BT's response to Ofcom's Call for Inputs on the Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30

8 January 2013

NON-CONFIDENTIAL VERSION

Comments should be sent to:

Mike Fox, BT Group Regulatory Affairs, via e-mail at mike.p.fox@bt.com

Executive Summary

The competitive landscape in fixed access

This is an important market review with major implications for the development of the UK's telecommunications infrastructure. Ofcom's starting point for this review is one of a major success story for UK consumers.

- **The UK market is highly competitive**. UK consumers enjoy some of the lowest telephony and broadband prices in the world combined with high take-up rates and rapidly increasing performance[1].
- **There has been substantial investment in fibre based services since Ofcom's last WLA market review.** The UK deployment is among the largest and fastest commercial fibre investments anywhere in the world[2].

Key themes for this review

Ofcom's challenge this time around is to consider how best to preserve the benefits already achieved and to build upon them. In general we believe Ofcom should have a presumption against increased or new intervention in light of the already well-functioning market. There are four major themes that Ofcom needs to address:

1. **Fibre roll-out in the UK is a major success story and needs to be supported going forward**. The existing light touch regulatory framework has worked well to date and it is therefore critical that Ofcom maintains this approach so that the UK realises the full benefits of fibre roll-out. NGA remains a risky investment with long payback periods. It is important that Ofcom avoids premature and unwarranted interventions such as prescriptive product specification and price regulation prior to payback being achieved. Wholesale prices are driven by the need to stimulate market growth and penetration, and therefore economic and competitive pressures in the market are already keeping prices low, benefitting CPs and end-users.
2. **The local access market is evolving rapidly with many more technologies being used.** End-users can now access services over a range of technologies including copper, fibre, cable and mobile. It is important that the review takes full account of the competitive constraints these alternatives offer.
3. **The charge control review should allow full recovery of efficiently-incurred costs**. It should fully incorporate the costs incurred providing specific agreed levels of service and give scope for Openreach[3] to differentiate and offer higher service levels. It should also ensure an appropriate pricing differential between MPF and WLR.
4. **Any future regulation of service quality should recognise its complexity.** A strong focus on what would improve end-user outcomes means that Ofcom at minimum should consider the following:
   - the operational challenges and costs faced by Openreach;
   - the sharing of responsibilities between all parties in the value chain;
   - the need for consistency with the charge control outcomes;

[1] The UK has the lowest retail landline and broadband prices, and the second highest broadband penetration among major countries (International Communications Market, December 2012, Ofcom).

[2] More than 13 million premises currently passed, with over 100,000 added each week and over 1 million end-users.

[3] This is a BT Group response. We refer to "Openreach" where the responses directly concern Openreach products or processes.

- the additional costs of resourcing volatile demand and the higher care levels associated with LLU.

The market context

The regulatory framework set out by Ofcom in the Wholesale Local Access market review (WLA) in 2010 has supported major investment by BT and others in the UK's next generation access (NGA) infrastructure and the increasing demand for super-fast broadband (SFBB) services from consumers. Indeed Ofcom's recent Infrastructure Report[4] highlights the very positive outcomes over the period, citing approximately one in ten broadband connections now being superfast across the UK, average broadband speeds rising rapidly to 12.7Mbit/s an increase of 69% from the 7.5Mbit/s recorded in 2011, and an average speed of existing SFBB connections of 45.5Mbit/s. It is important that this latest review maintains this success.

In addition to the developments in fibre, competition based on copper lines has also continued to develop rapidly since 2010. MPF lines now stand at circa 6.1 million lines[5] up from circa 3 million lines at the start of 2010/11[6]. This is a further clear indication of the highly competitive nature of the UK market.

Undoubtedly, advances in SFBB coverage and speed over the period have been dramatic, but it is still fair to describe the market as nascent. Openreach has worked extensively with its customers to develop its NGA product set both in terms of speed and functionality over the period and the flexibility permitted by the existing framework has supported this cooperative approach. In addition there are still considerable challenges to be overcome to deploy NGA to publically funded intervention areas and overly prescriptive pricing and product regulation will not be helpful in meeting those needs. The BDUK[7] framework requires wholesale pricing to be consistent between commercial and funded areas, and such areas will therefore benefit from the price competition and flexibility evident in the most competitive areas.

BT's functional separation model, including the creation of Openreach, continues to be a significant contributor to this success ensuring all key services are provided on an Equivalence of Inputs (EoI) basis to support CPs and their end-users. This combined with the highly competitive retail market means the Ofcom presumption should be against further interventions that may be appropriate for some other European markets where functional separation or indeed even effective non-discrimination does not exist.

How regulation should reflect the realities of the market

Ofcom's decision to combine its review of WLA, wholesale analogue (WLR) and digital exchange lines (ISDN) into a single review reflects the rapidly changing nature of the market and the associated technologies. BT looks forward to working with its customers to bring about the changes they are seeking, and therefore it is essential to us that Ofcom's future policy supports the evolving environment with appropriate regulatory and pricing flexibility on new services, so that innovation and investment is not stifled, and also to ensure that the regulatory framework for copper services allows a fair return on investment and appropriate recovery of costs.

4 http://stakeholders.ofcom.org.uk/market-data-research/other/telecoms-research/broadband-speeds/infrastructure-report-2012/

5 BT's Quarterly Results - 30 September 2012.

6 BT's Quarterly Results - 31 March 2010.

7 Broadband Delivery UK.

Ofcom should avoid mandating over-prescriptive remedies[8] which some stakeholders may be seeking and send a clear signal that it continues to believe that the current regulatory approach supports the right market outcomes. A more intrusive regulatory regime carries a high risk of distorting investment incentives and damaging the development of a vibrant and competitive market. Ofcom's approach in the review should reflect the competitive realities. It should ensure that where appropriate CPs and end-users can benefit from flexibility in product specifications, pricing, propositions and contractual terms, and support migration to new technologies. To achieve these outcomes, we believe that in this review Ofcom should in particular:

- Give due weight to competitive pricing constraints resulting from Current Generation Access (CGA), Virgin Media, and the growth in mobile;
- Fully consider the regulatory implications of the shifting focus of competition towards the "bundling" of voice, broadband and content services[9];
- Ensure a level playing field exists between LLU and WLR products, as competition between services based on fully unbundled lines (MPF) and shared unbundling (WLR/SMPF) has now reached maturity and any previous incentives to support MPF market entry should now be removed;
- Consider where more regulatory flexibility would help CPs and consumers (e.g. long notice periods are bad for competition and bad for consumers).

The Call for Inputs process

We recognise and understand Ofcom's wish to prioritise aspects of its analysis in this review based on early feedback given in responses to the Call for Inputs. There are some important issues which should not be closed down at this stage of the review - for example the decision on the approach to charge control modelling and the need to refresh relevant data especially for fibre products in this rapidly developing market. Ofcom should retain the flexibility to re-prioritise and review issues where appropriate later in the review process as new evidence and arguments emerge.

Our response

BT's responses to the questions raised in the Fixed Access Market Review (FAMR) Call for Inputs (CFI) are covered in Section 1 of this document. ✂ We look forward to contributing further ideas and evidence to help Ofcom formulate its proposals to be set out in the formal consultation process due in 2013.

---

8 For example prescriptive product functionality, pricing regulation and *ex ante* margin squeeze regulation.

9 According to an Ofcom survey, about one half of UK households have purchased their fixed voice access as part of a bundle with at least one other service, predominantly in a bundle with a broadband connection, but increasingly also in a bundle together with a TV connection (Ofcom Communications Market Report 2012).

1. Responses to Ofcom's Questions

Market definition and market power assessment

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.

Since the last WLA market review, there have been significant technological advances, shifting end-user demands and blurring of boundaries between different products and their regulatory remedies, as evidenced by Ofcom's decision to combine WLA, WLR and IDSN reviews into a single FAMR process. We draw attention to some of these trends below which relate to NGA, and further discussion of MPF and WLR is provided in answer to Question 2.2. While we do not see a strong case to fundamentally redefine existing WLA market definitions at this stage we do expect the FAMR to consider these aspects in full.

By far the most significant change in the Fixed Access market place is the large scale and ongoing commercial investment by BT and others in NGA infrastructure and SFBB services. Added to this the UK Government has an ambition for the whole country to have the best SFBB network in the EU by 2015. BT's original commitment to invest £2.5 billion to cover two-thirds of the UK by 2015 has played a major part in achieving this goal, with over 13 million homes now able to access SFBB using the Openreach network alone. In addition, Openreach has recently connected its millionth fibre customer and has accelerated the commercial roll out programme to complete one year early by 2014. Taking public funding opportunities into account the next control period could see coverage reaching over 90% of the UK.

In our view Ofcom's last WLA review helped create the conditions required to support our investment. It is important that this latest review sustains that success and continues to provide the consistency of approach required in the regulatory framework, over multiple review periods, to enable investors in large scale long payback infrastructure projects a fair chance to earn a fair return.

Ofcom also noted in its 2010 statement that '*competition in the provision of SFBB services remains in its infancy*'. However that situation is now changing and two years on we have not only witnessed strong growth in the take-up of fibre, albeit still on a comparatively small absolute level, but we now expect a significant ramp-up in volumes by other major CPs[10]. Recent growth in volumes has been very strong but more significantly TalkTalk Group (TTG), Sky and Everything Everywhere (EE) are now actively marketing retail fibre services based on the Openreach Generic Ethernet Access (GEA) input[11].

