment principle*" and BEREC Common Position BP2, which states "*NRAs imposition of remedies should be based on the ladder of investment principle*..." We have detailed at 13.28 to 13.33 above how our proposals would offer multiple points in the value chain at which CPs can enter and then potentially move up that value chain;

- BEREC Common Position BP3, which states "*NRAs should encourage infrastructure competition at the deepest level where it is reasonable, to reduce barriers to entry.*" In paragraph 13.29 we set out that we expect VULA is likely to be the primarily focus of competition. This is based on our expectations of the level at which CPs are likely to invest and in light of this, we have proposed the requirements discussed in Section 11 to ensure the VULA product is fit for purpose. However, to retain the option for CPs to invest at a deeper level, we propose to continue to maintain PIA and SLU with appropriate price regulation; and

- BEREC Common Position BP4, which states "*...Different treatment of copper and fibre access should be justified and non-discriminatory, and should be motivated by differences in identified competition problems between copper and fibre.*" In creating VULA, we aimed to provide an access remedy as close as possible to LLU, as it was not possible to exactly recreate LLU based on the NGA network BT was deploying. Further, we consider it remains appropriate to maintain a different pricing obligation on VULA compared to LLU in light of the different competitive constraints, including as a result of the constraint that LLU imposes on VULA. This constraint and the other reasons for our proposed approach on the pricing of VULA are set out in Section 11. We also consider this approach is broadly consistent with the intent of the Draft EC Recommendation which "*sets out a common approach for promoting their consistent and effective implementation with regard to legacy and NGA networks in so far as they allow for the provision of broadband services*" (further reasoning is provided in Section 11 in relation to consistency with the Draft EC Recommendation).

Section 14

Remedies: WFAEL

Introduction

14.1 In Section 3 we set out our provisional conclusion that BT and KCOM have SMP in the market for WFAEL. In addition to the general remedies set out in Section 10, in this section we set out our proposals for specific access remedies on BT for the WFAEL market.

14.2 We set out proposals to impose:

- a specific access remedy on BT in the form of a requirement to offer WLR, including ancillary services necessary to enable and support the provision of WLR;
- a charge control on BT for certain WLR services; and
- a Basis of charges obligation on BT for WLR related TRCs.

14.3 We also describe our policy as to what we expect to include in the cost accounting Direction for the WFAEL market made under our proposed cost accounting condition. While we are not proposing or setting that Direction in this market review and will be consulting separately on it as part of our annual update of BT and KCOM's regulatory and financial reporting, this is intended to help stakeholders understand our overall policy approach and broadly what information any future Direction is likely to require.

Requirement for BT to provide WLR

2012 FAMR Call for Inputs

14.4 In the 2012 FAMR Call for Inputs, we noted that in the 2010 WFAEL Statement[661] we had continued with the obligation on BT to provide WLR, based on our view set out in the 2010 WFAEL Consultation[662] that there was material demand for the product and that it played an important role for retail competition. We also required BT to provide certain ancillary services which are reasonably necessary to support WLR. Further to this, we decided to set a WLR charge control, to prevent BT from pricing excessively and to facilitate downstream competition.

14.5 We also noted in the 2012 FAMR Call for Inputs that, in the 2012 LLU WLR Charge Control Statement, we had 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 BT for WLR

[661] Paragraph 6.36, Ofcom, *Review of the wholesale fixed analogue exchange lines markets – Statement*, 7 October 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/review-wholesale-fixed-exchange/statement/statement.pdf.
[662] Paragraphs 6.9-6.10, Ofcom, *Review of the wholesale fixed analogue exchange lines markets -consultation,* 15 October 2010 www.stakeholders.ofcom.org.uk/binaries/consultations/reviewwholesale-fixed-exchange/summary/main.pdf.

services. More specifically, we applied individual price controls for WLR rentals, migrations and provides. This charge control will expire on 31 March 2014.[663]

14.6 In the 2012 FAMR Call for Inputs, we said that 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 on this. We asked the following question:

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.

14.7 All respondents that commented on this question (Vodafone, Virgin, Verizon, and EE), with the exception of BT, agreed that there had been no material changes in the market that should lead to a change of approach.

14.8 BT said that the market had changed significantly, noting that MPF had grown significantly at the expense of WLR since the last review. It said that this represented a significant decline in market power by BT, and it could also indicate a potential imbalance or bias in the relative effectiveness of the LLU and WLR remedies. It said that we should remove any previous incentives to support MPF market entry. More generally, it argued for the removal of Basis of charges (i.e. cost orientation) obligations.[664]

14.9 TalkTalk asked that we charge control WLR (and LLU) TRCs.[665]

14.10 EE agreed that we should not change our overall approach, saying that the current remedies would continue to be important for competition during the review period, but it was concerned with the current approach regarding individual aspects and services related to the WFAEL market, notably WLR calling and network features, WLR printed directory costs, and MPF to WLR and SMPF switching costs (including MPF to WLR transfers). We set out our proposals on WLR calling and network features below. Our response to the other points made will be set out in Section 4 of the forthcoming 2013 LLU/WLR charge control consultation.

Impact of WLR (in the UK excluding the Hull area)

14.11 WLR is a wholesale service sold by BT both to its own downstream businesses and to competing CPs. It is either onward sold to different retail providers, or used by the wholesale purchaser to provide retail narrowband access services either as a line rental service or as part of a bundle of services. It provides retail customers (both residential and business) with access to narrowband telephony services, such as telephone calls and facsimile.

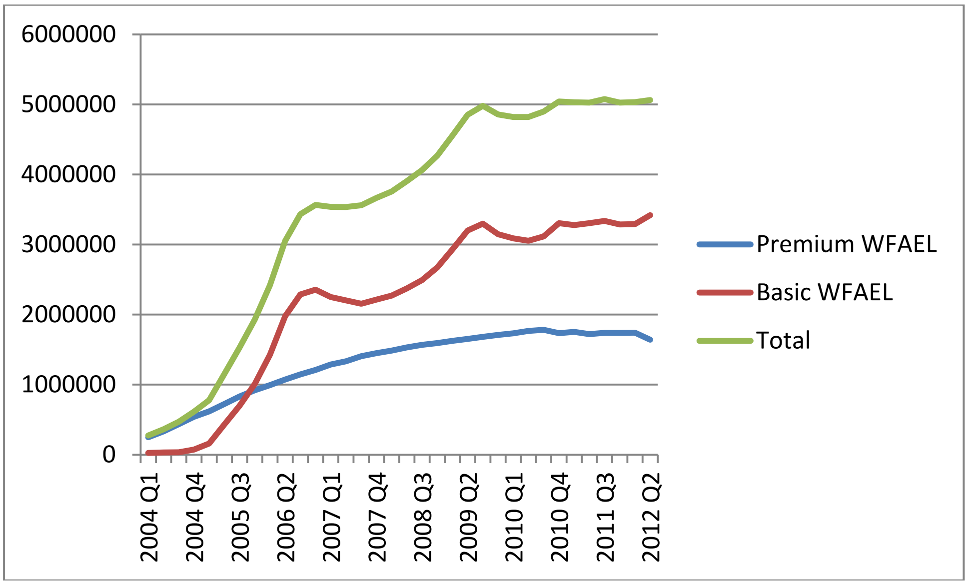
14.12 WLR remains an important service for supporting effective competition in fixed narrowband services at the retail level. As we provisionally found in the 2012

[663] Section 5, Ofcom, *Charge control review for LLU and WLR services*, 7 March 2012, ,www.stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf.
[664] P.25, *BT response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BT.pdf.
[665] Paragraph 3.39, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.

Narrowband Charge Control Consultation[666], the retail market for both narrowband analogue access and calls is competitive and a key driver in facilitating that development has been the provision of WLR.

14.13 Figure 14.1 below illustrates the external demand for WLR (i.e. WLR demand from BT's competitors) from 2004 to (Q2) 2012.

Figure 14.1: WLR external demand



Source: Ofcom and operator data

14.14 We expect there to be continued material demand for WLR during the forward look period of our review and that WLR will remain important for competition. In Section 3 we explain that there are some groups of customers for whom there are currently limited alternatives to BT's WLR, and that to the extent this remains the case throughout the forward-looking period covered by this review, the existence of these groups of customers is likely to limit any further decline in WLR. These customers include: customers in off-net areas, voice-only customers, customers purchasing voice and broadband separately and business users. In addition to the existence of customers for whom there are likely to remain limited alternatives to WLR, we also note that there are likely to be other factors limiting WLR decline (i.e. the number of unbundled exchanges is unlikely to increase materially, operational constraints on the speed at which remaining SMPF lines will be converted to MPF, and anticipated roll-out and uptake of fibre-based broadband may reduce demand for MPF).

Proposal to require BT to provide WLR

14.15 As our assessment of the WFAEL market shows, the level of investment required by a third party to replicate BT's CGA network on a sufficiently large scale to compete at this level is a significant barrier to entry. In the absence of access to BT's infrastructure for the purposes of providing retail CGA services, we consider that BT would have the incentive and ability to refuse access at the wholesale level and thereby favouring its own retail business with the effect of hindering sustainable competition on the corresponding downstream markets, ultimately against end users'

[666] Ofcom, *Review of the fixed narrowband services markets,* 5 February 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/nmr-2013/summary/NMR_Consultation.pdf.

interests. Therefore, the aim of the proposed analogue WLR remedy is to address directly BT's SMP in the WFAEL market by requiring it to make available a product which allows other CPs to compete with BT's downstream businesses on an equivalent basis.

14.16 Furthermore, this remedy also has the ability to enhance remedies in downstream calls markets (for example, Carrier Pre-Selection ('CPS') that applies in the call origination market) by exposing a greater part of the value chain to competition.[667] We note that, overall, no stakeholder specifically argued for the removal of the WLR remedy (including for ancillary services).

14.17 As noted in paragraph 14.14, given that there is still material demand for WLR and that we consider it will continue to have an important role to play in supporting competition over the forward look of our market review, we propose that BT be required to supply a WLR product, including ancillary services which are reasonably necessary for the provision of WLR.

14.18 The proposed condition is set out in full in Annex 11.

14.19 We note the proposed obligation to provide WLR is on the basis of fair and reasonable terms and conditions (and in some cases, charges), as proposed in Section 9 (general remedies).

Consultation question(s)

14.1 Do you agree with our proposal to continue to require BT to provide WLR? Please provide reasons in support of your views.

Legal tests

14.20 We consider that the proposed obligation to provide WLR services, together with such ancillary services as may be reasonably necessary for the use of those services, is appropriate and satisfies the legal tests set out in the CA03.

14.21 Section 87(3) of the CA03 authorises Ofcom to set SMP services conditions requiring the dominant provider to provide network access as Ofcom may from time to time direct. These conditions may, pursuant to section 87(5), include provision for securing fairness and reasonableness in the way in which requests for network access are made and responded to and for securing that the obligations in the conditions are complied with within periods and at times required by or under the conditions.

14.22 In proposing this condition, we have taken into account the factors set out in section 87(4) of the CA03. In particular, the economic viability of CPs building alternative access networks (they are unlikely to do so, given the costs involved and the transition from current to next generation access networks), and the feasibility of BT providing WLR services (demonstrated by their very widespread existing provision). We consider the condition should also continue to help ensure that the need to secure effective competition in the long term is met.

[667] In the 2013 Narrowband Consultation, we explained that retail competition in the UK excluding the Hull Area is largely focused on bundles of access and calls, and this is underpinned by the WLR obligation in the exchange lines markets and CPS in the wholesale call origination market. We have proposed to require BT to provide CPS where BT also provides WLR to an external CP to support this competition, and allow retail providers to compete on the same basis.

14.23 We consider that the proposed condition in particular furthers the interests of citizens in relation to communications matters and furthers the interests of consumers in relevant markets, where appropriate by the promotion of competition in line with section 3 of the CA03.

14.24 We also consider that the proposed condition meets the requirements set out in section 4 of the CA03. In particular, the condition promotes competition and secures efficient and sustainable competition and the maximum benefit for customers by enabling providers to compete in downstream access markets.

14.25 We consider the proposed condition meets the criteria set out in section 47(2) of the CA03. The condition is:

- objectively justifiable, in that it relates to the need to ensure that competition develops to the benefit of consumers. The growth of competition based on WLR has delivered benefits to consumers in terms of competition. Removing the obligation to provide WLR may result in BT withdrawing the product or otherwise changing it to the detriment of the retail competition that has developed;

- not unduly discriminatory, as the condition aims to address BT's market power in the market of the UK excluding the Hull Area, in which we provisionally consider that only BT has SMP (and as the obligation imposed on KCOM to provide network access on reasonable request is sufficient to ensure that KCOM provides WLR services should a reasonable request be made);

- proportionate in that it is necessary to enable competition but is not unduly burdensome on BT; and

- transparent in that it is clear in its intention to ensure that BT provides WLR products.

