



Wholesale Local Access Market Review – Volume 1

Consultation on the proposed market, market power
determinations and remedies

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About this document

Broadband and fixed telephone services typically rely upon a fixed connection from the local telephone exchange to a home or business premises. In most areas there are only one or two physical networks that provide this connection. This document is a consultation on proposals for regulation of the wholesale market – the Wholesale Local Access market - for services that use this fixed connection.

Our proposals intend to promote competition and further the interests of residential and business customers, and promote investment in new ultrafast networks. We invite comments from stakeholders on the proposals in this consultation. The deadline for responses is 9 June 2017. We expect to publish our final decision in a Statement in early 2018, with new measures taking effect on 1 April 2018.

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Section 1

Executive Summary

Summary of proposals

- 1.1 Broadband and fixed telephone services typically rely upon a fixed connection from the local telephone exchange or street cabinet to a home or business. In most areas there are only one or two physical networks that provide this. The wholesale services that supply this connection form the Wholesale Local Access (WLA) market.
- 1.2 This document is one of three that we are publishing, which together form a set of proposals for consultation as part of our WLA market review. We consider the extent to which regulation may be required from April 2018. We set out our proposed finding that BT continues to have Significant Market Power (SMP) and proposed remedies.

Key proposals

Promoting network competition. Network competition is a powerful driver of continued investment in high quality networks. Investment in new fibre networks will create an alternative means of delivering world-class connections to people and businesses, in addition to the improvements to Virgin Media’s cable network. BT will continue to have pricing flexibility on superfast services with a download speed above 40 Mbit/s and on future services including ultrafast and those using new G.fast technology or full-fibre. Where competitive investment is viable, in the future we expect to consider a shift away from price regulation of LLU (which is used to provide standard broadband services on its copper network) and wholesale superfast services (known as VULA) towards greater reliance on market pricing. As higher bandwidth services become more important, the business case for ultrafast investment is likely to strengthen and help to bring about a strategic shift to large scale investment in fibre.

Promoting investment by BT. Ensuring BT has the opportunity to make a return on past risky investments is important for maintaining its incentives to invest in the future. BT has had flexibility to set prices on VULA since 2009 and has now had a fair opportunity to make a return on its initial investment.

Protecting consumers against the risk of high prices and protecting retail competition where necessary, based on access to BT’s network. BT must continue to offer LLU and VULA services. The most important LLU service will continue to be subject to a charge control with the price remaining broadly stable. The most important VULA service, with download speeds of up to 40 Mbit/s, will now also be subject to a charge control, with the price falling from today’s level of £88.80 per year to £52.77 in 2020/21. This is a natural evolution of our existing approach of combining charge controls and pricing flexibility that supported previous investment cycles.

Promoting decent affordable broadband everywhere. New technologies have potential to increase broadband speeds in the hardest to reach areas, and where deployment conflicts with current LLU obligations we set out a process for those obligations to be reconsidered.

Improving quality of service. We propose to set higher quality of service standards on BT. A consultation on our proposals is published alongside this document.

Strategic context for our market review

- 1.3 One of the key proposals in our Strategic Review of Digital Communications (“Strategic Review”) is to make a strategic shift to encourage the large-scale deployment of new ultrafast broadband networks, including fibre direct to homes and businesses (sometimes called ‘full-fibre’), as an alternative to the predominantly copper-based technologies planned by BT.¹ Full-fibre networks support very high speeds, ranging from several hundred Mbit/s to 1 Gbit/s or more, and should be more reliable.
- 1.4 Investment in new competing networks can bring important benefits to consumers. Network competition is a powerful driver of innovation, leading to higher quality and lower prices.
- 1.5 Our long term strategy for promoting investment and competition in fixed networks therefore focuses on three main elements:
 - encouraging and enabling network investment by reducing the cost and barriers to new investment. A key element of this is making it quicker and easier for rival providers to build their own fibre networks using BT’s poles and underground ducts that carry telecoms cables. Our proposals include considering how to streamline operational processes and relax restrictions concerning the use of BT’s infrastructure, to increase the opportunity for duct and pole sharing;
 - regulating access to superfast and ultrafast services to give both BT and its competitors incentives to invest in new networks while balancing the need to protect competition and ultimately consumers. In particular, given the potential for significant consumer benefits, we want to incentivise operators to build new networks rather than rely on buying access from BT; and
 - continuing to regulate access to BT’s Openreach network and services where network competition is not effective, including in more remote and rural areas.
- 1.6 A key tool for delivering our strategy is our WLA Market Review.
- 1.7 Alongside our strategy for fixed competition and investment, in our Strategic Review we detailed actions designed to deliver a step change in quality of service, including in relation to the performance of Openreach. On 17 March 2017 we published an update setting out the detail of further voluntary commitments that BT has made regarding the reform of Openreach under section 89C of the Communications Act 2003.²
- 1.8 One of our goals of the reform of Openreach is to facilitate new models of investment in the industry, for example where Openreach co-invests with other telecoms providers than BT. We believe that our proposals in this consultation, including requirements for equivalence of inputs, provides flexibility for co-investment opportunities, with specific cases to be considered on their merits.