At this stage we do not see these developments in SFBB fundamentally altering existing market definitions and/or SMP assessments for fixed access markets. However, the recent developments and launch of 4G services signals a major increase in broadband capabilities in the mobile market[12].

---

[10] Further details are given in the response to Question 4.3.

[11] In relation to Sky, see: http://www.sky.com/shop/broadband-talk/fibre-optic/ ; in relation to TTG, see https://sales.talktalk.co.uk/product/fibre ; in relation to EE, see https://explore.ee.co.uk/our-company/newsroom/ee-launches-superfast-4g-and-fibre-for-uk-consumers-and-businesses-today.

[12] EE has recently launched a marketing campaign focussed around '*Get superfast 4GEE and fibre broadband with EE*', relying on the fact that they are currently the only provider able to bundle these products together.

Mobile players are also able to use leverage of new technologies such as 4G to attract customers to bundled mobile/fixed offers when fixed players cannot.

With the introduction of 4G there may also be further moves away from broadband to 'mobile only' households. In Ofcom's Communications Market Report 2012, it was stated '*The proportion of 16-24s who live in homes where mobile is the sole form of telephony is more than double the UK average*.' This increasing trend and the economic climate may see households relying solely on their smart phones and tablets working across 3G and 4G networks, therefore increasing the competitive position of mobile with regard to the WLA market. It is essential that the possible substitutional effects of such services are researched and understood as part of this market review.

The presence and competiveness of Virgin Media in major areas of the UK and particularly its strength in SFBB markets is also a very important factor to consider in the FAMR. There is a *prima facie* case to look into both the potential existence of sub-national geographic markets where Virgin Media is present and hence significantly alters local competitive conditions, as well as to understand the competitive effects of its relative strength in the SFBB portion of the wider broadband market[13]. BT is severely constrained at both the Openreach layer and retail layer by the vertically integrated presence of Virgin Media, in addition to the full and extensive range of regulated copper products used by LLU and WLR based CPs.

When considering the issues of potential sub-national geographic markets Ofcom must also look at its policy with respect to new build sites and the resulting impact on end-user choice. In such sites infrastructure may be provided by a CP other than Openreach and this could justify defining a sub-national (i.e. local) market with a subsequent finding of SMP for the CP in question and/or removal of regulatory obligations applying to BT.

We also note the growing competition based on triple play bundles of voice, broadband and content[14]. We consider it very important that Ofcom fully consider the regulatory implications of this trend in this market review. In particular, we believe all products contained in a bundle should be subject to a consistent regulatory approach to ensure a level playing field.

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

We do not see a strong case to fundamentally redefine existing WFAEL market definitions at this point, but BT does consider that the market conditions specific to analogue exchange lines have changed significantly since the last WFAEL review in 2010. The absolute volumes and relative proportions of MPF and WLR lines used to serve end-users have shifted dramatically. Using Ofcom's data published in its final LLU and WLR charge control statement in March 2012[15] MPF lines are now anticipated to move from being just under one in ten lines in 2009/10 to a forecast of just under one in

[13] Virgin Media is already part way through its "doubling of broadband speeds" programme which will see large numbers of its customers upgraded to SFFB levels in 2013. See: http://mediacentre.virginmedia.com/Stories/Virgin-Media-s-speed-doubling-starts-2380.aspx

[14] According to an Ofcom survey, about one half of UK households have purchased their fixed voice access as part of a bundle with at least one other service, predominantly in a bundle with a broadband connection, but increasingly also in a bundle together with a TV connection (Ofcom Communications Market Report 2012).

[15] http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf Annex 2 Figure A2.1.

three in 2013/14. This demonstrates a rapidly evolving wholesale market and one where the competitive effect of MPF has become highly significant in its own right and acts as a powerful constraint on WLR pricing. Competition between services based on fully unbundled lines (MPF) and shared unbundling (WLR/SMPF) has now reached maturity and any previous regulatory measures designed to support MPF market entry should now be removed.

In addition to the impact of MPF, there are a number of other factors continuing to drive changes in the market and acting to reduce the power of BT in the WFAEL market:

- The increasing number of mobile-only households (now 15% overall of households and 33% amongst the 16-24 year old age group[16]) plus the potential impact of the launch of 4G services on the market power of the mobile sector;
- As in the WLA market, the very strong vertically integrated presence of Virgin Media in many sub-national segments of the UK market (plus the presence of Virgin Media and other third parties who own infrastructure on individual new build sites). Virgin Media also has the ability to offer bundled voice, SFBB and TV services without any wholesale obligations;
- The deployment of NGA technologies[17], and the potential future impacts on demand for current generation voice and data products.

Going forward, these factors will increasingly impact the demand for WLR Analogue services and should be fully assessed in any forward looking view of market definitions and SMP assessments.

Additionally in the Ofcom Communications Market Report 2012 Ofcom's research suggests that the proportion of adults currently using VoIP (Voice over IP) services increased from 16% to 22% between Q1 2010 and Q1 2012, and clearly VoIP is therefore becoming a more significant competitive constraint in the market. Developments such as this and "over the top" voice particularly using SFBB type access are again very likely to diminish the importance of the WLR analogue regulatory remedy in a forward looking analysis.

Question 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.

The trends apparent at the time of the last review and the setting of the charge control have continued. ISDN30 is a service which is under strong competitive pressure from new substitute services, most notably IP based technologies such as SIP Trunking[18], but also other technologies such as Hosted VoIP and Centrex. Since the last market review all indications are that the decline in the product is continuing and is likely to accelerate[19]. However, in our view the imposition of a charge control has almost certainly resulted in an extension of the product life and a slowing of the natural process of technology migration. In the FAMR Ofcom now has the opportunity to reassess the state

16 http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/CMR_UK_2012.pdf

17 At this stage we do not anticipate Fibre to the Premises (FTTP) playing a significant part in changing the WFAEL market during the next market review period. Openreach's development of Fibre Voice Access (FVA) is progressing well and the early market deployment launch of FVA for FTTP services in Bradwell Abbey and Highams Park has taken place with BT Retail in 2012 – however total FTTP volumes in the UK are expected to remain very low during the next market review period.

18 SIP Trunking enables enterprises to utilise a single internet or data connection for making and receiving multiple concurrent telephone calls.

19 Volume data has been requested separately in Ofcom's Section 135 Notice of 26 November 2012.

of the market and looking forward from 2014 it is very difficult to see how an assessment of market definition and market power for ISDN30 can be fully understood in isolation from its IP substitutes.

Both the wholesale and retail markets are now highly competitive. At the wholesale level there has been considerable activity, and most notably CWW and Virgin Media now have substantial wholesale ISDN30 businesses. CPs are able to offer retail and wholesale services based on purchasing other regulated access elements from Openreach (such as leased lines) and hence this provides greater scope for market entry at far lower risk than if self-build were the only option. Additionally TTG recently announced its launch plans for their product offering stating:

> '*A new fibre broadband alternative to BT and an SLA-backed managed ISDN 30 proposition that offers resellers between 20-30 per cent margin on their existing estate will both prove tempting to resellers, creating greater choice and competition in the market*.'[20]

The market has seen more aggressive competition with CPs strongly promoting a switch from ISDN30 to IP Voice services as a way to reduce costs without compromising quality. There is highly aggressive targeting of ISDN30 end customers supporting increased switching from ISDN30 to IP alternatives and this should be reflected in market shares over the short to medium term. For example TTG have recently stated:

> '*Over the coming year, Service Providers with IP networks that afford national reach and scale will be displacing ISDN30 at an accelerating rate. For example, the TalkTalk Network switches 2.85B minutes per month using its SONUS-based IP network and this will continue to grow as more UK businesses make the flip to SIP*.'[21]

In addition, BT itself has reacted to increased demand for IP alternatives and the targeting of ISDN30 customers by developing and launching scale SIP offerings and placing increased focus on marketing these offerings to existing ISDN30 end customers.

Since the last review, demand for ISDN30 channels has continued to decline and we expect the rate of decline to increase. As voice services are a critical business service, companies moving to IP alternatives typically adopt a 'testing the water' approach before a full implementation. We believe there are a large, and growing, number of customers considering their options in this way. Customers tend to be reluctant to initially terminate all of their ISDN30 services, but once they are able to gain confidence that IP voice services are technically a good alternative for their business and offer financial savings then a sharper decline in ISDN30 volumes and rapid growth in substitute volumes would be expected. Independent analysis by Illume Consulting indicates a substantial growth from 331k SIP trunks at June 2011 to 570k at June 2012, an increase of circa 72%[22]. This is a trend which has been established for some time now and it is forecast to continue strongly into the next control period[23].

Given the dynamic nature of this market, the pressure from substitute products, and the vigorous competition at both retail and wholesale layers we believe the FAMR should fully review both market

[20] http://www.comms-dealer.com/industry-news/comms-vision-news-talktalk-business-creates-isdn-30-replacement-market

[21] http://blog.talktalkbusiness.co.uk/partner/index.php/2012/11/13/enterprises-heading-the-race-to-sip-trunking/#more-155

[22] See http://matttownend.wordpress.com/tag/sip-trunking/ for analysis in the public domain.

[23] In light of third party confidentiality issues, BT intends to provide further data to support this trend in due course.

definition and market power designations for ISDN30, drawing on appropriate up to date market research and customer intelligence to fully understand the market drivers going forward. In our view it is now the right time for Ofcom to reconsider its approach of assessing the ISDN30 market on a stand-alone basis.