WLR pricing approach

2012 FAMR Call for Inputs

14.26 In the 2012 FAMR Call for Inputs, we asked stakeholders whether we should accompany any potential charge control in the WFAEL market with a Basis of charges obligation. We asked stakeholders:

> *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*

14.27 Most respondents (with the exception of BT) supported a charge control with a Basis of charges obligation, but were less concerned with services being subject to an individual charge control (as opposed to a basket control).

14.28 Vodafone generally supported a charge control with a Basis of charges obligation but said it recognised in the case of the WFAEL charge control that a large majority of services had single controls upon them, and said that in such situations it would be less concerned with the application of both remedies but did consider it appropriate that a method by which charges could be contested by CPs was available.

14.29 Verizon strongly supported a charge control with a Basis of charges obligation. It was concerned with signals in the BCMR that Ofcom may be moving away from Basis of charges, and said we must adequately explain the rationale for decisions not to impose cost orientation. It said that it was concerned that Ofcom appeared to be signalling an intention to shift to an 'either or' approach generally (i.e. either using cost orientation or charge control) which is bad for regulatory certainty, and will herald undue relaxation of regulation on BT. [668]

14.30 Virgin said that it was generally in favour of a charge control with a Basis of charges obligation for protection from excessive pricing, but also to deal with other pricing concerns – protection from predatory pricing/price squeeze; exploitation of new services entering the market in combination with a charge control; protection from charge control failure due to forecasting errors, especially where the market is unstable/not well established; and protection in relation to the pricing of individual services within the wider defined basket.[669]

14.31 EE supported a charge control with a Basis of charges obligation, (particularly where basket type controls exist). It also said that the 2013 Cost Orientation Consultation provided another example of policy continuing to be developed in the context of individual market reviews without stakeholders having clarity over the wider approach which Ofcom is or is not developing in relation to this very important existing remedy.

14.32 BT was not in favour of a charge control with a Basis of charges obligation. It supported the approach taken in the BCMR where concerns on excessive pricing were addressed by the design of charge control baskets and subcaps, and that Basis of charges was not imposed.[670]

Proposal to impose a WLR charge control on BT

14.33 We first consider whether it is appropriate to continue to impose a charge control that would set prices for the period of the market review. Having set out these considerations, we then discuss whether we should further impose a Basis of charges obligation alongside a charge control.

14.34 The aim of a charge control would be to prevent excessive pricing (i.e. pricing above the competitive level). We believe that a well designed charge control which sets charges so that they are constrained to a reasonable level of cost would achieve this aim. Moreover, we also consider that a charge control would provide certainty and transparency with regard to charges over the course of the charge control period, particularly as a charge control would allow charges to be set in advance.

14.35 We consider that a charge control would be appropriate to continue to prevent the risk of BT pricing excessively. The identification of the risk of excessive pricing is a necessary precondition under section 88 of the CA03 to enable us to set an SMP condition imposing a charge control. That risk arises here because, as our analysis of the WFAEL market shows, in the absence of any such control, BT would have the ability and incentive to price at an excessive level, leading to excessive prices and

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[668] Pp.4-5, *Verizon response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Verizon_Enterprise_Solutions.pdf.
[669] P.14, *Vodafone response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Virgin_Media.pdf.
[670] P.25, *BT response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BT.pdf.

inhibiting downstream competition. A charge control would address this risk and protect consumers. We note that, overall, no stakeholder specifically argued for the removal of the WLR charge control.

14.36 We therefore propose that, in principle, we should impose a charge control on BT for WLR, including certain ancillary services. We intend to set out our full cost analysis and specific pricing proposals on how the controls are sufficient to prevent excessive pricing for individual charges in the 2013 LLU WLR Charge Control Consultation. We consider that our proposals on the form, level and structure of the WLR controls, on which we will be consulting shortly, address our concerns in the WFAEL market of a relevant risk of adverse effects arising from a price distortion if BT fixes and maintains its prices at an excessively high level for WLR services. These controls will be aimed at ensuring that charges are constrained to an appropriate level, while at the same time ensuring that BT is able to recover its efficient costs.[671] As a result, the charge control will be designed in a proportionate manner such that it does not produce any adverse affects which are disproportionate to our competition concern. Therefore, on this basis, we also consider that a charge control would be the most proportionate remedy to achieve the aim of addressing the risk of BT realising its ability and incentive to engage in excessive pricing in this market.

Whether to impose an additional Basis of charges obligation

14.37 Having set out our provisional considerations on the need for a WLR charge control, we now turn to the question of whether we should have a Basis of charges obligation in addition to that charge control.[672] We have explained above that we consider that the WLR charge control is the most proportionate remedy to address our competition concern of BT acting on its ability and incentive to engage in excessive pricing in the relevant markets. As explained above, we consider that an appropriately designed charge control, constraining charges but allowing for the recovery of efficiently incurred costs, is proportionate to address our competition concerns. We therefore take the provisional view that the imposition of an additional Basis of charges obligation (in addition to the proposed charge control) would be unnecessary and disproportionate to address our concerns.

14.38 We will set out in more detail in the forthcoming 2013 LLU WLR Charge Control Consultation how exactly the design of our charge control results in a Basis of charge obligation being unnecessary.

14.39 Respondents to the 2012 FAMR Call for Inputs raised a number of other points relevant to the WFAEL market about the Basis of charges obligation. These arguments were the same as made for the WLA market, and we consider that the arguments and our proposed approach in the WLA market are also applicable to the WFAEL market. See in particular paragraphs 12.43-12.45.

Consultation questions

14.2 Do you agree with our proposal to continue to apply a charge control on WLR? (Noting that comments on the specifics of that control should be

[671] We will specifically address stakeholders concerns about the specific form, level and structure of controls in Section 4 of the forthcoming 2013 LLU WLR Charge Control Consultation.
[672] We note that Ofcom recently published "Ofcom, C*ost orientation"*, 5 June 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/cost-orientation/summary/Cost_orientation.pdf.

made in response to the forthcoming 2013 LLU WLR Charge Control Consultation.)

Legal tests

14.40 We will specifically consider how the legal tests laid down in section 47 and 88 of the CA03 are met in Section 8 of the forthcoming 2013 LLU WLR Charge Control Consultation. However we consider that in principle the proposed charge control meets the criteria set out in section 47 of the CA03. The condition is:

- objectively justifiable, in that our provisional view is that BT has SMP in the market and is unlikely to be incentivised to reduce its costs and set prices at the competitive level;
- not unduly discriminatory, in that BT is the only operator we have provisionally found to have SMP in the relevant market in the UK excluding the Hull Area (in the case of KCOM we are not proposing to require it to provide LLU as a specific access remedy);
- proportionate, in that it will allow BT to make a return on investment while acting to constrain BT's ability to set prices above the competitive level which may result in consumers paying higher retail prices; and
- transparent, in that the intent of any condition would be clear.

14.41 As noted above, any price control imposed under section 87(9) of the CA03 would also need to satisfy the tests set out in section 88 of the CA03. We consider that the basis for setting a price control exists based upon the identified market conditions. Specifically, we have identified a relevant risk of adverse effects arising from price distortion, and therefore the gateway to setting a condition under section 88 is present.

Pricing approach for ancillary services outside the scope of the proposed WLR charge control

14.42 Having provisionally concluded above that certain BT WLR services should be charge controlled, we now address our proposed approach for the pricing of certain WLR ancillary services which fall outside the scope of the WLR charge control.

14.43 As described above, in response to the 2012 FAMR Call for Inputs, TalkTalk and EE specifically raised pricing issues for certain WLR services which are currently outside the scope of the WLR charge control (WLR calling and network features and TRCs).

WLR TRCs

14.44 On TRCs, we consider that the analysis for LLU TRCs set out in Section 12, applies equally to WLR TRCs. This is because TRCs do not differ depending on whether they are purchased for LLU or WLR. For simplicity, we therefore do not repeat the same analysis for our proposals below on WLR TRCs.

14.45 Therefore, for the same reasons set out in Section 12, we propose imposing separate Basis of charges obligations for TRCs which require BT to set charges for relevant TRCs so they are reasonably derived from the costs of provision on a forward looking fully allocated cost basis, including allowing for an appropriate return on capital employed.

Consultation question(s)

14.3 Do you agree with our proposed approach to pricing for WLR, including our proposals for a Basis of charges obligation on TRCs and for Caller ID? Please provide reasons in support of your views.

Legal tests

14.46 We consider that the proposed Basis of charges condition meets the tests set out in the CA03.

14.47 Section 87(9)(a) of the CA03 authorises the setting of SMP services conditions imposing on the dominant provider such price controls as Ofcom may direct in relation to matters connected with the provision of network access to the relevant network, or with the availability of relevant facilities. Section 87(9)(b) further authorises SMP services conditions imposing such rules as they make for the purposes of matters connected with the provision of network access to the relevant network, or with the availability of relevant facilities about the recovery of costs and cost orientation. In each case, in setting such conditions, we must be satisfied that the conditions about network access pricing set out in section 88 are also satisfied.

14.48 We consider that the proposed condition would satisfy the requirements of section 88(1) as our market analysis indicates that there is a risk of adverse effects arising from price distortion. Moreover, the proposed condition promotes efficiency and sustainable competition and provides the greatest possible benefits to end users by enabling competing providers to buy network access and supporting ancillary services at levels that reflect costs. The extent of investment of BT has been taken into account as set out in section 88(2), as the obligation provides for a mark-up for an appropriate return on capital employed.

14.49 We have also considered our duties under section 3 and all the Community requirements set out in section 4 of the CA03. In particular, the condition is aimed at promoting competition and securing efficient and sustainable competition for the maximum benefit of consumers by ensuring that charges for wholesale services are set at cost. The proposed condition would be appropriate in order to promote efficiency and sustainable competition and provide the greatest possible benefits to end users by enabling competing providers to buy network access and supporting ancillary services that reflect costs. At the same time, given the proposed Basis of charges for WLR TRCs we consider that the proposed condition is also consistent with the purpose of securing efficient investment.

14.50 Section 47(2) of the CA03 requires conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. In our provisional view, the proposed condition is:

- objectively justifiable, in that the condition is required to address the risk that TRC charges are likely to be priced above the competitive level in the absence of such a condition;

- not unduly discriminatory, not unduly discriminatory, as we have provisionally found that BT is the only operator with SMP in the relevant market of the UK excluding the Hull Area and in the case of KCOM we are not proposing to require it to provide WLR as a specific access remedy;

- proportionate, as it would ensure, but do no more than ensure, that BT is unable to exploit its market power, while at the same time allowing BT a fair rate of return that it would expect in competitive markets; and

- transparent in that it is clear in its intention, in particular to ensure that BT should set charges for WLR TRCs as set out in this section.

WLR calling and network features

14.51 Calling and network features are add-on services provided alongside core WLR rentals.[673] There are around 50 network features and around 30 call features, most of which Openreach charges for and sells (for example, Caller ID), and some for which BT Wholesale also charges and sells (for example, Voicemail).

Background

14.52 In the 2009 WLR Charge Control Statement[674], we noted that BT had conducted a trial of lower prices for these services resulting in price falls in most cases. While some features showed an only modest increase in demand at the lower pricing levels (and for some features demand actually decreased), some services (for example Caller ID) showed a stronger increase in demand in response to the price reduction. BT has since reverted its pricing for these services back to the pre-trial levels and advised Ofcom[675] that incremental capital expenditure would be required to support the additional demand for these services at the lower (trial level) price points which would be difficult to justify given the legacy systems involved.

14.53 In the same review, we said that in light of this information provided by BT, and taking account of BT's price reductions for many calling and network features, these services should not be subject to a charge control, but that they should be subject to general remedies including a Basis of charges obligation.

14.54 In the 2012 LLU WLR Charge Control Statement[676], we considered whether we needed a stricter form of pricing protection for Caller ID and Voicemail services in response to stakeholder comments. We said that there was a sufficient commercial constraint on the wholesale charges BT Wholesale could set for Voicemail services[677], while for Caller ID we said that, given the new investment required, this was likely to lead to increased costs which in turn would lead to increased charges.