¹ Ofcom, February 2016. Initial Conclusions of our Strategic Review of Digital Communications, (2016 Strategic Review), https://www.ofcom.org.uk/_data/assets/pdf_file/0016/50416/dcr-statement.pdf.

² Ofcom March 2017. *Delivering a more independent Openreach*.

https://www.ofcom.org.uk/_data/assets/pdf_file/0035/98855/Openreach-consultation-2017.pdf.

Market Analysis

- 1.9 BT and Virgin Media are the largest fixed access network providers, reaching nearly 100% and around 45% of UK homes respectively.³ Virgin Media's planned network expansion is expected to extend its coverage to 60-65% by 2020. Virgin Media uses its own network to serve its customers. BT, through Openreach, provides wholesale access to other companies, the largest of which are BT Consumer, Sky and TalkTalk who then offer services to customers.
- 1.10 Broadband has become an increasingly important service with take-up now at 78% of UK premises.⁴ Download speed is prominent in the marketing of these broadband services and in our analysis we make a distinction between services with download speeds as follows:
- **standard broadband:** download speeds of up to 30 Mbit/s;
 - **superfast broadband:** download speeds from 30 Mbit/s up to 300 Mbit/s; and
 - **ultrafast broadband:** download speeds of 300 Mbit/s and above.⁵
- 1.11 Superfast broadband take-up is growing rapidly, and where it is available 47% of broadband lines were at superfast speeds by mid-2016.

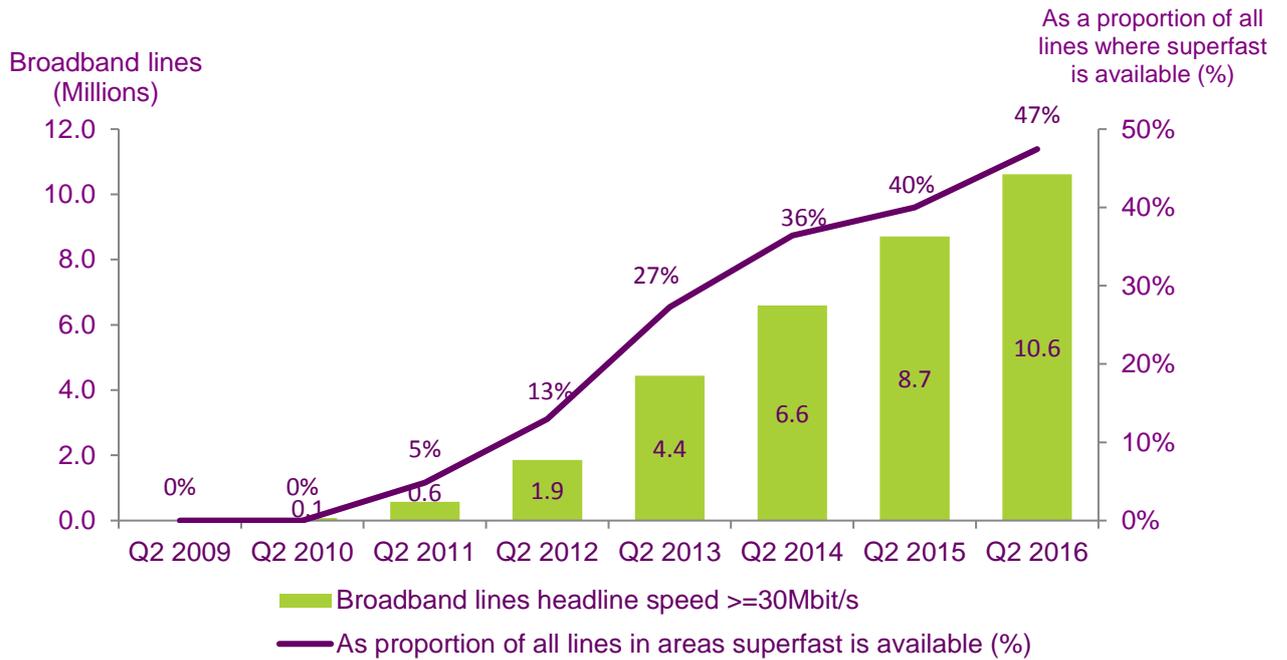
³ Ofcom, December 2016. Connected Nations Report. Fig 37.

https://www.ofcom.org.uk/_data/assets/pdf_file/0035/95876/CN-Report-2016.pdf.