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

ISDN2 volumes have continued to decline steadily as alternatives including SIP Trunking, broadband and NGA services, along with further broadband penetration provide opportunities for substitution. Broadband has completely superseded ISDN2 in the residential segment and, where internet access is the primary requirement, broadband has replaced ISDN2 in the business segment.[24]

This is a service in terminal decline and we do not believe there are any significant barriers to customers switching to better alternatives. On this basis we see no justification for continuing with the finding of SMP at the retail level, nor for any upstream regulatory remedies.

Question 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.

We have no specific comments on matters relating to fixed access connectivity in the Hull area, but believe Ofcom should take a consistent regulatory approach across all geographic areas.

<u>Remedies: introduction</u>

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

We have specific concerns, set out below, regarding cost orientation SMP conditions and further details are also given in response to the product-specific questions. We also believe the Undertakings still have a very important role to play in the regulation of this market and must not be overlooked in this review. They still provide powerful incentives for Openreach to serve CPs and offer very strong protection in terms of non-discrimination and information sharing. These safeguards are generally not implemented in the same way in other European markets and Ofcom must keep the benefits and flexibility gained from the Undertakings in focus when determining whether further intervention such as *ex ante* margin squeeze regulation is required.

Until now, separate cost orientation remedies have been imposed in many of the Fixed Access SMP markets being assessed in this review by the “Basis of Charges” remedy[25]. BT has a number of specific legal and economic concerns with the approach Ofcom has taken to assessing historic compliance which will not be repeated here, but as a point of principle we believe a simpler overall approach to the regulation of pricing is required. Each SMP remedy imposed following a market

[24] Fixed Narrowband Retail Services Market Review, Ofcom, September 2009.

[25] Recent regulatory activity to enforce this specific remedy has been driven by the requirement to resolve a number of historic disputes relating to certain wholesale services provided in regulated BCMR markets.

review has to be justified by reference to specific concerns with potential behaviour identified in that review. We are concerned that in previous market reviews the cost orientation remedy has been imposed in many cases almost by default, once SMP is found, as something of a general "catch-all" remedy and believe that a more considered approach would justify its removal.

In particular, it is clear to us that the imposition of a separate cost orientation remedy alongside charge controls has resulted in overly complex and unnecessarily intrusive regulation and legal challenge that creates uncertainty for all stakeholders with no clearly identified net benefits. In other market reviews[26] Ofcom has set out proposals removing cost orientation remedies alongside charge controls, reasoning that where concerns with the ability to set excessive prices have been identified, these can be sufficiently addressed by the design of the charge control basket and sub-caps, and by the continued publication of certain financial reporting data[27]. BT fully supports this as an approach for the Fixed Access markets. It is also in line with Ofcom policy to always seek to impose the lightest touch constraints required to address the identified concerns. The addition of a cost orientation condition actually creates a situation of "double jeopardy" where no party can be certain that compliance has been fully and properly assessed.

Furthermore, Ofcom should recognise that for many products sold into the defined SMP markets, specific price regulation is not necessarily required. In fast changing and evolving markets, either for new and growing products or for services nearing the end of the product life cycle, and where new product substitution is of key importance, cost orientation remedies, particularly when assessed by rigid reference to annually reported distributed long run incremental cost (DLRIC) and distributed stand-alone cost (DSAC) floor and ceiling cost data, can be a heavy burden and can actually result in dis-benefits to end-users and CPs. This is either because prices are required to be set at inappropriately high levels during early stages of the product life-cycle preventing the stimulation of growth; or set at too low levels to allow efficient migration to new and innovative substitute products at the end of a product life-cycle. The decision to not impose cost orientation remedies on Virtual Unbundled Local Access (VULA) products remains correct for this reason and as set out below, we also believe it is not necessary to impose such a remedy in respect of either ISDN30 (as at present) or ISDN2.

For these reasons we believe this review should in general result in the removal of cost orientation remedies across the defined Fixed Access markets where they are not required. This is to both avoid the current situation where cost orientation remedies have been imposed alongside other remedies such as charge controls which already sufficiently constrain the level of prices, and also to take full account of the realities of markets where significant commercial constraints on product pricing are already present, particularly for products in the early stage of their life and in long term decline.

Such an approach will ensure the regulatory principles of only imposing proportionate and necessary regulatory burdens are met, as well as providing the maximum certainty and predictability for BT and other stakeholders.

[26] Such as the Business Connectivity Market Review (BCMR).
[27] http://stakeholders.ofcom.org.uk/consultations/bcmr-reconsultation/summary.

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

Long notice periods are bad for competition and bad for consumers. There could be benefits in allowing more flexibility around notification for all parties. Changes could be implemented via shorter notice periods being set in the general remedies for both new and existing services (or via a simplified process if one can be identified) to offer greater speed and flexibility to change notice periods.

In our view the FAMR process should look again at these issues and consider possible options as we believe the existing default position is now unnecessary. Such options could include, for example, reduced notice periods in the rapidly growing and evolving SFBB market (applied via the VULA remedy), or perhaps a shorter standard notice period (e.g. 60 days) on services where 90 days is currently the default – with the longer fall-back period only applying in the case of a reasoned CP or stakeholder objection. We think this could reduce administration costs and make Openreach better able to respond to CPs' requirements whilst still having the appropriate safeguards built into the system.

Remedies: Wholesale local access

Question 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.

BT believes the current remedies have worked well. They have both promoted significant investment in NGA as well as a vibrant and competitive market place in analogue/digital voice and CGA broadband. Indeed Ofcom's recent Infrastructure Report highlights the very positive outcomes over the period, citing approximately one in ten broadband connections across the UK now being "superfast", and average broadband speeds rising rapidly to 12.7Mbit/s, an increase of 69% from the 7.5Mbit/s recorded in 2011.

As Ofcom anticipated, VULA is the most economic and efficient method of generating competition in the NGA market. It is still relatively early in the NGA product life-cycle but we are now seeing major investment by CPs in the use of VULA to support their own SFBB services and to connect multiple internet devices in the home to support bundled offerings. We also include further information in answer to Question 4.3 to evidence how CP volumes have been increasing in recent months, and how CPs are now moving to a new level of marketing their new SFBB services to compete with both Virgin Media and BT Retail. We have also seen some major developments in relation to Openreach's GEA products and these are covered in more detail in Questions 4.3 to 4.9 below.

In addition to the developments in fibre, competition based on copper lines has also continued to develop rapidly since 2010. MPF lines now stand at circa 6.1 million lines[28] up from circa 3 million lines at the start of 2010/11[29]. This is a further clear indication of the highly competitive nature of the UK market, and fully unbundled exchange lines are now becoming comparable to WLR line numbers for the first time. Given these circumstances, the review should ensure a level playing field exists between LLU and WLR products, as competition between services based on fully unbundled lines

[28] BT's Quarterly Results - 30 September 2012.
[29] BT's Quarterly Results - 31 March 2010.

(MPF) and shared unbundling (WLR/SMPF) has now reached maturity and any previous incentives to support MPF market entry should now be removed.

PIA was formally offered as a product by Openreach in November 2011. After initial trials, with CP involvement, interest has now waned in the product. The reality is that the availability of PIA in itself does not radically transform business cases for less populated rural areas. Infrastructure business cases for rural areas are challenging for all operators including Openreach. BT is not seeking removal of this obligation as part of the FAMR as we understand it may yet play a part in future CP deployments, but in our view the economics will remain challenging.

SLU is a product which has now been offered since 2001 but is still purchased in low volumes. Our view, along with many other stakeholders (and supported by research carried out for Ofcom) is that business cases for SLU based projects can be made to work only in certain very specific circumstances and the economics for using it in larger infrastructure cases especially in less populated areas will again remain challenging[30].

Quality of Service is an area that requires special consideration across all products in this market and we cover this further in response to questions 10.1 to 10.4 below.

Question 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.

We do not expect a major change in LLU regulation to result from this review, but we do believe it is the right time to look again at the appropriateness of regulating beyond the core LLU products. Further flexibility of pricing on ancillary services and removal of cost orientation conditions will increase the ability of Openreach to innovate and make products more responsive to CPs' needs. Additionally in the charge control greater flexibility in basket structures, including broader baskets, would now seem appropriate given that LLU products are now mature and highly competitive in the market. This market maturity also means that Ofcom should remove the remaining regulatory measures designed to provide market entry assistance for MPF.

Question 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.

The last market review correctly anticipated the importance of VULA[31] in promoting large scale investment in NGA infrastructure and the take-up of SFBB. The virtual unbundling approach enables CPs to enter the market by sharing the cost benefit of access to an efficient and equivalent NGA network. Without such a pragmatic regulatory approach it is very unlikely that we would have seen the significant changes in the market which have taken place over the last review period; the massively increased NGA coverage and SFBB performance based on the Openreach GEA product being strong evidence of the success of the approach.

---

30 The experience of publically funded projects such as the South Yorkshire Digital Region (SYDR) is a practical example of such difficulties.