14.55 However, we noted that BT had committed to review wholesale charges for Caller ID services to determine more precisely whether there is an equilibrium price point

[673] For example call features include: call diversion, call barring, bypass number, call waiting, call sign, caller display, reminder call, and ringback. Network features include: call diversion by admin control, change of divert to number, outgoing calls barred, and incoming calls barred.
[674] P.63, Ofcom, *Charge control for Wholesale Line Rental and related services – statement and consultation*, 26 October 2009. www.stakeholders.ofcom.org.uk/binaries/consultations/wlr/summary/wlrcondoc.pdf.
[675] Q.5.4, *Openreach response to 2009 first consultation on WLR charge controls*, www.stakeholders.ofcom.org.uk/binaries/consultations/wlrcc/responses/bt_response.pdf .
[676] Pp.129-130, Ofcom, *Charge control review for LLU and WLR services, 7 March 2012,* www.stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf.
[677] We said that BT's voicemail services are competing with third party services provided to consumers in units in their homes. We also noted that there are alternative commercial providers of voice mail and call handling services which offer remote call handling services including voicemail, largely to commercial entities.

which will allow reduced charges without the need for substantial new investment. We said we would consider the outcome of this review in the future and consider the need for further intervention. We decided that all WLR calling and network features should continue to be subject to general remedies including a Basis of charges obligation.

2012 FAMR Call for Inputs responses

14.56 EE argued that BT was overcharging for Caller ID and Voicemail services. It said that the charges for Caller ID and Voicemail remained significantly above the cost of provision, and required a formal pricing remedy. EE suggested a cost orientation obligation, which would be an effective remedy for such services where Ofcom has previously deemed it disproportionate or too difficult to charge control. It said that this would enable non-BT WLR based CPs, who were essentially captive customers of these essential ancillary services, to offer a full package of competitively priced voice services to end-customers.

Pricing approach – Voicemail

14.57 In terms of BT Voicemail services, our preliminary view is that there is likely to be a commercial constraint on these services due to the availability of alternative solutions to BT's voicemail system. These include standalone automated answering machines and remote call handling services which offer voicemail services.

14.58 To the extent that the charges for BT's Voicemail services are constrained by alternatives, these voicemail services may not be an ancillary service in the WFAEL market because it may not be reasonably necessary to use them in order to provide WLR services. Given that it is likely that there is some constraint on the wholesale charges BT can set for voicemail services, we do not consider it appropriate to regulate BT's charges for these services in light of the availability of alternative voicemail solutions.

Pricing approach – Caller ID

14.59 BT's total wholesale revenue in 2011/12 for Caller ID was [around £25m].[678] We understand the cost of provision is likely to be close to zero for Caller ID services, as the assets recovered for these services have been heavily depreciated. However, this does not necessarily mean that it would be efficient for Openreach to reduce its prices which are currently above this cost of provision. In order to understand whether it may be efficient for Openreach to reduce its prices for these services, we would need to understand how this may affect demand for these services and consequentially the need for investment to meet this demand.

14.60 Since the 2012 LLU WLR Charge Control Statement, Openreach has carried out a feasibility study assessing the costs and timescales necessary to increase capacity, to help understand whether it would be possible to reduce prices for these services.[679] We discuss the results below and the implications for our proposed approach to pricing for these services.

[678] BT response to s.135 notice of 28 March 2013.
[679] This feasibility study was carried out in April 2013 and provides an approximate order of magnitude of costs and timelines for increasing capacity. The results are based on a sample of 7,500 customers with 188,000 of

14.61 The feasibility study suggests that Caller ID is currently used at approximately full capacity of the legacy network. It is installed for approximately [✂] of all WLR consumers, and the study indicated that demand for the service is high, and it is utilised by approximately [✂] of all WLR consumers. Therefore, given that demand for this service is very sensitive to changes in price (as observed when Openreach changed its prices in the 2009 trial[680]), any increase in demand would need to be met by an increase in capacity and to do otherwise would risk failure to the service. The legacy network infrastructure was designed to cope with more limited demand. Given the age of the network, there are limited engineering options to increase capacity and upgrades to both software and hardware would be required. The cost of these upgrades to expand capacity is estimated to be in the low hundreds of millions and so would be extremely costly. The feasibility study also sets out that updating the system to build in the increased capacity would take a minimum of [✂] years.

14.62 We consider that the assumptions Openreach has used in its study are reasonable. We have used the study, together with volumes and revenue information from Openreach[681], to understand whether it would be efficient for BT to make the investment at the prices it currently charges for Caller ID and at lower prices.

14.63 Openreach has estimated the cost of upgrading the current network infrastructure to be greater than £[[✂] [in the low hundreds of millions of pounds]. This compares to revenue for Caller ID of [around £25m] in 2011/12. This revenue is forecast to decline over the forward look period of the review in the future as the number of WLR lines declines.

14.64 If charges were reduced from their current level then demand would increase, but we do not consider that it would be possible for the revenue increase to recover a £[✂]m investment. Therefore, we do not consider that it would be efficient for BT to reduce its current charges. The current charges can be thought of as reflecting the opportunity cost of the service.

14.65 As noted in Section 10 we propose to require that network access is provided on fair and reasonable terms and conditions (including charges) for certain services in certain markets. We explain that this proposed requirement applies to all products within the WFAEL market where a charge control or Basis of Charges condition does not apply. This obligation, therefore, applies to Caller ID services.

14.66 While we cannot fetter our future regulatory discretion, we offer the following guidance as to how we might assess what we would consider to be fair and reasonable charges for this service. Where it could be demonstrated that any reduction in the current price would incur capacity upgrade costs to meet expected demand, we would expect to find that current charges are fair and reasonable. Further, in the absence of any further investment in this service, we would also expect to find that an increase in current charges would not be consistent with the fair and reasonable obligation given that the cost of provision at current capacity is likely to be virtually zero. If the expected fall in WLR volumes means that demand from Caller ID decreases in the future while capacity stays the same, then this might imply that charges should decrease to ensure capacity is fully utilised.

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terminating calls. The study assumed no degradation to the current quality of WLR services as a result of any increased capacity (i.e. the quality of WLR remained the same as a result of any change).

[680] When Caller ID prices were reduced in 2009 during BT's three month trial in 2009, demand increased by [✂] 20-25% and then prices returned to their pre-trial incremental growth (Openreach, *Presentation to Ofcom*: *Network and Calling features*, November 2012).

[681] BT response to s.135 notice of 28 March 2013.

Caller ID revenue

14.67 As set out above, we consider that it could be efficient for the Caller ID charge to be set high enough so that it does not generate extra demand that would exceed existing capacity. This is because we understand that the size of the investment needed to expand capacity is likely to make such investment uneconomic. On the other hand this means that BT would be allowed to recover more revenue from Caller ID than its forward looking costs of supply.

14.68 The current charge for Caller ID is £6 per line per year, whereas we understand the forward looking costs of supply are likely to be significantly less (assuming no expansion of capacity). In developing our charge control proposals for LLU and WLR (which will be set out in the forthcoming 2013 LLU WLR Charge Control Consultation), we are not proposing to take into account the revenue BT earns from Caller ID when setting charges for other services. This is consistent with the approach in previous reviews, where we have considered the Caller ID charge independently from other charges.

14.69 However, it could be argued that the difference between the revenue earned and the forward looking costs for Caller ID should be used to reduce charges for other services which, if this were efficient, could be in consumers' interests. There would then be a question of which charges to reduce. For example, if there was an argument that this revenue should be used to reduce common costs, it might be appropriate to reduce all charges (for example, including WLR and MPF charges). There might also be an argument that as Caller ID is a WLR service, it is appropriate to reduce other WLR services even though only some WLR lines take Caller ID.

14.70 Our current position is not to take this revenue into account, however, we would welcome stakeholders' views on this issue. In particular, we would welcome views on the implications for efficiency of different approaches, including on BT's investment incentives, on long term consumption signals for end users/CPs, on whether there might be any unintended consequences if we were to take the Caller ID revenue into account, and on what would be the rationale for using the revenue to reduce some charges and not others.

Other calling and network features

14.71 To the extent that other calling and network features provided by BT are reasonably necessary in order to provide WLR services, we propose that BT is required to provide them on fair and reasonable terms including charges. This results from our proposed obligation to provide network access on reasonable request set out in Section 10.

14.72 We consider that this is a more appropriate way of ensuring prices for calling and network features are not excessive than a Basis of charges obligation because for some calling and network features an efficient price may be higher than the forward looking costs of supply (as described above for Caller ID). This could make a Basis of charges obligation inappropriate. We also consider that a Basis of charges obligation may be disproportionate given that some of the calling and network features are likely to have very small volumes. We therefore do not propose to re-impose the Basis of charges obligation that would apply to calling and network features and consider that an obligation to supply on fair and reasonable terms including charges is sufficient protection from excessive prices.

Proposals on WLR calling and network features

14.73 On WLR calling and network features:

- we propose that all calling and network features that are reasonably necessary in order to provide WLR services are required to be provided on fair and reasonable terms including charges, as required from our proposed obligation to provide network access on reasonable request set out in Section 10;
- while we cannot fetter our future regulatory discretion, we offer guidance on how fair and reasonable might be interpreted for BT's Caller ID charge;
- we propose not to take into account of any difference in the revenue BT earns from Caller ID and its forward looking costs of supply when setting charges for other services; and
- we propose to revoke the Basis of charges obligation that currently applies to calling and network features.

14.74 We also set out above our preliminary view is that there is likely to be a commercial constraint on BT Voicemail services, and that they therefore may not be reasonably necessary to use them in order to provide WLR services.

Consultation question(s)

14.4 Do you agree with our proposed approach to pricing for WLR calling and network features (including revenues for Caller ID)? Please provide reasons in support of your views.

Cost accounting proposals for WLR

14.75 While we will be consulting separately on the Direction specifying the cost accounting requirement (pursuant to our proposed cost accounting condition) as part of our annual update of BT and KCOM's regulatory and financial reporting, we here describe our policy as to what we expect to include in the cost accounting Direction for WLR services.

14.76 We believe it is appropriate to have cost reporting in the Regulatory Financial Statements for the WFAEL market on a fully allocated cost (FAC) basis, in line with the FAC information that is currently produced.

14.77 As we propose not to impose a separate Basis of charges obligation on services that are separately charge controlled, we propose not to require the publication of DLRICs and DSACs as CPs no longer need these to monitor compliance regarding Basis of charges. This is consistent with our approach and reasoning in other recent decisions where we have removed Basis of charges obligations.[682] However, we propose that BT is required to maintain DLRIC and DSAC data as required by the cost accounting conditions that are set out in Section 10.

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[682] Ofcom, *Business connectivity market review - final statement,* 28 March 2013, www.stakeholders.ofcom.org.uk/consultations/business-connectivity-mr/final-statement/, and Ofcom, *Review of the fixed narrowband services markets,* 5 February 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/nmr-2013/summary/NMR_Consultation.pdf.

14.78 We propose to require that BT publishes cost information on a FAC basis for TRCs. We will consult on the detail of this but where it is not possible to show them separately for the WFAEL market we are likely to require that these be aggregated across all markets. Provided that the allocation methods used are reasonable we would expect the FAC costs to be comparable to revenue. We are not likely to require the FAC for each individual TRC service to be provided but would expect aggregated figures for specific cost categories across all TRCs. We would welcome views from stakeholders on what level of detail of FAC should be published to aid transparency and support the Basis of charges obligation on TRCs.

Consultation question(s)

14.5 Do you agree with our proposed approach to cost accounting for WLR? Please provide reasons in support of your views.

Section 15

Remedies: ISDN30 and ISDN2

Introduction

15.1 In Sections 4 and 5, we set out our provisional conclusion that BT and KCOM have SMP in the markets for both wholesale ISDN30 and wholesale ISDN2. In addition to the general remedies set out in Section 10 in this section we set out our proposals for specific access remedies on BT for the wholesale ISDN30 and wholesale ISDN2 markets.

15.2 As described in Section 4, wholesale ISDN30 is a digital telephone line service that provides up to 30 lines over a common digital bearer circuit. As described in Section 5, wholesale ISDN2 (also known as Basic Rate ISDN) is a digital telephone lines service that provides two digital channels with a bandwidth of 64kbit/s each and a control channel of 16kbit/s on a single exchange line. Both ISDN30 and ISDN2 are predominantly business products, which support a wide range of services, including basic telephony with additional features to those available on analogue lines.

15.3 In the rest of this section, we set out proposals to impose:

- a specific access remedy on BT in the form of a requirement to offer wholesale ISDN30 services, including ancillary services necessary to enable and support the provision of wholesale ISDN30;
- a charge control on BT for wholesale ISDN30 services;
- a specific access remedy on BT in the form of a requirement to offer wholesale ISDN2 services, including ancillary services necessary to enable and support the provision of wholesale ISDN2; and
- a charge control on BT for wholesale ISDN2 services.

15.4 On setting the wholesale ISDN30 and ISDN2 charge controls, we propose:

- adopting a simpler approach, based on using the current level of charges and without involving extensive financial modelling;
- with the exception of ISDN2 transfer, capping average charges for both ISDN30 and ISDN2 at their current levels in nominal terms during the market review period, which means charges will fall in real terms (i.e. after taking into account general inflation);
- reducing the charge for ISDN2 transfers from £15 per channel to £10 per channel for the market review period;
- imposing a charge control basket for ISDN30 rentals, connections and enhanced care services. This means that, while the basket as a whole is capped in nominal terms, individual charges within the basket may go up provided this is compensated by other charges falling;

- imposing separate controls for each of ISDN30 transfers and each ISDN30 DDI service; and

- imposing a charge control basket for ISDN2 rentals and connections charges, which, as with the ISDN30 basket, means that some charges within the basket may go up provided this is compensated by other charges falling.