⁴ Ofcom, December 2016. Connected Nations Report. Page 1.

⁵ There is no standard definition of ultrafast. The UK Government currently defines ultrafast as 100 Mbit/s or greater. We also consider that the reliability with which the speed is delivered is an important attribute and expect the definition to ultrafast to evolve to take account of the importance of this reliability. We currently take ultrafast broadband services to be those that offer a minimum download speed of 300 Mbit/s or more (a factor of ten greater than that offered by superfast). These services also offer higher upload speeds than superfast broadband. Over time we expect ultrafast technologies to evolve towards providing gigabit speeds and above – 1 Gbit/s or more.

Figure 1.1: Superfast Take-Up, Q2 2009- Q2 2016



Source: Ofcom analysis of operator data.

1.12 We forecast that superfast will account for around three-quarters of all broadband lines by 2020/21.

Figure 1.2: Ofcom forecasts of superfast take-up (as a proportion of all broadband lines – i.e. not adjusted for incomplete coverage of superfast)



Source: Ofcom forecast based on Openreach and Virgin Media data

- 1.13 Different technologies underpin the differences in headline speeds. Superfast speeds are usually delivered via BT's fibre to the cabinet (FTTC) network or Virgin Media's cable network, while standard broadband speeds are normally delivered by copper lines (i.e. with no fibre between the customer and the telephone exchange). Ultrafast services are typically provided using full-fibre networks.
- 1.14 We have very limited availability of ultrafast broadband services, including those based on full-fibre (estimated to be available at 2% of UK premises in 2016).⁶
- 1.15 Growing consumer demand for faster services is fuelling some interest in fibre investment from BT and its competitors, but we believe there is a risk that consumers' interests may be harmed if investment is impeded. Examples of ultrafast investments and those announced to date include:
- by 2020, BT is planning to deploy full-fibre networks to up to 2m premises and an enhanced form of FTTC network known as G.fast to 10m premises;⁷
 - Virgin Media intends to extend its network to reach a further 4m premises, half of which are to be connected using full-fibre;
 - TalkTalk / CityFibre are to extend their full-fibre trial in York from 14,000 homes to cover 40,000 further premises over the next 18 months;
 - KCOM in Hull is currently upgrading its network to pass 150,000 premises with full-fibre; and
 - a number of smaller providers are also deploying full-fibre; for example, Hyperoptic, whose network reaches 100,000 UK premises, Gigaclear, and B4RN which provide full-fibre in more rural areas.
- 1.16 BT has a high and stable market share (around 80%) in the WLA market, although this is likely to decline to around 75% by 2020/21, largely due to competition from Virgin Media.⁸ We propose to designate BT as having SMP in the UK excluding the Hull Area. We will address SMP in the Hull Area in a separate consultation document to be published in Q1 2017/18.

Designing remedies to support our strategy

- 1.17 The key tools we can use to address competition concerns in this market review are network access, pricing and quality of service remedies. In each case, these are imposed as part of a comprehensive package of measures designed to promote competition in the provision of broadband services.

⁶ Ofcom, December 2016. Connected Nations Report, paragraph 4.15

https://www.ofcom.org.uk/data/assets/pdf_file/0036/95895/CN16-04.pdf.

Ofcom, December 2016. International Communications Market Report. For full-fibre availability, other large European countries have the following availability: Germany 7%, France 16%, Italy 20% and Spain 53%.

⁷ G.fast is a technology that provides higher bandwidth broadband. BT is trailing G.fast at bandwidth variants including 160 Mbit/s and 330 Mbit/s download.

⁸ Ofcom forecast based on responses to formal s.135 information requests to broadband providers.

Access Remedies

1.18 We currently regulate a range of access services in the WLA market, including:

- **Local Loop Unbundling (LLU):** used to deliver standard broadband over BT's copper network. To meet this obligation Openreach provides two types of LLU service, MPF and SMPF;⁹
- **Virtual Unbundled Local Access (VULA):** used to deliver superfast broadband over BT's FTTC network. To meet this obligation Openreach provides Generic Ethernet Access services (GEA)¹⁰ at various bandwidths including '40/10' (40 Mbit/s download, 10 Mbit/s upload) and '80/20' (80 Mbit/s download, 20 Mbit/s upload).¹¹

1.19 To promote competition in retail markets we propose that BT continues to be required to provide wholesale network access on fair and reasonable terms, conditions and charges (where no charge control applies) for WLA services, including LLU and VULA nationwide. We propose that the network access remedy is supported by obligations relating to non-discrimination (including Equivalence of Inputs (EOI)), transparency, cost accounting and regulatory financial reporting.