31 The VULA remedy was implemented by Openreach by virtue of its pre-existing GEA product.

Since the last market review we now have over eighty CPs in total using GEA as an input to their SFBB services, with eleven purchasing directly from Openreach[32] and others buying through BT Wholesale. Most importantly we now have clear evidence of the success of the product for large external CPs. Major players such as TTG, Sky and EE are now actively marketing SFBB services[33] using VULA as an input and recent monthly order volumes have shown significant growth. In the most recent three months from September to November 2012, external CP volumes have grown ✂[34] ✂

We anticipate significant take-up of GEA by CPs over the period of the next market review and that significant changes will occur in the market. It will be important for Ofcom to monitor such market developments closely and not be drawn into policy decisions based on the current market scenario. VULA has played a significant part in stimulating this growth, and the take-up and roll-out of SFBB. Since the last market review the GEA product has seen major developments and we set these out in response to Question 4.5.

Importantly, and again as anticipated in the last market review, copper-based broadband and Virgin Media will continue to exert massive competitive pressure on SFBB products. They continue to constrain the prices of SFBB services in the retail market and VULA based services at the wholesale layer.

Additionally major changes have now taken place in the mobile broadband sphere, with the recent launch of 4G based services by EE and the anticipated launches by other major players in the near future. These and other market developments will accelerate over the next control period and it is essential that the VULA remedy does not become inflexible and over-prescriptive and prevent evolution of the SFBB portfolio which will need to compete in this rapidly changing market.

We firmly believe that the positive outcomes outlined above demonstrate that no fundamental changes are required to the way that Ofcom regulates VULA. More intrusive intervention is likely to make the product less responsive to end-user and CP needs as the evolution of SFBB services is still very much underway, for example through the use of vectoring and other DSL acceleration technologies. Prescriptive product specifications would need to anticipate such developments and history shows that regulators are not good at picking winners. The high level VULA approach does not need to do this, rather it helps support product evolution. In addition, a full understanding of the product developments that might be required to meet the needs of publicly funded deployment in the “final third” is still in its very early days and again a flexible rather than rigid regulatory approach to VULA pricing and specification can only be beneficial at this stage.

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

The next three to four year period is extremely important to the development of the broadband market (both mobile and copper) and SFBB’s place in it. BT’s business case for investing in NGA infrastructure is very long term and requires substantial take-up across the industry. This means Openreach is already fully incentivised to increase CP take-up of GEA over the next period and to

[32] This includes GEA purchased by downstream BT.

[33] In relation to Sky, see: http://www.sky.com/shop/broadband-talk/fibre-optic/ ; in relation to TTG, see https://sales.talktalk.co.uk/product/fibre ; in relation to EE, see https://explore.ee.co.uk/our-company/newsroom/ee-launches-superfast-4g-and-fibre-for-uk-consumers-and-businesses-today.

[34] ✂

meet CP and end-user needs. This is evidenced by the fact that Openreach has introduced many pricing and other initiatives to encourage widespread CP take-up[35].

The commercial pressure of CPs competing for a share of the SFBB market against BT and Virgin Media can be expected to drive up the demand for GEA-based products rapidly through the next control period. We now anticipate large scale deployments by major CPs during 2013 as well as many smaller players. This will drive the required level of competition to ensure that the market develops in line with Ofcom's policy position. Significant changes will occur in the market in 2013 and it will be important for Ofcom to monitor such market developments closely and not be drawn into policy decisions based on the current market scenario.

It would be premature for Ofcom to introduce new layers of regulation on NGA products. As it stands, SFBB is still nascent, and it is currently competing against copper variants which have a full set of access remedies attached to them. This already provides an effective constraint on BT's NGA related pricing.

We also think it is important for Ofcom to monitor and understand the evolution of services in the 4G market and assess how they compete with and substitute for the take-up of VULA based services.

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

Ofcom's choice of the term Virtual Unbundled Local Access underlines the fact that the active remedy is the fibre equivalent of LLU in terms of the economics of reach and handover and the scope for downstream innovation and differentiation. Moreover, as Ofcom's analysis in the last market review indicated, the VULA product was expected to evolve over time enabled by new technologies and demands (e.g. "wires-only" and Fibre Voice Access) and hence the setting of high-level characteristics, which allow innovation, rather than a restrictive product specification was the right approach. Using "characteristics" assisted in this evolution in that they permitted sufficient flexibility in product design whilst guiding the appropriate minimum features and the direction of product change.

Given that the SFBB market is still nascent there are strong possibilities that the GEA product may yet need to change further over the next review period. As stated above in Question 4.3, it is clear that detailed product specifications at this early stage could easily impede such change and not be able to correctly anticipate and support the next technological steps (e.g. vectoring, DSL acceleration technologies).

Openreach develops GEA in an open and consultative way with its customers through the use of the Statement of Requirements (SoR) process, the NGA Industry Working Group, the NGA In-life monthly audios, plus various specific product, systems and technical workshops. Examples of collaborative developments over the current market review period have included:

- The introduction of the 80/20Mbit/s FTTC product - implementation of a new Access Network Frequency Plan (ANFP) which has enabled a dramatic increase in GEA performance;
- Fibre Voice Access (FVA) – a voice connectivity solution for FTTP deployments;

[35] For example the exchange enablement programme, free connection offers, and the volume discount scheme for 80/20Mbit/s services. Details of Openreach initiatives are available via www.openreach.co.uk.

- Multicasting - the ability to convey multiple and duplicated traffic streams through the GEA access network in an economic and efficient way;
- Trialling of a Self-Install variant during 2012 with plans for a large scale trial in 2013;
- Development of standards to allow Customer Premises Equipment (CPE) enablement, also known as “wires only” which will allow CPs to use their own modem/set-top boxes to connect to the Openreach GEA service;
- FTTP on Demand (FoD), a new service which is currently in the pilot phase which will enable FTTP based GEA services to be ordered in FTTC areas;
- A whole range of new FTTP speed variants including the 330/30Mbit/s product available in FTTP areas as well as for FoD.

With regard to the use of VULA based products for business services we are confident that the wide variety of options offered by the current GEA portfolio will meet the growing demands of business and residential customers alike. In particular the higher bandwidths delivered by 80/20 FTTC, FTTP and FoD products, coupled with the wide range of services and high speed performance are characteristics that we feel are highly suitable for meeting the broadband, data and voice needs of the business market[36]. CPs can of course raise additional requirements through the existing industry fora and SoR process.

Openreach’s view is that its GEA product is already well matched with the VULA characteristics, but in addition to that Openreach remains committed to continuing to work with its customers on future requirements; on a transparent development process; and publication of future product roadmaps to bring about changes they are seeking.

Question 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.

Ofcom’s approach to the pricing of VULA remains appropriate and no changes are required. BT provides NGA wholesale products on an EoI basis and there should be no pricing regulation until BT has achieved pay back on its highly risky investments. Openreach’s GEA product is competing in a very competitive broadband market against both CGA broadband products (built on tightly price regulated copper products) and SFBB products provided by Virgin Media and others. The reality is that products based on NGA infrastructure are still in the early stages of their life-cycle, and by its very nature the investment case is very long term with highly uncertain demand. Hence product pricing needs 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.

Ofcom’s current approach gives that flexibility in setting charges, whilst imposing a “fair and reasonable” condition via FAA11.2. A strict ‘cost-based’ approach using LRIC for example, would prove highly inflexible and would be likely to restrict investment incentives at this still early stage of market development; potentially restricting demand given the uncertain levels of take-up and the need to compete for new customers in a fast evolving market. Such an approach could also result in an increase in the charge for the wholesale product if an insufficiently long term view was applied to price regulation. We agree with the conclusion reached in Ofcom’s last review, that competitive pressures from CGA services exert a significant market constraint on the pricing of GEA products. For these

36 CPs are already using the products, for example Talk Talk Business (part of TTG) are currently marketing GEA products to serve business customers ✂

reasons, BT considers that it would be disproportionate at this stage to impose price regulation on GEA.

The existence of the current EoI obligation is also very important in the context of VULA pricing. This is the strongest form of non-discrimination regulation that can be applied to BT products at the wholesale layer and ensures that Openreach's strong incentive to generate new volumes is equally shared between all downstream players entering the SFBB market. In addition the history of Openreach price initiatives demonstrates a clear incentive to drive take-up on a CP agnostic basis[37] and competitive constraints present in the retail market from market prices for existing copper products, cable and mobile act to constrain wholesale price levels for VULA benefitting all CPs.

The presence and competiveness of Virgin Media in major areas of the UK and particularly its strength in SFBB markets is a very important factor to consider as part of any pricing debate in the FAMR. There is a *prima facie* case to look into both the potential existence of sub-national geographic markets where Virgin Media is present and hence significantly alters local competitive conditions; and also to understand the competitive effects of their relative strength in the SFBB portion of the wider broadband market[38]. BT is severely constrained in its pricing at both the Openreach layer and retail layer by the vertically integrated presence of Virgin Media, in addition to the full and extensive range of regulated copper products used by LLU and WLR based CPs. This strongly supports the presumption that the starting point for this review is that BT's fibre products do not require pricing regulation.

Additionally we are now seeing the emergence of new mobile broadband technologies such as 4G, and these signal a major increase in broadband capabilities in the mobile market. EE has recently launched a marketing campaign centralising around "*Get superfast 4GEE and fibre broadband with EE"* relying on the fact that it is currently the only provider able to bundle these products together. Mobile players are also able to use leverage of new technologies such as 4G to attract customers to bundled mobile/fixed offers when fixed players cannot.