15.5 We also describe our policy as to what we expect to include in the cost accounting Direction for the wholesale ISDN30 and wholesale ISDN2 markets made under our proposed cost accounting condition. While we are not proposing or setting that Direction in this market review and will be consulting separately on it as part of our annual update of BT and KCOM's regulatory and financial reporting, this is intended to help stakeholders understand our overall policy approach and broadly what information any future Direction is likely to require.

Requirement for BT to provide wholesale ISDN30

15.6 In the 2010 ISDN30 Statement we imposed an obligation on BT to provide wholesale ISDN30 services.

2012 FAMR Call for Inputs

15.7 In the 2012 FAMR Call for Inputs,[683] we sought the views of stakeholders on whether there had been any changes in the market which would lead us to alter our current approach to regulating 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? If so, please provide reasons to support your views.*

15.8 Most respondents believed there had not been any significant changes since the last market review which should lead us to alter our regulatory approach and, in particular, no stakeholders argued that we should remove the requirement on BT to provide wholesale ISDN30.

15.9 Separately, Vodafone also urged Ofcom to impose a remedy on BT that provided customers of its Featurenet product with a means to migrate to another supplier as, under the current arrangement, many find themselves locked into the product with no opportunity to change the underlying ISDN30 provider due to the lack of a migration process. In response to Vodafone, we understand that, while ISDN30 can be supplied as an input into the Featurenet service, it is worth noting that Featurenet is an IP service rather than an ISDN30 service. As such, Featurenet services are outside the ISDN30 market scope and we therefore consider that it is not possible to address this request in this review.[684]

[683] P.41, Ofcom, *Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 – Call for Inputs*, 9 November 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/summary/condoc.pdf.

[684] P.21, *Vodafone response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Cable_Wireless_Worldwide.pdf.

Proposal to require BT to provide wholesale ISDN30

15.10 As our assessment of the wholesale ISDN30 market shows, the level of investment required by a third party to replicate BT's CGA network on a sufficiently large scale to compete at this level is a significant barrier to entry. Also as noted in Section 4, while ISDN30 is gradually declining, there remains demand for wholesale ISDN30 services and we expect this to continue during the period of this market review.

15.11 In the absence of access to BT's infrastructure for the purposes of providing retail CGA services, we consider that BT would have an incentive and ability to refuse access at the wholesale level and thereby favour its own retail operations with the effect of hindering sustainable competition on the corresponding downstream markets, ultimately against end users' interests. Therefore, we propose a wholesale ISDN30 remedy to address directly BT's SMP in the wholesale access market by requiring it to make available a product which allows other CPs to compete with BT in the provision of retail wholesale ISDN30 services on an equivalent basis.

Consultation question(s)

15.1 Do you agree with our proposal to continue to require BT to provide wholesale ISDN30? Please provide reasons in support of your views.

Legal tests

15.12 We consider that the proposed obligation to provide wholesale ISDN30 services, together with such ancillary services as may be reasonably necessary for the use of those services, is appropriate and satisfies the legal tests set out in the CA03.

15.13 Section 87(3) of the CA03 authorises Ofcom to set SMP services conditions requiring the dominant provider to provide network access as Ofcom may from time to time direct. These conditions may, pursuant to section 87(5), include provision for securing fairness and reasonableness in the way in which requests for network access are made and responded to and for securing that the obligations in the conditions are complied with within periods and at times required by or under the conditions.

15.14 In proposing this condition, we have taken into account the factors set out in section 87(4) of the CA03. In particular, the economic viability of CPs building alternative access networks (they are unlikely to do so, given the costs involved and the transition from current to next generation access networks), and the feasibility of BT providing wholesale ISDN30 services (demonstrated by their very widespread existing provision). We consider the condition should also continue to ensure that the need to secure effective competition in the long term is met.

15.15 We consider that the proposed condition in particular furthers the interests of citizens in relation to communications matters and furthers the interests of consumers in relevant markets, where appropriate by the promotion of competition in line with section 3 of the CA03.

15.16 We also consider that the proposed condition meets the requirements set out in Section 4 of the CA03. In particular, the condition promotes competition and secures efficient and sustainable competition and the maximum benefit for customers by enabling providers to compete in downstream access markets.

15.17 We consider the proposed condition meets the criteria set out in section 47(2) of the CA03. The condition is:

- objectively justifiable, in that it relates to the need to ensure that competition develops to the benefit of consumers. The growth of competition based on wholesale ISDN30 has delivered benefits to consumers in terms of competition. Removing the obligation to provide wholesale ISDN30 may result in BT withdrawing the product or otherwise changing it to the detriment of the retail competition that has developed;
- not unduly discriminatory, as the condition aims to address BT's market power in the relevant market in the UK excluding the Hull Area, in which we consider that only BT has SMP (and as the obligation imposed on KCOM to provide network access on reasonable request is sufficient to ensure that KCOM provides wholesale ISDN30 services should a reasonable request be made in the Hull Area);
- proportionate, in that it is necessary to enable competition but is not unduly burdensome on BT; and
- transparent, in that it is clear in its intention to ensure that BT provides the wholesale ISDN30 product and ancillary services to other CPs.

15.18 We now discuss our proposed approach to the pricing of wholesale ISDN30 services.

Wholesale ISDN30 pricing approach

15.19 In the 2010 ISDN30 Statement we considered a charge control was the most appropriate form of pricing remedy to address wholesale charges for ISDN30 which were above the competitive level.[685]

15.20 We imposed a charge control[686] in the 2012 ISDN30 Charge Control Statement.[687] This 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 – wholesale ISDN30 rental prices (which comprise the vast majority of BT's wholesale ISDN30 revenues) have reduced by around 16% to £118.08 per channel per annum.

15.21 We did not impose a Basis of charges remedy alongside the charge controls in the 2012 ISDN30 Charge Control Statement. This was because we considered there was a low number of services in the charge control baskets. We imposed safeguard caps[688] along with requirements for charges to be fair and reasonable and not unduly discriminatory. We considered these measures would be more effective at constraining the level of wholesale ISDN30 service prices.

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[685] Paragraph 8.23, Ofcom, *Review of retail and wholesale ISDN30 markets*, 20 August 2010 www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30/statement/statement.pdf.

[686] In terms of the form, level and structure of the charge control, we applied a RPI-13.75% control on a basket to include rentals, connections and enhanced care services (along with subcaps on connections and enhanced care services). We set separate RPI-0 controls outside of the baskets on DDI and Transfer services.

[687] Ofcom, *Wholesale ISDN30 charge control*, 12 April 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/statement/ISDN30_final_statement.pdf.

[688] For both services which we controlled in baskets and those outside baskets.

2012 FAMR Call for Inputs

15.22 We sought views in the 2012 FAMR Call for Inputs on whether there had been any changes that would alter our pricing approach to regulating wholesale ISDN30. In particular, we asked whether charges should be set through a detailed cost modelling exercise, or whether it would be appropriate to set them 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).[689] The questions we asked were:

> *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.*

15.23 Respondents (with the exception of BT) were in favour of a charge control as long as such an approach did not result in prices being set too low. Some respondents also saw benefits in a charge control being set at the current level (but perhaps with RPI indexation). None of the respondents favoured a Basis of charges obligation instead of a charge control, while some respondents said they were in favour of Basis of charges in addition to a charge control.

15.24 Virgin said there should not be a significantly different approach in wholesale ISDN30 price regulation given the relatively recent review of the market by Ofcom. It said that overly strict pricing regulation could skew migration incentives, and so we should continue to take into account the declining nature of the market. It also noted that, in the 2012 ISDN30 Charge Control Statement, we had said that Basis of charges on its own would not be an appropriate form of price control because of excessive pricing concerns and the depreciated nature of wholesale ISDN30 assets, and that this is a reasonable starting point to assess whether Basis of charges on its own would be appropriate. [690]

15.25 Similarly, Verizon said that a detailed cost modelling charge control was not necessary and would incur disproportionate resource costs without benefit because the ISDN30 market is mature. It said we should set a charge control at the current

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[689] P.41, Ofcom, *Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 – Call for Inputs*, 9 November 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/summary/condoc.pdf.
[690] Pp.17-18, *Virgin response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Virgin_Media.pdf.

level (adjusted for RPI), and that if we do so we should also have Basis of charges because, in its view, subcaps would not be an adequate constraint on prices.[691]

15.26 Vodafone said that, given that the wholesale ISDN30 charge control had been set recently, it was too early to say whether another charge control was needed as part of this review. It also said that the imposition of a new charge control, if it pushed prices too low, could harm competition and not be in the interests of consumers. It said that were we to introduce a charge control, a safeguard cap may be appropriate.[692]

15.27 BT argued that we should remove pricing regulation as strong market constraints existed, and that the current pricing approach has caused, and could continue to cause, unintended consequences.[693] BT added that if we did consider a charge control is appropriate, it could see the benefits of a simple and transparent charge control set at an appropriate level, and that Basis of charges as an alternative would be inappropriate for wholesale ISDN30 services given the stage of the product life-cycle.[694] It said that Basis of charges with a charge control would be unnecessarily intrusive and that where there are concerns about the ability to set excessive prices, these can be sufficiently addressed by the design of the charge control basket and subcaps, and by the continued publication of certain financial reporting data.[695]

15.28 TalkTalk said that a charge control was necessary as long as it was not set artificially low so as to distort efficient migration from ISDN30 to IP solutions. It also argued that we should set a Basis of charges obligation (set at FAC+30% or much less than DSAC) alongside a charge control in order to prevent BT gaming the baskets. TalkTalk considered this would be more effective than safeguard caps.[696]

Proposed pricing approach

15.29 In light of our proposed finding of SMP, our competition concern is that without a regulatory constraint on prices BT would have the ability and incentive to set excessive prices for wholesale ISDN30.

15.30 As noted above, ISDN30 use is declining and CPs are gradually substituting to new technologies. Therefore, in proposing options for a suitable pricing remedy for this particular market, we also want to ensure prices which encourage efficient migration from declining wholesale ISDN30 services to newer replacements (e.g. IP services), and which encourage efficient investment in new technologies.

15.31 We set out our provisional views on two alternative pricing options to address our competition concerns:

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[691] Pp. 7-8, *Verizon response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Verizon_Enterprise_Solutions.pdf.
[692] Pp.19-20, *Vodafone response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Cable_Wireless_Worldwide.pdf.
[693] BT said that the charge control has prolonged the shelf-life of ISDN30 services and slowed migration.
[694] BT said that this is because prices could be set at too low levels to allow efficient migration to new and innovative substitute products at the end of a product life-cycle.
[695] Pp.29-31, *BT response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BT.pdf.
[696] P.34, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.

- a Basis of charges obligation (cost orientation); and
- a charge control.

15.32 We also set out our provisional views on whether it is necessary to have both a charge control and a Basis of charges obligation concurrently.

15.33 We have considered whether a Basis of charges obligation is appropriate[697]. We consider that wholesale ISDN30 services are in a market with limited competition and are critical to retail competition, which may suggest that a strict approach to pricing is appropriate. We also recognise that ISDN30 is a declining product, and that for declining products in general we consider that a safeguard cap or cost orientation might be appropriate.[698]

Basis of charges – cost orientation

15.34 A Basis of charges obligation could limit price increases for wholesale ISDN30 services in the market by providing a cost-based benchmark while avoiding the need for a charge control. It could also be used to allow prices to reflect changes in actual costs.

15.35 We have considered whether it would be appropriate to apply a more specific form of cost orientation for wholesale ISDN30 services in the market by specifying a specific cost orientation standard in the SMP conditions and also possibly by specifying the types of common costs that we consider it appropriate to be included. For example, we could specify whether wholesale ISDN30 services should be set with reference to LRIC+, DSAC or DLRIC. This would provide more certainty of the appropriate cost standard than there is currently.