1.20 We believe that in parts of the UK there could be large scale deployments of new ultrafast networks, potentially by providers who currently rely on LLU and VULA. A future increase in network competition may reduce the need for these access obligations. We have considered whether the prospects of such an increase in network competition should lead us to a geographically differentiated approach. However, we consider that it would be premature to propose to identify different geographies where different remedies should apply in this market review and, at least for the duration of this market review, we propose nationwide access remedies to provide sufficient protection for customers and competition.

Pricing Remedies

1.21 In developing our approach to pricing remedies we are taking into account four key objectives:

- **Preserving the investment incentives faced by competitors to BT,** incentivising BT's competitors to build their own networks where viable.
- **Preserving the investment incentives faced by BT,** by applying the 'fair bet' principle. This recognises that the investing firm needs to benefit from sufficient upside potential from any investment to offset the downside risk of failure.

⁹ LLU enables telecoms providers to take control of BT's physical telephone lines so that they can provide services direct to end customers. It has two forms: Metallic Path Facility (MPF) in which the provider offers both broadband and voice services over the line to its customer; and Shared Metallic Path Facility (SMPF) in which the provider only offers broadband over the line to the customer. That customer on an SMPF connection may also purchase voice services from a provider who would offer these using wholesale line rental (WLR).

¹⁰ GEA is Openreach's wholesale service providing telecoms providers with access to BT's FTTC and FTTP networks in order to supply higher speed broadband products.

¹¹ VULA is technology neutral and can be delivered by both FTTC and full-fibre networks.

- **Protecting consumers against the risk of high prices.** Interventions to encourage investment in new infrastructure must take account of the risk that they could result in higher prices for consumers. However, the risk of short term price rises may be outweighed by the harm caused by a lack of investment altogether.
 - **Protecting retail competition where necessary, based on access to BT's network.** Where we do not expect network competition to emerge, the prices charged for access to BT's network must allow rivals to compete.
- 1.22 Our proposals are designed to facilitate network investment by other telecoms providers, while protecting consumers from higher retail prices and protecting retail competition based on the current model in the short term.
- 1.23 We also want to set out a regulatory framework that can shift away from price regulation of LLU and VULA towards greater reliance on network competition and market pricing where appropriate in future.

Standard broadband

- 1.24 Our key objective for standard broadband is to have a stable regulatory regime over the short to medium term during the transition to greater network competition. Our proposals support competition for standard broadband customers which: protects them from the risk of higher prices, avoids stifling demand for higher bandwidth services and improves the quality of services they experience. This is important as today the majority of customers (approximately two thirds) using services delivered via the Openreach network buy standard broadband, and by 2020/21 we forecast that there will still be a significant number of such customers (approximately one third).
- 1.25 Our main proposals in respect of standard broadband are:
- BT must continue to offer LLU services. We will continue to impose a cost-based charge control on the main form of LLU (MPF)¹² and the supporting services used by BT's competitors (referred to as ancillary services).
 - To remove the specific network access obligation and charge control on SMPF. However, BT will still have to provide network access on reasonable request, be subject to non-discrimination obligations (including EOI) and must set charges on a fair and reasonable basis.
 - To support the deployment of new technologies such as Long Reach VDSL (LR-VDSL), which has the potential to increase broadband speeds in particular in rural areas.¹³ In some areas it may no longer be feasible for BT to provide LLU or SLU alongside LR-VDSL so we are proposing a process which could release BT

¹² MPF is provided with two different quality of service levels: level one and level two. Today we charge control service level two. However, we are proposing to change this to service level one as the industry is increasingly using this level.

¹³ Long Reach Very-high-bit-rate digital subscriber line (LR-VDSL) is being trialled by BT to increase the broadband speeds for those customers whose premises are long distances from the serving exchange or access node.

from its LLU and/or SLU obligations in the small number of geographic areas where this is appropriate.

- 1.26 Our approach to setting this charge control is to have a broadly stable charge compared to today, with underlying costs estimated on a similar basis to that used previously. Our proposed control reflects our analysis that shows that the underlying costs are falling, offset by a substantial increase in business rates.¹⁴
- 1.27 Table 1.3 below sets out our central estimate and range for the proposed prices during the charge control period. In our Statement we will set out a single value. These proposals are designed to protect competition for standard broadband customers and protect them from the risk of higher prices.