It is important to recognise that explicit price regulation of fibre would be a major step change at this time. It would in effect be setting a regulated margin between fibre and copper based services when so many factors are currently highly uncertain and unknown. In particular, and as mentioned in response to earlier questions, this would be at a time when it is expected that mass consumption of GEA will take place by large and small CPs alike in the next year, and product evolution (both technically and commercially) is still on-going. Price regulation of fibre would reduce the existing flexibility that supported the launch in 2012, with special offer, of the 80/20Mbit/s product, and would constrain pricing developments for new product options such as self-install and CPE enablement.

Please also see our response to Questions 4.3 and 4.4.

---

37 For example the exchange enablement programme, free connection offers, and the volume discount scheme for 80/20Mbit/s services. Details of Openreach initiatives are available via www.openreach.co.uk.

38 Virgin Media is already part way through their "doubling of broadband speeds" programme which will see large numbers of its customers upgraded to SFFB levels in 2013. http://mediacentre.virginmedia.com/Stories/Virgin-Media-s-speed-doubling-starts-2380.aspx

Question 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.

As indicated in response to Question 4.6 above, Ofcom's approach to VULA pricing regulation should be maintained at this time. Openreach still requires continued flexibility in all GEA pricing in order to have a fair chance of meeting market price expectations and hence of earning a return on its long term and uncertain investment case.

The Openreach GEA products do not exist in a vacuum; they have to compete with cable[39], LLU and mobile broadband services and are still a discretionary purchase by CPs and end-users alike. Openreach prices its products and ancillary services in line with its stated goal of generating take-up on the NGA infrastructure, as would be expected at this time of market development, and across all CPs on an equivalent basis. It is important to us that all products are acceptable to the market. Hence we are committed to reviewing prices on an on-going basis with CPs as take-up grows and we learn more about costs and demand going forward.

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.

In the last market review Ofcom set out its expectations of how it would investigate margin squeeze in relation to the VULA remedy, and also its expectation that charges raised by Openreach should be "fair and reasonable".

BT believes that no further or more intrusive remedies are required. Both the retail and wholesale prices of VULA and downstream products are constrained at this point by the ability of CPs to purchase current broadband services from BT on regulated terms and by the services offered by Virgin Media over its cable network. BT is not planning to switch off its copper network for the foreseeable future. The constraints from current broadband regulation will be maintained until at least that point. Furthermore, Openreach's pricing is dictated by the need to generate volume on the NGA network, and it is making NGA services available to all downstream CPs on a strict EoI basis. We also note that BT is subject to competition law and that Ofcom could use its enforcement powers to assess and enforce concerns about margin squeeze.

Any more intrusive remedies might in fact risk distorting the development of NGA services and competition in the market. 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. As Ofcom set out in its last review, the flexibility by Openreach to set GEA prices can promote investment by BT as it enables it to trial different pricing arrangements in the early uncertain period of NGA development[40]. For example, at this early stage there would be high uncertainty associated with determining the "right" level of margin at any particular point in time, and regulation that could mandate margins that are above or below a competitive level would carry a high risk of distorting the market to the consumer's detriment.

[39] As indicated under Question 4.6, Virgin Media currently hold a very strong position in this market segment.
[40] Ofcom's 2010 WLA statement, paragraph 8.127.

Ofcom considers that in some cases, relying solely on *ex post* competition law may be insufficient to ensure that the purpose of the VULA SMP remedy (i.e. to promote the development of a competitive market) is not undermined by BT adopting a particular approach to implementing that SMP remedy. Ofcom's guidance on this area in the last WLA statement suggested broad alignment with the approach taken under competition law, albeit Ofcom would adopt the costs of a reasonably efficient operator and a LRIC-based cost model.

We note the EU recently outlined its proposed approach to *ex ante* margin squeeze in its draft recommendation on consistent non-discrimination obligations and costing methodologies[41]. In this recommendation it proposes the use of an equally efficient operator as the appropriate cost standard, which we believe would be more appropriate, in particular in the UK context where other broadband providers have achieved similar scale as BT. Furthermore, it acknowledges that the relevant focus of any assessment should include bundles where NGA services are offered as part of the bundle. BT believes this is the correct approach, and we would propose these two changes should be incorporated into Ofcom's previous guidance on *ex ante* margin squeeze.

There are, however, other elements of the EU's draft proposals that in our view carry the risk of overly intrusive regulation, and are mentioned here for completeness. For example, the draft proposals suggest that an NRA should conduct an *ex ante* test for relevant "flagship" products and no later than three months after launch either on its own initiative or on request from third parties. We believe that Ofcom's current approach, to investigate margin squeeze allegations in response to complaints from third parties is sufficient and proportionate to the low risk of such behaviour. Furthermore, we would query the necessity to carry out the test for individual service variants offered to customers. We believe that economic replicability needs to be tested across a wider portfolio of services, to ensure that the remedy promotes effective, efficient and sustainable competition.

In summary we believe the current approach by Ofcom offers broadly the right balance of control and flexibility and there is no reason to suppose it will not be effective through the next market review period.

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

Please also see our answer to Question 4.8 above.

In summary, we see no problem in relation to the VULA remedy that would require margin squeeze safeguards as a further specific *ex ante* remedy. We do not agree that expansion of non-BT retailers should be a specific goal. Not only would it contradict Ofcom's general approach that market mechanisms should be allowed to function and generate efficient and sustainable competition, but as stated previously the evidence shows that it has already generated take-up of VULA products by over eighty CPs, either directly or indirectly from Openreach. We also believe as set out in our response to Question 4.8 that the appropriate cost standard in the UK market context should be an equally efficient operator rather than a reasonably efficient operator. Furthermore, the retail market already has vibrant competition. BT has no SMP for broadband services (copper or NGA) at the retail level

[41] http://ec.europa.eu/digital-agenda/en/news/commission-seeks-berec-opinion-draft-recommendation-consistent-non-discrimination-obligations

and hence there is no justification for intervention by Ofcom to pursue a specific (lower) BT market share at the retail level.

As with any remedy, margin squeeze regulation would have to be targeted to address the real or likely market failure identified by Ofcom. At this stage we cannot see evidence of such a market failure in the lack of non-BT retailers. As discussed above it is still very early in the life-cycle of fibre products. Different retailers have adopted their own approaches to and timescales for entry into the fibre market as dictated by their strategies, for example for bundling of broadband and TV services. This is not a market failure, but proves the point that this is a vibrant and differentiated market place where different players adopt differential strategies to reach consumers with varying needs. Adopting a policy of promoting expansion of other retailers would penalise BT when other companies are simply adopting different and legitimate strategies on fibre and/or their copper investment. This is to be expected at a stage in the product life cycle when there is still significant commercial and technical development taking place. However, the current and increasing levels of take-up, both in absolute terms and across CPs now add strong weight to the view that this is a rapidly developing competitive market.

We agree with measures to promote fair competition, and we see the current arrangements and competition law as meeting that need. It is important to balance long term consumer benefits of affordable fibre broadband with the need to promote fair competition across downstream CPs willing to invest in these new services. The long term nature of the business case for NGA services needs take-up to succeed on both wholesale and retail levels, and any impediments to growing volumes, in particular at these early stages in the lifecycle, increase the risks of investment and affect the ability to respond flexibly to market demands and changes.

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

Openreach worked pro-actively with Ofcom, the OTA and CPs to formally introduce PIA in November 2011, following significant negotiation and development over an eighteen month period from mid-2010. After initial trials, interest has now waned in the product. The reality is that the availability of PIA in itself does not radically transform business cases for less populated rural areas. Infrastructure business cases are challenging for all operators including Openreach.

BT is not specifically seeking removal of this obligation as part of the FAMR as we understand it may yet play a part in future CP deployments, but in our view it is appropriate that Ofcom should consider in the FAMR whether it remains appropriate as a national remedy for the whole of the UK market given its very limited take-up. The economics of deployment will remain extremely challenging and PIA adds an additional unsustainable layer of intervention in areas where BT or others are already investing heavily to build new infrastructure.

Question 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.

As stated above in response to Question 4.10, Openreach worked pro-actively with Ofcom, OTA and CPs for some eighteen months prior to formally introducing PIA in November 2011. Openreach then took active steps to progress an inclusive trial involving four CPs which ran until early 2012. The trial was useful in testing processes and identifying potential product development points, but none were so significant that they would have radically changed the case for widespread investment by CPs. After the initial trials, interest has now waned in the product. Any additional investment in the PIA product should only be made in line with clear and proven new demand and not ahead of such demand materialising.

We believe the current regulated product is fit for purpose, but of course remain open to discussing potential changes with customers, government and other stakeholders going forward, and will continue to hold regular industry meetings and briefings for those interested CPs. We would not support significant prescriptive changes to the product specification and pricing at this stage prior to any large scale demand for it. At the time of launch extensive benchmarking was carried out which showed the prices to be very favourable compared to European averages[42] (we believe this is still the case), and the derivation of the prices was fully explained to Ofcom. In addition, BT made a voluntary offer to substantially reduce prices for CPs bidding for BDUK funding, pending the outcome of the still on-going LLU/WLR charge control appeal. However, the reality is that the availability of PIA in itself does not radically transform business cases for less populated rural areas.

We note that this issue was also raised as part of Ofcom's recent Business Connectivity Market Review (BCMR) consultation and suggest that Ofcom takes into account the conclusions that it reaches on this issue via the BCMR process.

Question 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.