15.36 However, we note that requiring the wholesale ISDN30 charge to be set at any of the reported cost figures (DSAC, FAC[699] or DLRIC) could risk prices being set at the wrong level for the market, and so risks not meeting our concerns. This is because we believe that the reported cost orientation standards for wholesale ISDN30 in BT's regulatory financial statements are not likely to reflect a reasonable level of cost, particularly given the fact that much of the wholesale ISDN30 asset base is already heavily depreciated.[700]

15.37 As noted above, the Basis of charges obligation would allow prices to reflect changes in cost standards on an annual basis, and therefore reflect any fluctuation of reported costs (meaning charges are not set for the market review period). We note that historically the DLRIC, DSAC and FAC benchmarks reported by BT exhibit a volatile trend, suggesting that such an approach to setting charges at their reported level could potentially lead to significant fluctuations over the forward look period of our

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[697] We note that Ofcom recently published "Ofcom, C*ost orientation"*, 5 June 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/cost-orientation/summary/Cost_orientation.pdf.
[698] See from paragraph 2.69, *Cost orientation*, 5 June 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/cost-orientation/summary/Cost_orientation.pdf.
[699] We use FAC interchangeably for LRIC+ in this instance, as this can be typically a reasonable approximate for LRIC+.
[700] This means that we would need, therefore, to adjust the levels of FAC to take account of the heavily depreciated nature of the assets (in a similar way to our approach in the 2012 ISDN30 Charge Control Statement), which would be inappropriate for this obligation. We would need to make this adjustment because, while in accounting terms the assets have been fully depreciated, the products are still being used. This means that the assets' accounting value, as reflected in the ISDN30 reported FAC level may underestimate their true economic value, and so would need to be upwardly adjusted to reflect this value.

review.[701] We believe this would create pricing uncertainty, and may risk sending the wrong signals for efficient migration from declining ISDN30 services and inappropriate signals for investment in other technologies (e.g. IP-based technologies).

Charge control

15.38 We have considered whether it is appropriate and proportionate to impose a charge control which would set prices for the period of the market review for wholesale ISDN30 services.

15.39 The aim of a charge control would be to prevent excessive pricing (i.e. pricing above the competitive level), while encouraging efficient migration from declining wholesale ISDN30 services to newer replacements (e.g. IP services). We believe that a well designed charge control which sets prices so they are constrained to a reasonable level of cost would achieve this aim, and would also avoid the risk we have identified in relation to imposing a Basis of charges obligation (as set out in paragraph 15.36-15.37). Moreover, we consider that this approach would provide further certainty to the market as prices would be set in advance, and so prices would not be subject to the same risk of price fluctuations as under a Basis of charges obligation. We believe this certainty would help encourage efficient migration from declining wholesale ISDN30 services and efficient investment.

Proposals

15.40 We have assessed the merits of imposing a charge control remedy or a Basis of Charges obligation, and are of the provisional view that, given the circumstances of the ISDN30 market, the imposition of a charge control would be more appropriate than a Basis of charges obligation because it would allow prices to better reflect a reasonable level of cost to constrain the risk of excessive pricing. Indeed, the identification of the risk of excessive pricing is a necessary precondition under section 88 of the CA03 to enable us to set an SMP condition imposing a charge control. A charge control would also provide more pricing certainty than a Basis of charges obligation.

15.41 We therefore provisionally propose to impose a charge control on BT for wholesale ISDN30. We set out our specific proposals on the form, level and structure of the wholesale ISDN30 charge control below. We consider that these proposals address our concerns in the wholesale ISDN30 market of a relevant risk of adverse effects arising from a price distortion if BT fixes and maintains its prices at an excessively high level for wholesale ISDN30 services.

15.42 We have also considered whether we should have a Basis of charges obligation in addition to that charge control. We consider that the issues for ISDN30 are the same as those for LLU as set out in Section 12 and that it would be unnecessary and disproportionate to impose an additional Basis of charges obligation. On that basis, our provisional conclusion is not to implement a Basis of charges obligation alongside a charge control.

[701] For example, the FAC (which is typically a reasonable proxy for LRIC+) for Rentals, as reported in the BT RFS in the period 2007/08-2009/10, exhibits yearly variations equal to -10.5% and +10.1% between each of these years.

Wholesale ISDN30 charge control proposals

Current wholesale ISDN30 charge control

15.43 The 2012 ISDN30 Charge Control Statement imposed a substantial reduction in prices, with a cap of RPI-13.75% applied to the main basket of wholesale ISDN30 services.[702] A key issue in setting that charge control was how to treat heavily depreciated line card and access electronics assets. We considered that an appropriate way of setting charges to 2013/14 was to uplift the heavily depreciated ISDN30 assets using a steady state adjustment, in order to base the controls on the costs of a hypothetical on-going network in a steady state. This resulted in an adjustment that substantially increased the price cap in 2013/14 (the price cap is more than 60% higher than what it would have been without this adjustment).

Proposal for a wholesale ISDN30 charge control

15.44 Our aim in controlling wholesale ISDN30 charges is to promote efficiency and protect consumers. In considering how to do this, we have considered whether to undertake a detailed modelling exercise as we did for the 2012 ISDN30 Charge Control Statement, or whether a simpler approach would now be more proportionate and appropriate. Some responses to the 2012 FAMR Call for Inputs considered that detailed cost modelling would be disproportionate. For the reasons given below, we consider that it would now be appropriate to adopt a simpler approach that caps charges at their current levels.

15.45 The 2012 charge control was imposed fairly recently and imposed a substantial reduction in prices. This was because the reduction in costs over time had not led to a corresponding reduction in prices, rather than because unit costs are now falling rapidly. In fact, the underlying unit cost trend in the model used to set the 2012 charge control was slightly upward. This was largely a result of falling volumes, which mean increasing unit costs due to reducing benefits from economies of scale.

15.46 Actual volumes appear to have declined less than forecast in the 2012 charge control. This might suggest that the charge control is currently higher than it needs to be. However, we expect volumes to continue to fall over the market review period, with volumes in 2016/17 likely to be below those originally forecast for 2013/14 in the 2012 charge control. This would imply charges tending to rise slightly in the future, if we again set charges based on a detailed model on a hypothetical on-going basis, as the benefits of economies of scale reduce further. However, for the reasons set out below, we do not consider that going forward such an approach would promote efficiency and protect consumers. We consider that maintaining charges consistent with the current level is more likely to promote economic efficiency than allowing prices to rise.

15.47 We consider it unlikely that BT will undertake any significant capital expenditure to support wholesale ISDN30 in the future. Indeed, BT indicated to us during the last market review that the main capital assets used in the provision of ISDN30 (i.e. line cards and concentrators) are no longer in manufacture and that to serve new demand

[702] The main basket contains wholesale ISDN30 rentals, connections and enhanced care services. Rentals are by far the largest component in the basket.

it is currently re-using its existing stock.[703] It is able to avoid any significant capital expenditure because demand is expected to continue falling.

15.48 In the absence of a need for future investment in ISDN30, we consider it may be unnecessary for efficiency that future prices reflect a hypothetical on-going network in a steady state. Rather it may be efficient for ISDN30 prices to be below the steady state level. This would align prices more closely to forward looking incremental costs, given that no significant new investment is foreseen.

15.49 However, if pricing below the hypothetical on-going steady state level would mean that BT would not have had a reasonable opportunity to recover its efficiently incurred costs, then there may be a risk to future investment incentives more generally. In particular, in these circumstances, BT may be disincentivised from making investments in other services, unrelated to ISDN30.

15.50 We therefore see the question of whether BT would have a reasonable opportunity to recover its efficiently incurred costs if prices were not allowed to rise as being important to considering how to set prices for the market review period.

15.51 Unfortunately, it is not easy to determine what is required to allow BT a reasonable opportunity to recover its efficiently incurred costs. This is because there is no robust data on ISDN30 capital expenditure, operating expenditure and revenues for the early years of the service after it began in 1986.

15.52 While we do not have robust data on costs and revenues over the full life of the assets, more recent data is available. Revenues and operating costs from 2004 are shown in Table 15.1, using data from BT's Regulatory Financial Statements.[704]

Table 15.1: BT's income from ISDN30 from Regulatory Financial Statements

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Sales (£m) (internal and external)	281	325	325	334	339	348	320	319	305
Operating costs (£m)	206	180	191	156	149	124	110	134	129
Operating profit (£m)	75	145	134	178	190	224	210	185	176
Capital employed (£m)	566	473	398	336	295	301	302	274	240
Return on capital employed	**13%**	**31%**	**33%**	**53%**	**64%**	**74%**	**70%**	**67%**	**74%**

Source: BT Regulatory Financial Statements

15.53 Table 15.1 shows high returns on capital employed for the period from 2004 to 2012. Given the high returns since 2004, we consider it likely that BT will have recovered its past investments if prices remain at the level imposed by the 2012 charge control during the market review period. In the absence of robust data showing that cost recovery will not be achieved otherwise, we consider that constant nominal charges are likely to be sufficient to ensure cost recovery.

[703] Paragraph 3.64, Ofcom, *Wholesale ISDN30 charge control*, 12 April 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/statement/ISDN30_final_statement.pdf.
[704] BT's regulatory financial statements for recent years are available here: www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/index.htm.

15.54 While we do not see a strong reason to allow ISDN30 charges to increase from their 2013/14 level, we also consider that it may not be efficient or in consumers' interests for charges to fall materially. Materially lower charges may risk that cost recovery is not achieved and may therefore undermine future investment incentives in other products. Also with substantially lower prices, the decline in ISDN30 volumes may reverse, which would then require new ISDN30 investment which the charge control may not be sufficient to cover. Materially lower ISDN30 charges may also undermine recent investment in IP services, which could create a perception of regulatory uncertainty which may damage investment incentives in the longer term, harming efficiency. Ultimately this would be against consumers' interests. We note that a number of responses to the 2012 FAMR Call for Inputs (for example, from BT, TalkTalk, Virgin and Vodafone) considered that it could be damaging to the market if prices were too low.

15.55 We also consider that this simpler approach to setting the ISDN30 charge control during the market review period would involve a smaller burden on CPs (especially BT) in terms of gathering information and reviewing our detailed charge control modelling. Undertaking a more detailed assessment would not remove the uncertainty on costs and revenues in the early years of ISDN30 services, which we consider to be an important input to considering the efficient level of prices in the future, for the reasons explained above.

15.56 For the reasons above, we propose to require BT to maintain constant nominal prices during the market review period. In the absence of evidence showing that BT would not be able to recover its past investment with such prices, we consider that these prices would be at an efficient level. We propose that prices should be at a constant nominal level on average, but as described below propose to give BT some pricing flexibility which means that we do not propose that all prices are capped at their current level.

Basket structure for the wholesale ISDN30 charge control

15.57 The structure of the current wholesale ISDN30 charge controls are as follows:[705]

- a combined basket for wholesale ISDN30 rentals, connections and enhanced care services set at RPI-13.75%, with an RPI+5% subcap on the connection price and an RPI+0% on each enhanced care service;
- separate controls for each of the following set at RPI+0%:
  - transfers;
  - DDI planning service;
  - DDI connections; and
  - DDI rentals.

15.58 ISDN30 transfers were not included in the same basket as rentals, connections and enhanced care services because we were concerned that BT would have an

[705] Table 1.1, Ofcom, *Wholesale ISDN30 charge control*, 12 April 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/statement/ISDN30_final_statement.pdf.

incentive to meet the charge control by concentrating reductions on the rental prices while increasing the transfer prices. We were particularly concerned about the transfer price because of its importance to switching and competition at the retail level.[706]

15.59 We were concerned that by regulating the core wholesale ISDN30 services (particularly rental charges, which account for the vast majority of ISDN30 revenues) BT could increase the price of ISDN30 ancillary services excessively in a bid to recoup some of its lost profits on those core services. We therefore imposed RPI-0% safe-guard caps on the most important ancillary services, namely the DDI services, to prevent this.[707]

15.60 We have considered two options for the structure of the proposed controls for the next market review period:

- Option 1: we could adopt a simple approach of imposing a separate charge control on each of the services included in the 2012 charge controls, preventing each charge from rising from its current level. Their current level would be expressed in nominal terms, so charges would fall in real terms with inflation; and

- Option 2: we could impose charge controls with a similar structure to that used in the 2012 charge control, involving:

  - a combined basket for wholesale ISDN30 rentals, connections and enhanced care services requiring charges to remain at their current levels (that is, to be constant in nominal terms, and falling in real terms with inflation). This would allow BT some flexibility to rebalance within this basket. This would be combined with subcaps on the connection price and each enhanced care service. The subcap on the connection price would be +5% per annum and the subcap on the enhanced care prices would be +0% per annum; and

  - separate controls on each of transfers, DDI planning, DDI connections and DDI rentals, set to prevent charges from rising from their current levels. Their current levels would be expressed in nominal terms, so these charges would fall in real terms with general inflation.

15.61 Both these options would involve a separate control on ISDN30 transfers. We consider this is important because if it were in the same basket as other services, especially rentals, BT may have an incentive to meet the charge control by concentrating reductions on the rental prices while increasing the transfer prices. We remain particularly concerned about the transfer price because of its importance to switching and competition at the retail level.

15.62 The only difference between the two options is that the second approach would give more flexibility to BT in terms of rebalancing charges between ISDN30 rentals, connection and enhanced care services. We consider that both options would protect consumers sufficiently and that as the second option gives BT more flexibility it is more proportionate. We therefore propose the second of the two options above.