Table 1.3 LLU charge control proposals

Range and (central estimate)	Current annual charge at 31 March 2017 (£)	Proposals for annual charges (£ – nominal)		
		2018/19	2019/20	2020/21
MPF rental	£85.29	£80.00 to £88.20 (£83.50)	£77.20 to £89.40 (£82.28)	£76.00 to £90.70 (£81.98)

- 1.28 We propose that the new charge control will enter into force on 1 April 2018 and cover the period to 31 March 2021. BT remains subject to a requirement for its charges to be fair and reasonable imposed in 2014. BT has made a voluntary commitment to keep prices covered by the previous charge control at current levels until 31 December 2017. Given the importance of the MPF service to competition, we have consulted separately alongside this document on a proposal to issue a direction to BT specifying £84.38 as the fair and reasonable charge that it may apply for MPF at this time.
- 1.29 New technologies, such as LR-VDSL, could be used to deliver standard broadband to more difficult to reach areas through commercial deployment by BT alongside any universal service obligation. We can see there will be benefits from such commercial deployments and propose to ensure that regulation in the WLA market is not a barrier to deployment.
- 1.30 In general, we seek to allow BT the opportunity to recover the costs of network deployment, to the extent such costs are efficiently incurred. We consider that costs incurred in network expansion that provide customers with an improved quality of broadband service should be recoverable and, where we have imposed charge controls, the relevant costs should be taken into account in setting those controls.
- 1.31 We do not currently have sufficient data on which to assess whether BT will undertake such a rollout or what costs may be incurred. However, should relevant information on a committed rollout become available we will consider any implications for the charge controls we propose in this review.

¹⁴ In September 2016 the Valuation Office Agency (VOA) published business rates valuation guidance which will have the effect of increasing BT's annual costs fourfold, from £96m to £390m by 2020/21. Much of this cost falls within the wholesale local access market and is relevant for our charge control. Our charge control proposals reflect the VOA guidance.

Superfast broadband

- 1.32 Our objective is to strike an appropriate balance between encouraging network investment and protecting consumers and competition in the short term (given that investment in new fibre networks will take time).
- 1.33 While we also want to ensure that BT continues to have a positive incentive to invest in new infrastructure, we believe that BT has had a fair opportunity to make a return on its original risky investment and that a charge control on the 40/10 VULA service would be consistent with the 'fair bet'. We believe therefore this is no longer relevant to our price regulation of superfast broadband (in contrast to ultrafast broadband).
- 1.34 At the same time, we want to provide strong incentives for telecoms providers to invest in new ultrafast networks.
- 1.35 However, we believe the availability of standard broadband services is unlikely to sufficiently constrain BT's superfast broadband prices over the period of this market review. Therefore, there is a significant risk that retail competition would be weaker and consumers would face considerably higher prices if there was no control on VULA pricing.
- 1.36 In broad terms the choice is between continuing the existing approach of pricing flexibility, which allows BT to set wholesale prices, subject to the need to ensure that its competitors have sufficient margin to compete at the retail level, and setting a cost-based price which our current analysis indicates would be below today's wholesale prices. In the latter case, we would expect that much of the reduction in wholesale prices would be passed through to consumers in the form of lower retail prices.
- 1.37 We believe the right balance is to control prices of the 40/10 version of VULA but allow BT to continue to have pricing flexibility on VULA services of higher (and lower) bandwidths. This is a natural evolution of our existing approach of combining charge controls and pricing flexibility that supported previous investment cycles. Our main proposals for regulation of wholesale superfast services are therefore:
- BT must continue to provide VULA and its supporting services;
 - BT's prices for the 40/10 version of VULA will be subject to a charge control as will, in general, the various supporting services needed for the use of this service;
 - BT will continue to have pricing flexibility on other bandwidth variants of VULA, including the higher speed 55/10 and 80/20 variants and future variants including those using G.fast technology; and
 - BT will no longer be subject to the VULA Margin Condition that currently applies.
- 1.38 The charge control of the 40/10 service will constrain the prices of higher bandwidth and ultrafast services, but there will be scope for the prices of these higher bandwidth services to be higher, and both BT and its competitors will have the incentive to invest in new ultrafast networks, which in turn will benefit consumers.
- 1.39 Table 1.4 below sets out our central estimate and range for the proposed prices during the charge control period.

Table 1.4 VULA charge control proposals

Range and (central estimate)	Current annual charge at 31 March 2017 (£)	Proposals for annual charges (£ – nominal)		
		2018/19	2019/20	2020/21
VULA 40/10 rental	£88.80	£54.50 to £78.10 (£66.28)	£42.50 to £72.90 (£57.00)	£38.70 to £69.90 (£52.77)

- 1.40 We propose that the new VULA charge control will enter into force on 1 April 2018 and cover the period to 31 March 2021. We propose to adjust charges so they are aligned with our forecast of cost in 2019/20 and thereafter. In reaching our judgement on this aspect of our proposals we have taken account of the importance of the fair bet in preserving BT's incentives to invest and the risk of regulatory error if we were to intervene too early. We have also taken into account the need to preserve incentives for Virgin Media to invest.
- 1.41 We believe that our proposed approach provides sufficient protection to superfast broadband customers from the risk of higher prices, while allowing other telecoms providers to compete with BT for those customers as well as preserving BT's incentives to invest.