SLU is a product which has now been offered by BT since 2001 but take-up remains minimal. Our view, along with many other stakeholders is that business cases for SLU based projects can only be made to work in certain very specific circumstances, and the economics for using it in larger infrastructure cases especially in less populated areas will remain challenging[43]. Pricing has also been reviewed as part of a formal investigation by Ofcom since the last review, and hence we would not support significant changes in approach or price levels between the reviews.

One issue that Ofcom will need to take into account in relation to the long term future of SLU is the potential impact of new technological developments such as vectoring. These may yet influence the nature of VULA based products (via Openreach's FTTC programme), and there are known compatibility issues with SLU. Openreach has already notified its customers that it plans a small scale trial in 2013 in which it will test a number of technical and operational issues associated with vectoring in a live network. Future implementations of vectoring will be dependent on the outcome of the trial, and will need extensive planning and larger scale trials/pilots before firm plans for deployment can be put in place.

As part of the FAMR the question must be raised, as Ofcom have done in this call for inputs, whether the regulated product has a long term future. There is already precedent in other European countries for its withdrawal[44], and it is also important that Ofcom fully explore the potential benefits of

[42] The Ovum study carried out at the time quoted prices "up to 38% below the European average".

[43] The experience of publically funded projects such as the South Yorkshire Digital Region (SYDR) are a practical example of such difficulties.

[44] For example, most notably in Belgium.

technological changes such as vectoring to end-users and whether this in itself may necessitate changes or restrictions to SLU obligations.

Question 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.

We see no significant changes since the last review which dictate a change of policy for Ofcom on wavelength unbundling. It is still far too early in the technology life cycle and there is no clear path to wholesale productisation which would enable it to become a local access solution and to be considered as a viable remedy in the forthcoming review period.

Our internal reviews of the potential for wavelength unbundling have concluded that although there is ongoing interest by manufacturers and standards bodies in the evolution of the technology there is still no clear path or timeline as to how it could be deployed as an access remedy. Significant technological breakthroughs (most significantly low cost tuneable laser and filter technology) are still required to bring these new technologies to maturity and enable wavelength unbundling. In our view, even if these were overcome, then it would still not be technically viable to consider deploying systems until circa 2016 at the earliest. Additionally, early systems would be likely to be prohibitively expensive in advance of any mass deployment. Such deployments would need to be very large scale and supranational in nature, for example covering Europe or the Far East, to significantly lower unit costs. In addition to the basic costs of the technologies there are also likely to be further costs associated with the implementation of unbundling on those technologies (for example optimising systems for unbundling, and added extra capex and opex). In summary our view is that although there are many claimed benefits for wavelength unbundling, these are not currently realisable.

✂

✂ As stated above we view the optical access technologies which are potentially capable of being wavelength unbundled as still being in the early standardisation and research phase of their life cycle, and as such there is still no clear roadmap to wholesale productisation for the foreseeable future. There would still be major operational and fundamental technological hurdles to be addressed before such technologies could be implemented in a large scale deployment. We will however continue to monitor the technological developments and the standards for optical access technologies as we do with all communications technologies[45].

Looking beyond the next review period, wavelength unbundling (if viable at any point) would represent an additional intervention in the wholesale value chain and Ofcom would need to consider carefully how it relates to the VULA remedy. Multiple interventions could cause regulatory arbitrage and hence potentially undermine already very risky and long term investment in fibre.

As indicated in this response we expect FTTP roll-out to be very low volume for the next control period and hence the potential use of wavelength unbundling is further constrained by the available footprint as well as technological immaturity.

---

[45] We make further comments relating to emerging technologies under Question 4.12 for VDSL vectoring and under Question 4.15 on G.fast (a DSL acceleration technology).

Question 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.

There is already a full suite of access remedies in place to cover all aspects of the fixed access market covering analogue and digital voice (WLR, ISDN2 and ISDN 30), current generation broadband (MPF, SMPF), next generation broadband (VULA) and self-build (PIA and SLU). These are available nationally and are all are provided from the functionally separate Openreach organisation on an EoI basis with extensive additional safeguards in place such as strict information sharing rules.

This situation is unique amongst the major European markets and provides UK CPs with certainty of non-discrimination in product performance and pricing, whilst providing options at all levels of the value chain. In considering calls for any new access product remedies Ofcom needs to carefully weigh up their potential economic viability. For example the lack of demand for SLU and PIA (as anticipated in Ofcom's own cost modelling) shows that rhetoric can often overshadow market realities and result in a focus of resource and development spend away from primary wholesale access remedies. It is essential that Ofcom do not undermine the success of the Openreach model through adding further unsustainable access remedies.

Question 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.

New access technologies - As mentioned in various responses in this document the range of new technologies that might impact on current or future remedies required in the WLA market (or the wider FA market) are numerous: in relation to (i) ISDN services we have mentioned that SIP Trunking and CGA/NGA broadband are significant substitutes and constraints on market power and are already having a material impact; for (ii) fixed broadband, next generation mobile technologies such as 4G and other LTE type technologies are also strong candidates to stretch market definitions or at the very least to constrain market power in the next three to four years; and (iii) for FTTP based broadband deployments a possible next step could include the deployment of 10G PON (or XG PON) standards which would vastly increase the bandwidth and flexibility of FTTP PON infrastructures. However this would not be anticipated to have any market impact during the forthcoming review period particularly given low FTTP volumes.

G.fast - Another technology which is often referred to is G.fast (or Omega DSL) a type of DSL acceleration technology. This is likely to be capable of providing ultra-high broadband speeds on short copper loops (the standard targets 500Mbit/s at 100m). Clearly such technologies offer considerable technical potential to allow copper (in combination with an FTTC based solution) to compete with fibre at least over short distances. However we do not believe that this will impact imminently on remedies in the WLA market. The technology is currently still in the standardisation and product development phase ✂ As with all relevant technologies we will continue to monitor progress on technology, standards and product developments.

Copper/Fibre Transition - It is appropriate for Ofcom to consider whether the FAMR should focus on issues arising from a large scale transition of copper based access networks to a fully fibre based NGA network (often referred to as copper "switch-off"). However BT's view is that copper will have a major role in the access network for many years to come. ✂

✂ and of those buying SFBB services the vast majority will be using FTTC based services which rely on copper for the connection from street cabinet to end-user. Although we will continue to offer FTTP in selected sites and are developing options for customers to buy FoD in all FTTC activated areas from 2013, we believe the long term prospects for FTTC meeting end-user demands are very promising and scalable[46]. Recent technical advances are pushing the performance of copper based broadband to levels way above current requirements, and the parallel presence of products such as FoD offer very high end-users the option to upgrade without “copper switch-off” being a necessary condition. In our view, a complete cut-over from copper to fibre in the foreseeable future is probably not possible or indeed desirable. On this basis we do not believe that the FAMR needs to carry out a detailed analysis of copper cutover for the next review period.

BT has been involved in a small scale trial in Deddington, Oxfordshire which was chosen as the location for a fibre-only exchange (FoX) pilot. It is a small rural exchange serving approximately 1,400 lines. The project is exploring the opportunities and challenges of fully replacing copper based services with voice and broadband services running over an FTTP infrastructure. The new services are expected to be available to the residents and businesses in Deddington from 2013 onwards, enabling CPs the opportunity to build and test a suite of new fibre only products. Openreach has been liaising with industry since 2011 on the technical specifications, product developments, timescales and scope of the programme as it is keen for all CPs to gain experience and learn from the pilot. A series of open industry meetings (the Fibre Only Exchange Industry Group) has also been held to inform industry and discuss latest plans and issues arising from the project. The scope of the project is limited, and is not at this stage expected to result in selective withdrawal of products or removal of copper based services until there is sufficient choice of suitable voice and access fibre-based alternatives for CPs and end-users using the Openreach network in the area; and that is anticipated to be a minimum of eighteen months away. Depending on progress further additional pilot sites may be added to the programme but any changes will also be carried out in an open and transparent way with industry. Given this approach and timescales for the pilot we see no requirement for regulatory intervention at this stage.

Question 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

Please also see our response to Question 3.1. As a general point of principle we believe this review should not impose cost orientation remedies where they are not required and that this approach should also apply to the WLA market. This would mean the removal of cost orientation remedies which currently overlap with existing remedies, for example charge controls, and where market conditions are such that they already impose significant constraints on product pricing. In fast changing and evolving markets, whether for new and growing products or for services nearing the end of the product life cycle and where new product substitution is of key importance, cost orientation remedies can be a heavy burden. They can result in dis-benefits to end-users and CPs either because prices are set inappropriately high, preventing the stimulation of growth, or too low, discouraging efficient migration to new and innovative substitute products, for example at the end of a product life cycle.

[46] The recent change to the ANFP plan and the introduction of the 80/20Mbit/s product in 2012 is a tangible and recent example.

For the reasons set out above, we would support an approach which does not impose cost orientation remedies in general in the Fixed Access market where charge controls are in place. We also support the removal of cost orientation remedies where markets are in long term decline and/or where market forces already significantly constrain pricing. We also recognise that certain financial reporting requirements could remain in place to allow transparency of overall returns. Such an approach helps meet the regulatory principles of only imposing proportionate and necessary regulatory burdens, as well as providing the maximum certainty and predictability for BT and other stakeholders.

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

This question refers to products in the WLA market (VULA, PIA, SLU and LLU).