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[706] Paragraphs 5.10-5.12 and 5.24-5.28,Ofcom, *Wholesale ISDN30 charge control*, 12 April 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/statement/ISDN30_final_statement.pdf.

[707] Paragraphs 5.86-5.100, Ofcom, *Wholesale ISDN30 charge control*, 12 April 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/statement/ISDN30_final_statement.pdf.

Proposals

15.63 For the wholesale ISDN30 charge control we propose the following:

- a basket of ISDN30 rentals, connections and enhanced care services, with a cap on average charges based on their current levels. We propose to set this in nominal terms for 1 April 2014 to 31 March 2017, which means average charges will fall in real terms (i.e. after taking into account general inflation);
- a subcap of +5% per annum for the average charges for connections allowing BT the freedom to set the individual per-installation and per-channel charges subject to the overall subcap;
- a subcap of 0% per annum for each of the enhanced care services. Should BT replace these services, such replacement services would also be within the scope of the control; and
- separate controls on each of ISDN30 transfers, DDI planning, DDI connections and DDI rentals, such that each charge is capped at its current level in nominal terms during the market review period, which means that each charge will fall in real terms with general inflation.

15.64 We also propose the following rules in order to determine compliance with any future charge controls:

- The average price change BT is allowed to make in the second and third year of the control should reflect whether its actual price change in the previous year was in line with the maximum allowed under the charge control. That is, if BT's average price change for the basket is lower than required by the charge control at the end of a charge control year, it will be able to increase average prices to compensate for this in the following charge control year. This means that the benchmark for assessing BT's compliance with the control in the following year will be the level of charges BT was required to achieve, including any adjustment from the prior year. Conversely, if its average charge is higher than the required level, it has to ensure that the average price change in the next year is lower than it would otherwise be so as to compensate. In the last year of the control, if BT is likely to fail to secure that the change in price of a controlled service does not exceed the control, then Ofcom can direct that BT should make an appropriate adjustment to its charges; and
- BT is required to supply information in order for us to monitor its compliance with the control. Consistent with the obligations in place in the existing wholesale ISDN30 charge control, this information will be required to be supplied by BT on an annual basis.

15.65 The proposed condition is set out in full at Annex 11.

Consultation question(s)

15.2 Do you agree with our charge control proposals for ISDN30? Please provide reasons in support of your views.

Legal tests

15.66 For the reasons set out below, we are satisfied that the proposed charge control condition for BT on wholesale ISND30 meets the tests set out in the CA03.

15.67 Section 87(9) of the CA03 authorises Ofcom to set SMP services conditions imposing on the dominant provider, among others, such price controls as Ofcom may direct in relation to matters connected with the provision of network access to the relevant network, or with the availability of the relevant facilities provided the conditions set out in section 88 of the CA03 are satisfied.

15.68 We consider that the proposed condition would satisfy the requirements of section 88(1) as our market analysis indicates that, absent the charge controls, there is a real risk of adverse effects arising from price distortion by BT as it might fix and maintain some or all of its prices for wholesale ISDN30 at an excessively high level. We also consider that the proposed charge control conditions would ensure prices which encourage efficient migration from declining services to newer replacements and encourage efficient investment in new technologies.

15.69 We consider that the proposed charge control conditions are appropriate for the purposes of promoting efficiency and sustainable competition and conferring the greatest possible benefits on the users of public electronic communications services.

15.70 By ensuring BT cannot price excessively, the proposed charge controls will increase allocative efficiency. In particular they prevent prices being higher than they need to be while enabling BT to recover its past investment. Materially lower charges may risk that cost recovery is not achieved and may therefore undermine future investment incentives in other products. Substantially lower prices would also risk reversing the decline in ISDN30 volumes.

15.71 By setting charges by reference to current prices BT is encouraged to increase its productive efficiency. This will be achieved by allowing BT to keep any super-normal profits that it earns within a defined period by reducing its costs over and above the savings envisaged when the charge control was set. The benefits of any cost savings would potentially accrue to the regulated company in the short run and this would give BT incentives to make those efficiency savings. In our view, this form of price regulation is also preferable to a rate of return type of control. By proposing baskets for ISDN30 rentals, connections and enhanced care services, we also provide BT with the flexibility to change its prices to meet the necessary demand conditions by recovering common costs in the most efficient manner across these services.

15.72 We also consider that the proposed conditions are appropriate to ensure sustainable competition in the downstream retail markets and to confer the greatest possible benefits on users of public electronic communication services. Our view is that preventing excessive pricing via a nominal cost type charge control will promote sustainable competition in the downstream retail markets, which we consider is likely to be the most effective way of benefiting end users of public electronic communications services. It will enable greater choice of services for end users in terms of choice, price, quality of service and value for money. Although part of our proposed charge control applies to baskets of services, we have included appropriate safe-guards to ensure that BT does not use the pricing flexibility offered to it in an anti-competitive manner to the detriment of end users. In particular, we propose to impose controls on wholesale ISDN30 transfers, which are important for competition in the retail provision of ISDN lines.

15.73 When proposing the charge controls we have also taken into account the need to ensure that BT has the correct incentives to invest and innovate. To the extent possible given the limited data available, the proposed charge controls have been set to be consistent with allowing BT to recover its past investment, including earning a reasonable rate of return (the cost of capital).

15.74 We consider that the performance of our general and specific duties under sections 3 and 4 of the CA03 is secured or furthered by our proposal to adopt the charge controls. In particular, we consider that the charge controls would prevent excessive pricing by BT, while encouraging efficient migration from declining wholesale ISDN30 services to newer replacements (e.g. IP services) and efficient investment in new technologies. The existing charge control for wholesale ISDN30 services has promoted efficiency and sustainable competition in the downstream retail market to the clear benefit of consumers in respect of choice, price and quality of service and value for money. Our review provisionally confirms that such controls are necessary to sustain this level of competition.

15.75 We have had particular regard to the requirement to promote competition and to secure efficient and sustainable competition for the benefit of consumers, which are relevant to both sections 3 and 4 of the CA03. We have placed particular emphasis on the promotion of competition in the downstream retail markets, which we consider is likely to be the most effective way of furthering citizen and consumer interests in the relevant retail markets. In making our proposals, we have also sought the least intrusive regulatory measures to achieve our policy objectives. In addition, we have taken into account further objectives, including prices (to ensure that services are available at prices that are reasonably related to the efficient costs of supply, preferably as a result of effective competition) and investment and innovation (to promote efficient investment in the development of new and innovative services by BT and other CPs).

15.76 We also consider that the proposed condition meets the criteria set out in section 47(2) of the CA03. The proposed condition is:

- objectively justifiable, in that, in the absence of any charge control, BT's SMP would allow it to set charges unilaterally and set prices excessively high. This would have adverse impacts on both the ability of companies to compete in the downstream provision of services and on consumer choice and value for money. Our view is that BT is unlikely to be incentivised to reduce its costs or set prices at the competitive level. The proposed charge controls have been structured to address these risks while allowing BT to recover its costs, including a reasonable return on investment. The structure of the proposed controls is also such that BT has an incentive to continue to seek efficiency gains and benefit from efficiencies achieved that are in excess of those anticipated in the review;

- not unduly discriminatory, in that Ofcom considers that the proposed charge controls do not discriminate unduly against BT as it is the only CP to hold SMP in the market (for the UK excluding the Hull Area) and the proposed controls seek to address that market position, including BT's ability and incentive to set excessive charges for services falling within the controls;

- proportionate, in that the proposed charge controls are focused on ensuring that there are reasonable prices for those access services, which are critical to continued competition in downstream retail markets, while, to the extent possible given the limited data, being set so as to be consistent with allowing BT to recover its past investment, including earning a reasonable rate of return (the cost of capital). We therefore consider that the proposed charge controls are:

- o appropriate to achieve the aim of addressing BT's ability and incentive to charge excessive prices for the services covered by the charge controls;
- o necessary, in that they do not, in our view, impose controls on the prices that BT may charge that go beyond what is required to achieve the aim of addressing BT's ability and incentive to charge excessive prices for these services; and
- o and are such that they do not, in our view, produce adverse effects that are disproportionate to the aim pursued; and

- transparent, in that the aims and effects of the proposed charge controls are clear and they have been drafted so as to secure maximum transparency. We are consulting fully on the proposed charge controls and our reasoning in this document. The text of the proposed conditions has been published in Annex 11 and the operation of those conditions is aided by our explanations in this document.

Cost accounting proposals on BT for the wholesale ISDN30 market

15.77 While we will be consulting separately on the Direction specifying the cost accounting requirement (pursuant to our proposed cost accounting condition) as part of our annual update of BT and KCOM's regulatory and financial reporting, we here describe our policy as to what we expect to include in the cost accounting Direction for wholesale ISDN30 services, to the extent necessary.

15.78 Currently we do not require BT to report DLRICs and DSACs for wholesale ISDN30, as there is not currently a Basis of charges obligation. As we do not propose to impose a Basis of charges obligation in this review, we propose to continue with this approach. We do not consider it necessary for CPs to know DLRICs and DSACs as they do not need to monitor compliance regarding a Basis of charges obligation. This is consistent with our approach and reasoning in other recent decisions where we have removed Basis of charges obligations.[708] However, we propose that BT is required to maintain DLRIC and DSAC data as required by the cost accounting conditions that are set out in Section 10.

15.79 There is also no cost accounting reporting of FAC for wholesale ISDN30. This is because, as noted above, there are potential distortions to FAC of wholesale ISDN30 due to heavily depreciated assets. Consequently, FAC does not reflect the true costs of providing the service. We therefore consider that cost reporting would not be beneficial to stakeholders in this case. This is consistent with our position set out in our recent statement on changes to BT and KCOM's regulatory and financial

[708] Ofcom, *Business connectivity market review - final statement,* 28 March 2013, www.stakeholders.ofcom.org.uk/consultations/business-connectivity-mr/final-statement/, and Ofcom, *Review of the fixed narrowband services markets,* 5 February 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/nmr-2013/summary/NMR_Consultation.pdf.

reporting 2012/13 update.[709] However, we propose that BT is required to maintain FAC data as required by the cost accounting conditions that are set out in Section 10.

Consultation questions

15.3 Do you agree with our proposed approach for cost accounting for ISDN30? Please provide reasons in support of your views.

Requirement for BT to provide wholesale ISDN2

15.80 In the 2009 Narrowband statement we imposed an obligation on BT to provide wholesale ISDN2 services.[710]

2012 FAMR Call for Inputs

15.81 In the 2012 FAMR Call for Inputs, we sought the views of stakeholders on whether there had been any changes in the market which would lead us to alter our current approach to regulating wholesale ISDN2.[711]

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.

15.82 All respondents (TalkTalk, Vodafone, the Bit Commons and Verizon), with the exception of BT[712], believed there had not been any significant changes since the last market review which should lead us to alter our regulatory approach and, in particular, no stakeholders argued that we should remove the requirement from BT to provide wholesale ISDN2.

Proposal to require BT to provide wholesale ISDN2

15.83 As our assessment of the wholesale ISDN2 market shows, the level of investment required by a third party to replicate BT's CGA network on a sufficiently large scale to compete at this level is a significant barrier to entry. Also as noted in Section 5 above, while ISDN2 is gradually declining, there remains demand for wholesale ISDN2 services and we expect this to continue during the period of this market review.

15.84 In the absence of access to BT's infrastructure for the purposes of providing retail CGA services, we consider that BT would have an incentive and ability to refuse

[709] We considered that the current level of reporting in the RFS was sufficient to demonstrate compliance with the updated ISDN30 charge control and therefore no amendments to the RFS were necessary as a result of the 2012 ISDN30 Charge Control Statement. We said that a charge control of this kind can be monitored by reference to prices rather than costs and so additional cost information was not required. The FAC did not reflect the true costs of providing the service (in particular due to potential distortions to FAC of ISDN30 as a result of heavily depreciated assets) and the charge control was based on Ofcom's adjusted cost stack. This was because the adjustments we made in setting the charge control, e.g. an uplift to the fully depreciated assets, changed the cost stack significantly. We therefore considered that cost reporting would not be beneficial to stakeholders in this case (P.23, Ofcom, *Changes to BT and KCOM's regulatory and financial reporting 2012/13 update*, 25 April 2013, *www.stakeholders.ofcom.org.uk/consultations/bt-kcom-reporting-2012-13/?a=0*).
[710] Paragraph 13.33, Ofcom, *Review of the fixed narrowband services wholesale markets*, 15 September 2009, www.stakeholders.ofcom.org.uk/binaries/consultations/wnmr_statement_consultation/summary/main.pdf.
[711] P.43, Ofcom, *Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 – Call for Inputs*, 9 November 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/summary/condoc.pdf.
[712] BT argued that there were now no significant barriers to entry but did not argue for a change in approach.

access at the wholesale level and thereby favouring their own retail operations with the effect of hindering sustainable competition on the corresponding downstream markets, ultimately against end users' interests. Therefore, we propose a wholesale ISDN2 remedy to address directly BT's SMP in the wholesale access market by requiring it to make available a product which allows other CPs to compete with BT in the provision of retail wholesale ISDN2 services on an equivalent basis.