Ultrafast broadband services

- 1.42 Our approach in this area is critical to our objective of promoting infrastructure based competition.
- 1.43 Given that it will not be feasible to build competitive ultrafast networks throughout the whole UK, BT will have to continue to provide wholesale access to its new network services, including ultrafast services.
- 1.44 However, we propose that BT should continue to have flexibility in setting the wholesale prices of these services, subject to maintaining a sufficient retail margin for its competitors to compete. This is essentially the approach we adopted for superfast broadband in 2010 and has been a contributing factor to its success to date.
- 1.45 We believe this 'pricing flexibility' approach will both recognise the risk of BT's investments and encourage competitors to invest in their own networks, rather than relying on buying wholesale services from BT.

Quality of service

- 1.46 Wholesale regulation of local access can also support our goal of achieving a step change in quality of service. A good quality of service at the wholesale level is necessary for both effective competition and a good quality of service for consumers.
- 1.47 We believe that because BT has SMP in the wholesale market it does not have sufficient incentive to set the quality of service at an appropriate level, or to innovate to improve service quality.
- 1.48 In 2014 we imposed new quality of service rules on BT in relation to the provision of copper access lines and fault repairs on those lines in order to stabilise BT's quality

of service which had steeply declined in prior years.¹⁵ As broadband becomes increasingly regarded as a necessity for consumers, we believe that an increase in quality standards in this area is both proportionate and necessary, particularly as low service quality has a direct and detrimental impact on competition.

- 1.49 We propose to include a direction making power in the SMP conditions enabling us to set appropriate quality of service standards on BT. A consultation on the detail of our proposed quality of service remedies is being published alongside this document.

Duct and pole access

- 1.50 A key element of our strategy to promote infrastructure-based competition is to reduce the cost and barriers to new investment.
- 1.51 In December 2016 we published initial proposals to develop an effective remedy for access to BT's ducts and telegraph poles.¹⁶ The high costs of deploying physical infrastructure, such as ducts and poles, remains a barrier to large scale network deployment in significant parts of the country. These costs constitute a large proportion of the overall capital expenditure of an access network. We therefore want to improve access to BT's ducts and poles to make it easier and more cost effective for telecoms providers to invest in advanced, competing infrastructure so that they can deploy their own fibre optic cables directly to homes and businesses more quickly and at lower up-front cost.
- 1.52 These proposals aim to address concerns from BT's competitors about the absolute costs and time required to build ultrafast broadband networks at scale. We will publish a further consultation shortly on our proposed duct and pole access remedies.

Future regulation of broadband prices

- 1.53 Investment decisions being made now are affected by expectations of demand, competition and regulation long into the future. An important part of our approach is to provide, to the extent we can, certainty about the future regulatory framework.
- 1.54 We cannot prejudge what actions we will take in the future, as any pricing decisions in future reviews will be made in the light of the circumstances and legal framework applicable at that time. However, in the interests of regulatory certainty and consistency, we think it is useful to set out our initial thinking on the future regulation of broadband.
- 1.55 In general, we expect future reviews to consider the case for a shift away from price regulation of LLU and VULA towards greater reliance on market pricing as investment by third party telecoms providers in competing networks increases.

¹⁵ Ofcom, June 2014. *Fixed Access Market Review Statement*. <https://www.ofcom.org.uk/phones-telecoms-and-internet/information-for-industry/telecoms-competition-regulation/narrowband-broadband-fixed/fixed-access-market-reviews-2014/statement>.

¹⁶ Ofcom, December 2016. *Initial proposals to develop an effective Passive Infrastructure Access (PIA) remedy* (2016 PIA Consultation), https://www.ofcom.org.uk/data/assets/pdf_file/0024/95109/Wholesale-Local-Access-Market-Review.pdf.