We have set out our views on VULA pricing regulation under Questions 4.6 to 4.9; for PIA under Question 4.11; and SLU under Question 4.12. For LLU, we would like Ofcom to consider further flexibility on non-core products as explained under Question 4.2. However we understand that Ofcom's intention is to impose a charge control at minimum on core LLU services, and therefore as explained in response Question 3.1 we believe that a parallel cost orientation obligation is not required.

Remedies: Wholesale fixed analogue exchange lines

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.

Some of the trends we identify in our response under Question 2.2 are relevant and require further analysis by Ofcom in its forthcoming market review. To illustrate this and using Ofcom forecast's published in March 2012[47], MPF based services are expected to grow from 2.3 million lines in 2009/10 to 6.8 million lines in 2013/14, whereas total WLR lines (basic plus premium) fall from 21.6 to 16.3 million lines in the same period. Hence the balance has moved from MPF lines accounting for just under one in ten copper lines to just under one in three. This is a substantial change in the market and must be representative of significant underlying factors. At the very least it represents 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. Such an imbalance could be driven by a number of different factors potentially including product prices, specifications, or be related to geographical factors. In particular we think Ofcom should remove any previous incentives to support MPF market entry.

Generally, on ancillary services for all copper products (including WLR and LLU) we would like to see more flexibility in the charge controls, with wider basket structures and removal of cost orientation obligations.

47 LLU/WLR charge control 7 March 2012.

Question 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

We do not support the application of a cost orientation obligation and charge control in parallel for an individual service. Please see our responses to Questions 3.1 and 4.16 where we explain our views in more detail.

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

It is difficult to give a definitive answer to this question without knowing which services Ofcom considers should be excluded from the charge control. However, if Ofcom decides that a form of price regulation is appropriate, then as a general approach we would favour a simple and transparent method. In many cases this could be implemented by application of a "safeguard cap". Such an approach prevents unexpected price shocks at the wholesale layer between review periods, and has the benefits of simplicity in implementation and in ensuring compliance. We do however reserve our position on any individual service until we understand Ofcom's price control proposals more clearly.

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

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

BT believes it is essential to maintain the correct level of cost recovery for the copper network. BT has no plans to close down the existing copper network[48] and it will remain the primary infrastructure in the UK for carrying voice, current and next generation broadband for the foreseeable future. Therefore, it is entirely appropriate that the price of these services should be anchored to CGA technology. If this approach is adopted then it follows that the cost of all lines would be modelled as if they were entirely copper-based. This approach would also be in line with the prevailing view that there is no prospect of fibre becoming the Modern Equivalent Asset (MEA) for the copper network in the foreseeable future.

We believe that the adoption of an MEA standard should not distort incentives to invest in either direction when new and commercially uncertain services are introduced based on a different technology. Fibre access services for consumers are still very much in their infancy and the range of services and uptake are not established. There is not a stable benchmark of underlying cost comparable to copper-based services, nor is it completely straightforward to make like-for-like comparisons in functionality. Both the structure and levels of costs of fibre-based services are different to copper and for these reasons it is appropriate to continue with a policy of technology neutrality and anchor product pricing.

In addition, when looking at the copper network, it is important to ensure that all costs of maintaining the network are properly taken into account, reflecting for example changing weather 'norms' and the demands placed on the network by new applications.

---

[48] See response to Question 4.15.

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

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

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

- Where there is an FTTP line, it should be treated as a copper line, recovering the same or similar common costs as either an MPF line or a WLR line (there being no copper to the site);'
- Where there is an FTTC line, there will be either an MPF line or a WLR line in place, so common CGA costs are already recovered in the charges for MPF and/or WLR.

It follows that each line, whether copper-based, fibre-based or a hybrid of the two should recover the same or similar common costs.

Question 6.3 Should we seek to implement a new cost model for the connection and rental charges of the core access products which relies less on disaggregated BT management accounting data and instead is based on BT's RFS network components and CVEs and AVEs (along the lines described in this section)? Please give reasons for your answer.

A decision by Ofcom to move away from the current, established, approach to cost modelling for connection and rental charges would be a major change. As such, Ofcom should properly consult on this issue over and above this question in the call for inputs process. In such a consultation, we would expect Ofcom to set out in detail its reasons for moving to a new approach and to have a full and proper evaluation of potential alternatives. This is essential if stakeholders are to have an appropriate opportunity to put forward their views. We note that the issue of access costing is also being considered as part of the discussion around the European Commission's draft NGA recommendation[49]. This debate highlights a number of possible alternatives including, for example, a simple price indexation approach so that prices converge on the European average over time. We reserve our position on this issue at this time but do consider that Ofcom needs to fully consider and evaluate such options and consult fully with its stakeholders before reaching a final decision.

That said, Ofcom has indicated a clear preference for a new cost modelling approach which relies less on BT's management accounting data. Regardless of the selected approach, any charge control must provide a reasonable opportunity for Openreach to fully recover its forward looking efficiently-incurred costs, including permissible regulatory returns on capital across the key copper access products throughout the charge control period. This should be a primary focus when choosing which modelling approach to adopt. The key criteria for Ofcom should be a modelling approach which is suitably robust and accurate rather than giving undue weight to considerations of which approach would be easier to execute and/or share with stakeholders.

We think that in principle, both models described by Ofcom should generate the same result. However, in practice, it is at least as likely that the outputs of the two models diverge. Therefore one

[49] http://ec.europa.eu/digital-agenda/en/news/commission-seeks-berec-opinion-draft-recommendation-consistent-non-discrimination-obligations

must assess the underlying reasons for this and set out criteria for determining which approach is superior for the purpose of the charge control(s).

- A key risk is that the outputs of the new model will diverge from what one might otherwise expect because of an unrecognised difference implicit in the modelling approach. In order to reduce the risk that the new model produces results that are clearly inconsistent with the current modelling approach BT would urge Ofcom to consider how it would check the outcomes of the new model are reasonable, as a way of de-risking moving to a new modelling approach. In particular;

    - **LRIC Model Parameters:** Ofcom has not explained where it would source the AVEs and CVEs; however, the AVE/CVE model used to generate the Leased Line Charge Control (LLCC) RPI-X values used outputs from the LRIC model. The LRIC model produces a view of long run costs and therefore parameters derived from the LRIC model may not be fit for purpose for setting charges on a shorter term basis. In particular, the AVEs and CVEs parameters are to be applied to costs at a gross level of aggregation (component level) and relatively small estimation errors could lead to relatively large errors in forecast costs. BT urges Ofcom to test the accuracy of the CVE/AVEs it intends using against historical costs and volumes to ensure that they are robust predictors of cost.

    - **Openreach's operating plan**: A major benefit of the current approach is that it closely follows Openreach's business model and is reconciled to the RFS costs, which are audited. A model that forecasts costs that are materially divergent from those derived from the operating plan and outlook may produce an outcome that prevents Openreach from recovering its efficiently-incurred costs. Therefore, Ofcom should consider how best to verify that the output of its model aligns with Openreach's business plan. BT would be happy to generate such a view so that Ofcom can test its new modelling approach.

- Given the top down approach proposed by Ofcom, it is logical to assume that as Ofcom uses the model to disaggregate costs to product and individual charge level there will necessarily be a loss of predictive accuracy, compared to the current approach, even if the modelling has good predictive accuracy for total costs. In order to overcome this it may be necessary to increase the modelling complexity beyond that proposed by Ofcom to ensure that forecast costs at a product and charges level allow Openreach a reasonable opportunity to recover efficiently-incurred costs.

- A key question in this charge control is how service levels should be modelled, and any modelling approach adopted by Ofcom must accommodate the outcome of this debate. It is unclear how things will develop but it is reasonable to assume that Ofcom is likely to want to baseline costs against some benchmark service level. On the face of it, Ofcom's preferred approach would require significant adjustment to discretely isolate the operational factors that determine costs so that these costs could be modelled at a different level of service from that delivered by Openreach in the base year. It is likely that Ofcom's current approach to modelling would more easily accommodate this type of modelling, as it is an Activity Based Cost (ABC) model that uses a forecast of the number of underlying operational activities that drive the costs of different levels of operational activity in order to forecast costs.

- Weighted Average Cost of Capital (WACC) - Ofcom's intention to review both its methodology and re-evaluate the parameters for calculating BT's weighted average cost of capital (WACC) is also a very significant aspect of the charge control review. Whilst we accept that it is logical to carry out this work as part of the market review, we note that any potential for the value of WACC to change significantly from one charge control to another risks sending the wrong signals to the market, especially at a time when we are midway through a significant investment programme to upgrade the UK's access infrastructure, and at a time when we continue to face competitive pressure from large and well-financed players in the various markets in which we operate. We note that the Competition Commission (CC) has recently stated that: "*in industries with long-lived assets regulators should take a long-term view of the cost of capital and adjust components only when they believe there has been a permanent shift in the pricing of risk*"[50].

We also note for the record that the current model has been challenged and tested before the Competition Appeal Tribunal (CAT) and CC on two occasions now. To that extent any new approach is uncharted territory and currently less well understood by stakeholders in the case of CGA services. Moreover, the challenge at the CAT on the existing approach has confirmed in many respects that the existing basis of cost allocation as well as other modelling parameters is appropriate. Therefore, using the current modelling approach is at face value likely to make the outcome of any charge control statement more certain than if a materially different methodology is adopted.

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

As outlined in our response to Question 6.3, Ofcom needs to undertake a full and proper consultation if it decides to move away from its current modelling approach.