15.85 The proposed condition is set out in full in Annex 11.

Consultation question(s)

15.4 Do you agree with our proposal to continue to require BT to provide wholesale ISDN2? Please provide reasons in support of your views.

Legal tests

15.86 We consider that the proposed obligation to provide ISDN2 services, together with such ancillary services as may be reasonably necessary for the use of those services, is appropriate and satisfies the legal tests set out in the CA03.

15.87 Section 87(3) of the CA03 authorises Ofcom to set SMP services conditions requiring the dominant provider to provide network access as Ofcom may from time to time direct. These conditions may, pursuant to section 87(5), include provision for securing fairness and reasonableness in the way in which requests for network access are made and responded to and for securing that the obligations in the conditions are complied with within periods and at times required by or under the conditions.

15.88 In proposing this condition, we have taken into account the factors set out in section 87(4) of the CA03. In particular, the economic viability of CPs building alternative access networks (they are unlikely to do so, given the costs involved and the transition from current to next generation access networks), and the feasibility of BT providing ISDN2 services (demonstrated by their very widespread existing provision). We consider the condition should also continue to ensure that the need to secure effective competition in the long term is met.

15.89 We consider that the proposed condition in particular furthers the interests of citizens in relation to communications matters and furthers the interests of consumers in relevant markets, where appropriate by the promotion of competition in line with section 3 of the CA03.

15.90 We also consider that the proposed condition meets the requirements set out in section 4 of the CA03. In particular, the condition promotes competition and secures efficient and sustainable competition and the maximum benefit for customers by enabling providers to compete in downstream access markets.

15.91 We consider the proposed condition meets the criteria set out in section 47(2) of the CA03. The condition is:

- objectively justifiable, in that it relates to the need to ensure that competition develops to the benefit of consumers. The growth of competition based on wholesale ISDN2 has delivered benefits to consumers. Removing the obligation to provide wholesale ISDN2 may result in BT withdrawing the product or otherwise changing it to the detriment of the retail competition that has developed;

- not unduly discriminatory, in that the condition aims to address BT's market power in the relevant market in the UK excluding the Hull Area, in which we consider that only BT has SMP (and as the obligation imposed on KCOM to provide network access on reasonable request is sufficient to ensure that KCOM provides ISDN2 services should a reasonable request be made);

- proportionate, in that it is necessary to enable competition but is not unduly burdensome on BT; and

- transparent, in that it is clear in its intention to ensure that BT provides the wholesale ISDN2 product and ancillary services to other CPs.

15.92 We now discuss our proposed pricing approach for wholesale ISDN2 services.

Wholesale ISDN2 pricing approach

15.93 In the 2009 Narrowband Statement we retained a Basis of charges obligation on wholesale ISDN2 exchange line services. We considered that without some intervention in pricing, BT would have the ability to charge excessive prices in order to maximise profits. We said that LRIC plus an appropriate mark up for common costs and for recovery of the cost of capital is the preferred approach in communications markets such as wholesale ISDN2.[713]

15.94 In October 2012, BT changed its wholesale ISDN2 rental, connections and transfer prices to bring them within the reported DSAC and DLRIC figures. Up to this point, the prices had not varied since 2004. The October 2012 price changes are detailed in paragraph 15.114.

2012 FAMR Call for Inputs

15.95 In the 2012 FAMR Call for Inputs, we sought the views of stakeholders on whether our current approach to pricing (i.e. Basis of charges) remains an appropriate remedy in this market were we to find BT continues to have SMP. We noted that other pricing remedies which may be appropriate to address a finding of SMP in wholesale ISDN2 include a simple charge control based on the current price or reliance on other general remedies.[714] The questions we asked were:

> *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.*

15.96 BT[715] argued that there were no significant barriers to customers switching to alternative products in the medium to long term, and there should not be a specific

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[713] Paragraph 13.26, Ofcom, *Review of the fixed narrowband services wholesale markets*, 15 September 2009, www.stakeholders.ofcom.org.uk/binaries/consultations/wnmr_statement_consultation/summary/main.pdf.
[714] P.43, Ofcom, *Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 – Call for Inputs*, 9 November 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/summary/condoc.pdf.
[715] Pp.31-32, BT, *Response to the November 2012 Call for inputs,* January 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BT.pdf.

pricing remedy on wholesale ISDN2 services. While not supporting Basis of charges, it noted that, if we considered one was necessary, we should investigate approaches consistent with good regulatory practices for products at the end of their life cycle (which take account of similar factors to the existing wholesale ISDN30 charge control). BT said this is because prices could be set at too low levels to allow efficient migration to new and innovative substitute products at the end of a product life-cycle.

15.97 TalkTalk supported Basis of charges to guard against excessive pricing, and argued we should issue clear cost orientation guidance.[716]

15.98 Vodafone argued that Basis of charges was a sufficiently targeted and relevant remedy. Vodafone also provided a further briefing paper in relation to BT's change to ISDN2 transfer charges. It argued in the paper that the charge had been set high to provide added disincentives to end user switching, and was in breach of the current Basis of charges obligations. It added that BT's charge for ISDN2 transfer was at odds with Ofcom policy for transfer charging for related services (e.g. wholesale ISDN30 and WLR transfer) and that we should cost orientate the ISDN2 transfer charge at FAC.[717]

15.99 Verizon supported a charge control based on current prices, but, noting recent price changes, argued that BT was overcharging for ISDN2 rentals and connections.[718]

15.100 Virgin said that, given the similarity of ISDN2 with ISDN30 in terms of both being declining copper based products, it may be an appropriate time to review pricing regulation of the ISDN2 product, but noted that this did not necessarily suggest that the current wholesale ISDN30 pricing approach would be appropriate - i.e. that we should impose a charge control.[719]

Proposed pricing approach

15.101 In light of our proposed finding of SMP, our competition concern is that without a regulatory constraint on prices BT would have the ability and incentive to price excessively (i.e. above the competitive level) for wholesale ISDN2 services.

15.102 As noted above, wholesale ISDN2 use is declining and CPs are gradually substituting new technologies. Therefore, in proposing options for a suitable pricing remedy for this particular market, we also want to ensure prices which encourage efficient migration from declining wholesale ISDN2 services to newer replacements (e.g. IP services), and which encourage efficient investment in new technologies.

15.103 We have considered a Basis of charges obligation (cost orientation) and a charge control. We recognise that the current situation is different between wholesale ISDN2 and wholesale ISDN30, in that there is already a charge control in place for ISDN30

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[716] P.35, *TalkTalk response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf.
[717] P.22, *Vodafone response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Cable_Wireless_Worldwide.pdf; and Vodafone, *ISDN2 Transfer briefing paper*, February 2012.
[718] P.8, *Verizon response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Verizon_Enterprise_Solutions.pdf
[719] P.17, *Virgin response to 2012 FAMR Call for Inputs*, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Virgin_Media.pdf.

whereas ISDN2 is cost orientated. However, we consider that wholesale ISDN2 and wholesale ISDN30 are similar in that both are in markets with limited competition and where the services are critical to downstream competition, and both are declining products due to substitution to IP services. We therefore consider that our assessment of the choice between a Basis of charges obligation and a charge control is substantively the same for wholesale ISDN2 as for wholesale ISDN30 as set out from paragraph 15.31 above. For the same reasons set out for ISDN30, we therefore propose to impose a charge control.

15.104 We have also considered whether we should have a Basis of charges obligation in addition to a charge control.[720] We consider that the issues for ISDN2 are the same as those for LLU as set out in Section 12. On that basis, our provisional conclusion is not to implement a Basis of charges obligation alongside a charge control.

Wholesale ISDN2 charge control proposals

Current level of ISDN2 revenues compared to costs

15.105 In BT's 2011/12 Regulatory Financial Statements, the return on capital employed for wholesale ISDN2 services is 26.7%.[721] This is likely to be considerably higher than the relevant cost of capital. However, the reported figure may be misleading as the asset base used is heavily depreciated.

15.106 We found a similar issue for wholesale ISDN30 services and discussed this in our 2012 ISDN30 Charge Control Statement. We considered that an appropriate way of setting ISDN30 charges to 2013/14 was to uplift the heavily depreciated ISDN30 assets to base the controls on the costs of a hypothetical on-going network in a steady state. As a result of this adjustment, the return on capital employed for the ISDN30 market reduced by 63% (from 67.1% to 25%).[722] As set out above, for the next market review period, we propose holding the resulting ISDN30 charges constant in nominal terms.

15.107 Given that ISDN2 rental services are provided using assets that are heavily depreciated, we have explored approximately how the return on capital employed for the ISDN2 services would change if we made a similar adjustment to that for ISDN30.[723] As a result of this steady state adjustment, the 2011/12 ISDN2 market return on capital employed reduces from the 26.7% to around 15%. While considerably lower, this is still higher than the WACC that was allowed for ISDN30 in the 2012 ISDN30 Charge Control Statement, which was 9.7%.

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[720] We note that Ofcom recently published "Ofcom, C*ost orientation"*, 5 June 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/cost-orientation/summary/Cost_orientation.pdf.

[721] Section 7.4, BT, *2011/12 Regulatory Financial Statements*, www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2012/RFS_2012.pdf.

[722] For example, paragraphs 1.6-1.7, Ofcom, *Wholesale ISDN30 charge control*, 12 April 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/statement/ISDN30_final_statement.pdf.

[723] We have adjusted the Net Replacement Cost/Gross Replacement Cost ratio of the main assets and estimated the steady-state costs. On the basis of the Net Replacement Cost and Gross Replacement Cost information provided by BT, we identified that line cards were the asset category that required adjustment and uplifted their Net Replacement Cost / Gross Replacement Cost ratio from 6% to 50%.

Proposals for a wholesale ISDN2 charge control

15.108 If the current level of ISDN2 charges were held constant in the future and we made the adjustment for heavily depreciated assets described above, we would expect the adjusted return on capital employed to fall over time compared to what it was in 2011/12, because of falling ISDN2 volumes. These falling volumes mean increasing unit costs due to reduced benefits from economies of scale. ISDN2 volumes have recently decreased around 4% a year and we anticipate continued decline over the review period.

15.109 We would not necessarily be concerned if by the end of the market review period the adjusted return on capital employed based on a hypothetical on-going network in a steady state were below BT's cost of capital. As with ISDN30, this is because it may be unnecessary for efficiency that future prices reflect a hypothetical on-going network in a steady state, and it may be efficient for prices to be below the steady state level. This would align prices more closely to forward looking incremental costs, as we consider it unlikely that there would be significant new investment in ISDN2. We would be concerned if this meant that BT would not have had a reasonable opportunity to recover its efficiently incurred costs, as that could undermine future investment incentives. However, we consider that unlikely given the return on capital employed levels currently reported.

15.110 Given the relatively small, and declining, revenue associated with ISDN2 services, we do not consider that it would be appropriate to forecast ISDN2 unit costs for the market review period. We consider this would impose a disproportionate burden on CPs (especially BT) in terms of providing the information that would be required to set the charge control and reviewing proposals. This is especially the case given that we anticipate that even if we undertook detailed modelling, there would remain very considerable uncertainty about the appropriate level of the charge controls.

15.111 We therefore propose to impose a charge control in a simpler way. We propose to cap the current levels of charges in nominal terms for the market review period. This would mean charges would gradually fall in real terms due to general inflation.

15.112 Below we discuss whether it would be appropriate to cap ISDN2 charges on average, or whether each and every ISDN charge should be capped at its current level.

<u>Basket structure for the wholesale ISDN2 charge controls</u>

15.113 There are three main wholesale ISDN2 charges: rental, connection and transfer charges. Table 15.2 shows financial information for these three charges from the BT's 2011/12 Regulatory Financial Statement.

Table 15.2: BT's wholesale ISDN2 services for 2011/12, unit costs in £ per channel[724]

	Unaudited (D)LRIC	FAC	Unaudited DSAC	Average price	Revenues	Revenue shares
Rentals	45.70	77.36	117.38	110.00	£126m	93%
Connections	25.00	27.00	64.78	116.49	£8m	6%
Transfers	9.27	10.74	36.18	5.65	£1m	1%

Sources: BT's 2011/12 Regulatory Financial Statement

15.114 In October 2012, BT changed its ISDN2 rental, connections and transfer prices to bring them within the reported DSAC and DLRIC figures. Up to this point, the prices had not varied since 2004. The October 2012 price changes were as follows:

- ISDN2 rentals – price raised from £110 to £111 per channel, per year.
- ISDN2 transfers – price raised from £5.65 to £15 per channel.
- ISDN2 connection – price reduced from £116.49 to £60 per channel.