- 1.56 For instance, where the prospect of network competition is likely to provide a sufficient constraint, we may not extend the scope of our charge controls beyond retaining cost-based charge controls on LLU and 40/10 VULA services. As higher bandwidth services become more important, the business case for competitive ultrafast investment is likely to strengthen, and with that the prospect of greater competition delivering innovation, quality and choice as well as lower prices for consumers. Future reviews are also likely to examine whether further deregulation of BT's services is appropriate.
- 1.57 Given our objective of encouraging network competition, we consider that the proposals set out in this consultation should give BT's competitors strong incentives to invest in their own networks, anticipating the potential for reduced access regulation in the future. Competitors who invest now in new networks can therefore expect to benefit from a first mover advantage, and consumers can expect to benefit from competition between networks. Investment in new fibre networks will create an alternative means of delivering world-class connections to people and businesses, in addition to the innovations in copper-based technologies currently being planned by BT, and advanced improvements to Virgin Media's cable network.
- 1.58 In time, a greater degree of differentiation in our regulatory approach across the UK may also emerge. Different remedies may be needed in different geographic areas. For example, charge controls could be applied to higher bandwidth services in areas where there is no potential for competing networks, with pricing flexibility continuing, or even further deregulation, in areas with competition between networks.
- 1.59 However, the boundary will not always be clearly identifiable between geographic areas susceptible to competitive network build and areas where competitive network build is unlikely. Future market reviews will therefore need to consider these boundaries carefully based on the facts at the time. In light of this uncertainty, we expect to continue to place weight on the risk of harm to consumers resulting from a regulatory error that stifles competitive investment. Our initial thinking therefore is that we would expect to err on the side of promoting competitive investment when setting such boundaries.
- 1.60 We believe that our strategy including our initial thinking about the direction of regulation in future reviews, strikes the right balance between the objectives of encouraging rival network investment while protecting consumers from higher prices in the short term. We believe that our proposals in this market review carry the best prospects for delivering the benefits of competition to consumers.

Next steps

- 1.61 We invite comments from stakeholders on the proposals in this consultation. The deadline for responses is 9 June 2017.
- 1.62 We expect to publish our final decision in a Statement in early 2018, with new measures taking effect on 1 April 2018.

Section 2

Introduction

- 2.1 This document forms part of our Wholesale Local Access (WLA) market review which considers the extent to which *ex ante* regulation may be required in the market for the provision of wholesale local access services for the period April 2018 to March 2021. We assess the state of competition in these markets. Where we propose that Significant Market Power (SMP) exists, we consider the appropriate regulation which should be applied to address any concerns identified.
- 2.2 This document is one of three that we are publishing, which together form a set of proposals for consultation:
- This overarching consultation document setting out our market analysis, broad approach to remedies, detailed proposals for the access products BT will be required to provide, our approach to price regulation of these services and our charge control proposals for local loop unbundling (LLU), in the form of metallic path facility (MPF), and virtual unbundled local access (VULA), together with relevant ancillary services.
 - A consultation document setting out our detailed proposals to address quality of service issues on BT's fixed access network.
 - A consultation document setting out our detailed proposals for the duct and pole access (DPA).
- 2.3 This consultation document is published in two separate volumes and a number of annexes. This volume, Volume 1, sets out our market analysis, broad approach to remedies, detailed proposals for the access products it is proposed BT will be required to provide, and our approach to price regulation of these services. Volume 2 sets our proposed approach and implementation of LLU and VULA charge controls.
- 2.4 The quality of service consultation¹⁷ is published alongside this document and the DPA consultation will be published shortly. We will address SMP in the Hull Area in a separate consultation document to be published in Q1 2017/18.¹⁸
- 2.5 In this section, we provide an overview of the key retail services considered in the review and networks that support those services. We also explain how we have taken account of our strategy that we set out in our Strategic Review of Digital Communications.¹⁹ One of the key elements of our strategy is to encourage investment in new, large-scale ultrafast broadband networks, and in conducting this review our objective is to promote investment in networks, whilst protecting consumers from high prices.
- 2.6 Finally, we summarise the process we have adopted in defining the markets in this review and the legal framework relating to the market review process.

¹⁷ Ofcom, 2017, *Quality of service for WLR, MPF and GEA*

¹⁸ That separate consultation document will include our analysis of both Wholesale Broadband Access and Wholesale Local Access markets as these are closely related in the Hull Area.

¹⁹ 2016 Strategic Review.

Wholesale local access in the UK

- 2.7 Wholesale local access is the fixed connection from the local exchange (or other appropriate point of aggregation of subscriber lines, such as a street cabinet) to a home or business premises. This connection is an input into a number of retail services, including retail telephony and broadband services.
- 2.8 In the UK excluding the Hull Area there are two large fixed access networks operated by BT and Virgin Media respectively. In the Hull Area there is one main fixed access network operated by KCOM. In the past, BT has provided WLA using a copper connection between the customer's premises and a local exchange. However, BT has been upgrading its access network by introducing fibre connections. In general BT has deployed fibre between local exchanges and street cabinets to make a fibre to the cabinet (FTTC) network (with copper still used between the street cabinet and the customer's premises). In a small number of cases BT has deployed fibre to the premises (FTTP)²⁰ thus eliminating the need for a copper connection, even to the cabinet. KCOM operates a copper access network in the Hull Area and has also been deploying fibre, mainly in the form of FTTP.
- 2.9 Virgin Media's access network architecture is different: it provides a connection between a customer's premises and a street cabinet using a coaxial cable to support TV and broadband. This network also has a twisted copper pair to support standard telephony. Virgin Media then uses fibre rings to connect the street cabinets to the 'head-end' hub site. Although, Virgin Media is increasingly deploying FTTP in its new network deployment.
- 2.10 In addition to these large fixed networks there are a number of small fixed networks and fixed wireless networks. Mobile networks provide access using wireless connections to customers' mobile devices directly (rather than via a router connected in the home or business premises).