BT's current assessment is that moving to Ofcom's preferred modelling approach inherently risks inconsistent and erroneous outcomes and, in addition, would seem to have distinct disadvantages in modelling particular scenarios (e.g. product and charges level modelling, service level modelling). That said, there are reasonable checks that Ofcom can incorporate into its preferred modelling approach which will tend to mitigate the probability of inconsistencies and errors in the cost modelling. Moreover, Ofcom could modify the approach outlined in the Call for Inputs so as to model costs at a lower level of granularity than proposed. While such a modification may undermine Ofcom's objective of 'keeping it simple', BT considers it would be necessary to make Ofcom's proposed approach fit for purpose.

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

A key weakness in the design of the ancillaries basket is that there are products in the basket which are very similar to products outside the basket (e.g. bulk migration product inside the basket, singleton migration outside the basket). This raises questions about the correct price differentials; whether they should they remain constant; whether the difference in prices should reflect the difference in costs, and whether pricing in a different way would create perverse incentives.

Moreover, the SMPF and MPF baskets contain many products (e.g. MPF mass migration, SMPF mass migration) that to a great extent share the same types of costs. In this case, it raises questions of whether it is logical to assume similar cost movements over time. The application of different levels of X to the MPF and SMPF baskets means that prices are likely to diverge from costs and give rise to competitive distortions.

[50] Paragraph 2.368 CC Final Determination, CPW v. Ofcom, Case 1111/3/3/09

In both the examples cited above, maintaining the price differential means that BT effectively has no flexibility to reduce prices other than the bulk migrations charge.

BT would urge Ofcom to combine products where there is a very substantial overlap of costs for the purpose of the price control(s) and control them in the same basket.

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

BT considers option (b) to provide the best opportunity to recover its efficiently-incurred costs. Option (a) is not as accurate, as more complex calculations of costs will need to be performed, rebasing them to a fully allocated costs (FAC) basis and then applying the relevant glide path for efficiency.

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

BT has no strong preference for any other options for the ancillaries basket.

Remedies: Wholesale ISDN30

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

ISDN30 is a service which is under strong competitive pressure from new substitute services, most notably IP based technologies such as SIP Trunking[51]. Since the last market review the decline in the product has continued[52]. However, in our view the imposition of a charge control has almost certainly resulted in an extension of the product life and a slowing of the natural process of technology migration as we suggested at the time of the last review.

All indications are that the decline in the ISDN30 product will accelerate (as discussed in the response to Question 2.3). We therefore urge Ofcom to start from a premise that a new charge control is not required. This would avoid the risk of further unintended consequences from an inappropriate *ex ante* remedy. Such remedies risk stimulating inefficient investment in legacy ISDN30 services beyond the underlying natural competitive level, and leading to an artificial extension of the life of the current ISDN30 services, delaying end-user adoption of new voice services based on IP technology and undermining CP self-supply of wholesale ISDN30 services.

The current ISDN30 Charge Control (RPI-13.75% from May 2012 to March 2014) has made it more difficult for providers of IP alternatives to compete. Further mandated ISDN30 price changes will make IP alternatives even less attractive, and hinder and delay migration to IP alternatives. In effect, further regulatory price intervention would distort allocative efficiency within the wider market and chill investment in IP alternatives. Therefore, we believe that the appropriate approach at this stage is not

---

51 SIP Trunking enables enterprises to utilise a single internet or data connection for making and receiving multiple concurrent telephone calls.

52 Volume data has been requested separately in Ofcom's Section 135 Notice of 26 November 2012.

to impose any further reductions in price which would slow the normal market process and the inevitable switch to IP services.

External independent analysts such as ✂[53] (see graph below) also anticipate a rapid decline in the ISDN market in the UK over the next three to four year period:

[✂ Figure redacted]

✂[54]

BT's view supports this position[55]. Qualitatively we expect the Openreach base to decline faster than the overall market as Openreach's market share is put under pressure by increased competition from the likes of Virgin Media, CWW and TTG becoming more aggressive in the ISDN30 market using either their own physical infrastructure or Openreach's regulated products (e.g. LLU). Some CPs, most notably TTG, are also looking to enter the market with new fibre based alternatives to those offered by BT, offering an SLA-backed managed ISDN30 proposition[56].

In the FAMR, Ofcom now has the opportunity to reassess the state of the market and the appropriate remedies to apply. Looking forward from 2014 it is very difficult to see how a charge control is the appropriate remedy given the significant pricing constraint of IP alternatives.

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

Due to the market conditions as discussed above BT would consider a further charge control a disproportionate remedy which would interfere with the normal evolution of the market and end-users' natural migration to new substitute technologies at the appropriate time.

As a general approach we could see benefits in a simple and transparent method, such as application of a "safeguard cap" set at an appropriate level. Such an approach could have many of the benefits cited in the previous charge control approach adopted by Ofcom, such as the prevention of unexpected price shocks at the wholesale layer between review periods and could incorporate the

---

53 ✂

54 ✂

55 Volume data has been requested separately in Ofcom's Section 135 Notice of 26 November 2012.

56 TTG's business division Managing Director Charles Bligh said "*we aim to crack the monopoly ISDN 30 market*". http://www.comms-dealer.com/industry-news/comms-vision-news-talktalk-business-creates-isdn-30-replacement-market

principles underpinning the "steady state" basis used in the charge control. Moreover, it would also be simple to implement and monitor compliance, while still controlling prices in a proportionate way.

Question 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

Contrary to the assertion in Ofcom's question, Wholesale ISDN30 is currently not subject to a cost orientation SMP condition and there have been no subsequent developments that would suggest it would be appropriate or proportionate for Ofcom to change its approach.

Please also see the answer to Question 3.1 where we address the use of a cost orientation obligation and charge controls for the same access remedy. We do not support the application of a cost orientation condition with a charge control.

Question 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.

Wholesale ISDN30 is currently not subject to a cost orientation condition and there have been no subsequent developments that would suggest it would be appropriate or proportionate for Ofcom to change its approach. We do not support a cost orientation obligation for this product.

If Ofcom concludes that some form of residual price/cost regulation is required, then in principle a safeguard cap set at an appropriate level (see answer to Question 7.2) would be a sufficient regulatory pricing remedy for a product in the declining phase of its life cycle.

Remedies: Retail and wholesale ISDN2

Question 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.

ISDN2 volumes have continued to decline steadily as alternatives including SIP Trunking, broadband and NGA services, along with further broadband penetration provide opportunities for substitution. Broadband has completely superseded ISDN2 in the residential segment and where internet access is the primary requirement, broadband has replaced ISDN2 in the business segment.[57]

This is a service in terminal decline and we do not believe there are any significant barriers to customers switching to better alternatives. It is important that Ofcom does not assume the existing cost orientation remedy is appropriate without further investigation to ensure such an approach would be consistent with good regulatory practice for services at the end of their life-cycle.

[57] Fixed Narrowband Retail Services Market Review, Ofcom, September 2009.

Question 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.

As indicated in response to Question 8.1 we do not believe there are now any significant barriers to customers switching to alternative products in the medium to long term. On a forward looking basis it would be appropriate for Ofcom to reconsider its application of a specific pricing remedy to ISDN2 given the ease of switching, availability of very strong substitutes, and the competitive constraints that such services place on ISDN2 prices.

Question 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.

As explained in response to Questions 8.1 and 8.2 we do not consider that on a forward looking basis there is a need for a specific price remedy on ISDN2.

We do not support a cost orientation obligation for this product, but should one be considered, Ofcom would need to investigate approaches consistent with good regulatory practice for services at the end of their life-cycle (i.e. one which takes account of similar factors to the existing ISDN30 charge control).

Remedies: Markets in the Hull Area

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

We have no specific comments on matters relating to fixed access connectivity in the Hull area, but believe Ofcom should take a consistent regulatory approach across all geographic areas.

Openreach's quality of service

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

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

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

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

Quality of Service (QoS) is a very important component of the products that Openreach provides to the wholesale market and therefore it is appropriate for the FAMR to properly consider what regulatory approach will be best suited to incentivise and support positive outcomes for end-users and all other parties involved. There is an important role for Ofcom, Openreach and its customers to play in identifying the relevant issues and through this developing the right framework for the future, so that benefits are seen by all end-users.

The drivers of QoS and the best means to regulate QoS are complex questions. The review will therefore need to carefully explore the underlying factors before setting out a regulatory approach. Ofcom will need to consider whether SMP regulation is the best way to achieve these objectives or whether in some circumstances outcomes might best be delivered by direct agreement between Openreach and its customers, building on existing industry discussions.

Whichever approach is chosen it will need at minimum to acknowledge that good service is a shared responsibility between Openreach and its CP customers. It must be based on a realistic understanding of the challenging environment faced by the Openreach service organisation and of the costs of increasing capacity to deal with variable demand, higher LLU care levels, and align with any charge control to allow Openreach to recover its efficiently-incurred costs of delivering any specified level of service.

Openreach is committed to achieving a high standard of service for all CPs and end-users and already has very strong incentives to provide the best service it can, not least because of its functional separation and the provision of services on an EoI basis to all CPs including BT Retail. Of course, BT Retail also relies on high levels of service just as much as the other customers of Openreach. Last year saw unprecedented weather conditions throughout the UK causing immensely challenging operational conditions but Openreach responded positively and has now made good progress on its service recovery plan. BT as a whole remains committed to take all steps possible to resolve the situation as we move forward in 2013.

✂