15.115 Rentals accounted for around 93% of BT's wholesale ISDN2 revenues in 2011/12, connections for around 6% and transfers for less than 1%. The recent changes in prices are unlikely to change this in a fundamental way, with rentals remaining by far the largest ISDN2 service.

Separate ISDN2 transfer charge control

15.116 We have considered whether there would be any concerns if we imposed a simple basket consisting of wholesale ISDN2 rentals, connections and transfers. A possible concern is that BT would have an incentive to reduce the rental and/or connection charges while increasing the transfer charges. It may have an incentive to do this because there is a net flow away from BT's retail provision towards competitors. Transfer services support switching between BT and other ISDN2 providers, and lower switching costs are generally likely to be in consumers' interests, since they help strengthen retail competition

15.117 As can be seen in the Table 15.2, in 2011/12 when the transfer charge was £5.65 per channel, it had been well below the DLRIC (£9.27 per channel). The increase in the transfer charge in October 2012 to £15 per channel raised charges to above the 2011/12 FAC (£10.74 per channel).

15.118 We consider that it would be desirable for the transfer charge to be in line with LRIC. This reduces switching costs and promotes competition. However, we do not have information on the precise level of the LRIC for ISDN2 services. The estimate of such costs on the basis of the available information (DLRIC data) would require a detailed analysis on the cost elements and costing methodologies applied by BT. We consider this task to be disproportionate since the size of the market is limited and the differential between DLRIC and LRIC is likely to be limited. We regard past data on DLRIC as the most reasonable available cost standard to approximate LRIC for ISDN2 transfer charges in the future. We propose to set transfer charges based on past DLRIC data. In doing this we propose to give particular weight to the most recent

[724] The unit costs are for external ISDN2 services (i.e. BT's sales to other CPs), but are extremely similar to internal ISDN2 figures (i.e. Openreach's sales to other BT business units). The revenues are for both external and internal ISDN2 sales. Costs and charges are on a per channel basis, and would be double what is shown here if they were on a per line basis.

data available – BT's 2011/12 DLRIC figure of £9.27 per channel[725] – and to impose a charge control of £10 per channel on the ISDN2 transfer charge.

15.119 We have considered whether the reduction in the transfer charge should be achieved through a one-off adjustment or the application of a glide path. We normally consider that a glidepath is more appropriate, partly because it has greater incentives for efficiency improvement as it allows the regulated company to retain the benefits of cost reductions made under a previous charge control for longer. However, for the ISDN2 transfer we propose to make a one off adjustment to £10. We consider that it is more proportionate to have a simple adjustment given the very small scale of the transfer revenue (less than £1m in 2011/12) and that the arguments for a one-off adjustment are stronger for reducing switching costs that help retail competition. Because of the very small scale of the ISDN2 transfer revenue and the small difference between the LRIC and the FAC for the charge (as can be seen in the bottom row of Table 15.2), we do not propose to make any explicit adjustment to increase the rental or connection charges for any common costs foregone through the ISDN2 transfer charge being below FAC.

Basket for ISDN2 connection and rental

15.120 Unlike with ISDN2 transfers, we do not consider that BT has a strong strategic incentive to distort retail competition through the way it balances the rental and connection charges. We therefore propose to have a single basket for the connection and rental charges. BT would therefore retain some flexibility over the way in which it met the charge control.

Other ISDN2 services

15.121 There are other ISDN2 services, such as DDI services. We believe that the revenue from these services is extremely small, and consider that it may be disproportionate to charge control these services. We are therefore not currently proposing to charge control any other ISDN2 services, but are seeking stakeholders' views on whether we should do so. If we did charge control any other ISDN2 services, we would propose to cap them at their current levels. We also note that we are proposing that BT would be required to set fair and reasonable charges for these DDI services.

Proposals

15.122 For the wholesale ISDN2 charge control we propose the following:

- a basket of ISDN2 rentals and connections, with a cap on average charges based on their current levels. We propose to set this in nominal terms for 1 April 2014 to 31 March 2017, which means average charges will fall in real terms (i.e. after taking into account general inflation); and

- a separate control on ISDN2 transfers set at £10 per channel.

15.123 We also propose the following rules in order to determine compliance with any future charge controls:

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[725] In BT's 2010/11 Regulatory Financial Statement, the cost was £8.04 per channel, in 2009/10 it was £16.26, and in 2008/9 it was £5.16.

- BT is allowed to carry over differences in the average charge for a basket to the next charge control year. This provision is the same as described in paragraph 15.64 for ISDN30; and

- BT is required to supply information in order for us to monitor its compliance with the control. This information will be required to be supplied by BT on an annual basis.

15.124 The proposed Condition is set out in full at Annex 11.

Consultation question(s)

15.5 Do you agree with our charge control proposals for ISDN2? Please provide reasons in support of your views.

Legal tests

15.125 For the reasons set out below, we are satisfied that the proposed charge control condition for BT on wholesale ISND2 meets the tests set out in the CA03.

15.126 Section 87(9) of the CA03 authorises Ofcom to set SMP services conditions imposing on the dominant provider, among others, such price controls as Ofcom may direct in relation to matters connected with the provision of network access to the relevant network, or with the availability of the relevant facilities provided the conditions set out in section 88 are satisfied.

15.127 We consider that the proposed condition would satisfy the requirements of section 88(1) of the CA03 as our market analysis indicates that, absent the charge controls, there is a real risk of adverse effects arising from price distortion by BT as it might fix and maintain some or all of its prices for wholesale ISDN2 at an excessively high level. We also consider that the proposed charge control conditions would ensure prices which encourage efficient migration from declining services to newer replacements and encourage efficient investment in new technologies.

15.128 We consider that the proposed charge control conditions are appropriate for the purposes of promoting efficiency and sustainable competition and conferring the greatest possible benefits on the users of public electronic communications services.

15.129 By ensuring BT cannot price excessively, the proposed charge controls will increase allocative efficiency. In particular they prevent prices being higher than they need to be while enabling BT to recover its past investment. Materially lower charges may risk that cost recovery is not achieved and may therefore undermine future investment incentives in other products. Substantially lower prices would also risk reversing the decline in ISDN2 volumes.

15.130 By setting charges by reference to current prices BT is encouraged to increase its productive efficiency. This will be achieved by allowing BT to keep any super-normal profits that it earns within a defined period by reducing its costs over and above the savings envisaged when the charge control was set. The benefits of any cost savings would potentially accrue to the regulated company in the short run and this would give BT incentives to make those efficiency savings. In our view, this form of price regulation is also preferable to a rate of return type of control. By proposing baskets for ISDN2 rentals and connection charges, we also provide BT with the flexibility to change its prices to meet the necessary demand conditions by recovering common costs in the most efficient manner across these services.

15.131 We also consider that the proposed conditions are appropriate to ensure sustainable competition in the downstream retail markets and to confer the greatest possible benefits on users of public electronic communication services. Our view is that preventing excessive pricing via a nominal cost type charge control will promote sustainable competition in the downstream retail markets, which we consider is likely to be the most effective way of benefiting end users of public electronic communications services. It will enable greater choice of services for end users in terms of choice, price, quality of service and value for money. Although part of our proposed charge control applies to baskets of services, we have included appropriate safe-guards to ensure that BT does not use the pricing flexibility offered to it in an anti-competitive manner to the detriment of end users. In particular, we propose to impose controls on wholesale ISDN2 transfers, which are important for competition in the retail provision of ISDN lines.

15.132 When proposing the charge controls we have also taken into account the need to ensure that BT has the correct incentives to invest and innovate. To the extent possible given the limited data, the proposed charge controls have been set to be consistent with allowing BT to recover its past investment, including earning a reasonable rate of return (the cost of capital).

15.133 We consider that the performance of our general and specific duties under sections 3 and 4 of the CA03 is secured or furthered by our proposal to adopt the charge controls. In particular, we consider that the charge controls would prevent excessive pricing by BT, while encouraging efficient migration from declining wholesale ISDN2 services to newer replacements (e.g. IP services) and efficient investment in new technologies.

15.134 We have had particular regard to the requirement to promote competition and to secure efficient and sustainable competition for the benefit of consumers, which are relevant to both sections 3 and 4 of the CA03. We have placed particular emphasis on the promotion of competition in the downstream retail markets, which we consider is likely to be the most effective way of furthering citizen and consumer interests in the relevant retail markets. In making our proposals, we have also sought the least intrusive regulatory measures to achieve our policy objectives. In addition, we have taken into account further objectives, including prices (to ensure that services are available at prices that are reasonably related to the efficient costs of supply, preferably as a result of effective competition) and investment and innovation (to promote efficient investment in the development of new and innovative services by BT and other CPs).

15.135 We also consider that the proposed condition meets the criteria set out in section 47(2) of the CA03. The proposed condition is:

- objectively justifiable, in that, in the absence of any charge control, BT's SMP would allow it to set charges unilaterally and set prices excessively high. This would have adverse impacts on both the ability of companies to compete in the downstream provision of services and on consumer choice and value for money. Our view is that BT is unlikely to be incentivised to reduce its costs or set prices at the competitive level. The proposed charge controls have been structured to address these risks while allowing BT to recover its costs, including a reasonable return on investment. The structure of the proposed controls is also such that BT has an incentive to continue to seek efficiency gains and benefit from efficiencies achieved that are in excess of those anticipated in the review;

- not unduly discriminatory, in that Ofcom considers that the proposed charge controls do not discriminate unduly against BT as it is the only CP to hold SMP in the market (for the UK excluding the Hull Area) and the proposed controls seek to address that market position, including BT's ability and incentive to set excessive charges for services falling within the controls;

- proportionate, in that the proposed charge controls that we have proposed in this consultation are focused on ensuring that there are reasonable prices for those access services, which are critical to continued competition in downstream retail markets, while, to the extent possible given the limited data, being set so as to be consistent with allowing BT to recover its past investment, including earning a reasonable rate of return (the cost of capital). We therefore consider that the proposed charge controls are:

  - appropriate to achieve the aim of addressing BT's ability and incentive to charge excessive prices for the services covered by the charge controls;

  - necessary, in that they do not, in our view, impose controls on the prices that BT may charge that go beyond what is required to achieve the aim of addressing BT's ability and incentive to charge excessive prices for these services; and

  - are such that they do not, in our view, produce adverse effects that are disproportionate to the aim pursued; and

- transparent, in that he aims and effects of the proposed charge controls are clear and they have been drafted so as to secure maximum transparency. We are consulting fully on the proposed charge controls and our reasoning in this document.

15.136 The text of the proposed conditions has been published in Annex 11 and the operation of those conditions is aided by our explanations in this document.

Cost accounting proposals on BT for the wholesale ISDN2 market

15.137 While we will be consulting separately on the Direction specifying the cost accounting requirement (pursuant to our proposed cost accounting condition) as part of our annual update of BT and KCOM's regulatory and financial reporting, we here describe our policy as to what we expect to include in the cost accounting Direction for wholesale ISDN2 services, to the extent necessary.

15.138 Currently we require BT to report DLRICs and DSACs for ISDN2, as there has been a Basis of charges obligation on BT. As we do not propose to impose a Basis of charges obligation in this review, we propose to no longer require BT to report this information. We do not consider it necessary for CPs to know DLRICs and DSACs as they do not need to monitor compliance regarding a Basis of charges obligation. This is consistent with our approach and reasoning in other recent decisions where we have removed Basis of charges obligations.[726] However, we propose that BT is

[726] Ofcom, *Business connectivity market review - final statement,* 28 March 2013, www.stakeholders.ofcom.org.uk/consultations/business-connectivity-mr/final-statement/; and Ofcom, *Review of*

required to maintain DLRIC and DSAC data as required by the cost accounting conditions that are set out in Section 10.

15.139 Currently, there is also cost accounting reporting of FAC for ISDN2. However, for the same reasons as set out above regarding our cost accounting proposal for ISDN30, it is also the case that cost reporting for ISDN2 would also not be beneficial to stakeholders.[727] Therefore, we do not propose for BT to continue to report FAC data. However, we propose that BT is required to maintain FAC data as required by the cost accounting conditions that are set out in Section 10.

Consultation question(s)

15.6 Do you agree with our proposed approach for cost accounting for ISDN2? Please provide reasons in support of your views.

the fixed narrowband services markets, 5 February 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/nmr-2013/summary/NMR_Consultation.pdf.

[727] This is because as with ISDN30 there are potential distortions to FAC of ISDN30 due to heavily depreciated assets. Consequently, FAC does not reflect the true costs of providing the service.