Retail services delivered over local access networks

- 2.11 Demand for WLA comes from the demand for downstream retail services, traditionally fixed voice services, but increasingly broadband services. Broadband take-up across the UK is now at 78% of premises²¹ and internet access is now seen as important to more customers than fixed voice.²²
- 2.12 Broadband download speed is prominent in the marketing of fixed line services. In our analysis we make a distinction between broadband services with download speeds as follows:
- standard broadband (SBB): download speeds of up to 30 Mbit/s;

²⁰ FTTP may also be referred as fibre to the home (FTTH) or full-fibre.

²¹ Connected Nations Report 2016, paragraph 4.55

https://www.ofcom.org.uk/_data/assets/pdf_file/0036/95895/CN16-04.pdf.

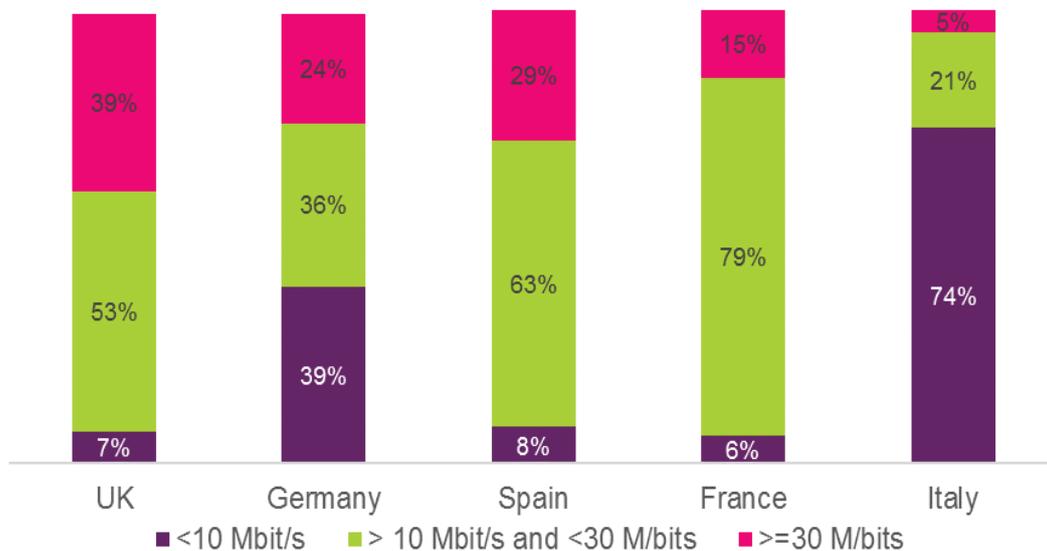
²² See paragraph 4.13 of Ofcom, 2016, *Narrowband Market Review: Consultation on the proposed markets, market power determinations and remedies for wholesale call termination, wholesale call origination and wholesale narrowband access markets* (2016 NMR Consultation), in turn referencing Ofcom, *Technology Tracker H1 2016*, QC3, <https://www.ofcom.org.uk/consultations-and-statements/category-1/narrowband-market-review>. Among residential consumers who have a line to make or receive calls as well as internet access, only 15% identified making or receiving calls as the most important use of their landline. 45% said home internet access was the most important use and the remaining 40% said they were equally important.

- superfast broadband (SFBB): download speeds from 30 Mbit/s up to 300 Mbit/s; and
- ultrafast broadband (UFBB): download speeds of 300 Mbit/s and above.²³

2.13 With copper loop based networks, telecoms providers can offer standard broadband services. With fibre and cable based networks, telecoms providers can offer superfast or ultrafast broadband services, depending on the technology.²⁴

2.14 Superfast broadband is now available to almost 90% of homes and small businesses across the UK.²⁵ The reach of these services has advanced considerably over the last few years and the UK has the highest proportion of broadband lines at superfast speeds or above among the EU5.²⁶

Figure 2.1: Proportion of fixed broadband lines, by advertised speed: year-end 2015



Source: Ofcom, the International Communications Market Report 2016, Broadband Scoreboard EU5, Fig 1.9

²³ There is no standard definition of ultrafast. The UK Government currently defines ultrafast as 100 Mbit/s or greater. We also consider that the reliability with which the speed is delivered is an important attribute and expect the definition to ultrafast to evolve to take account of the importance of this reliability. We currently take ultrafast broadband services to be those that offer a minimum download speed of 300 Mbit/s or more (a factor of ten greater than that offered by superfast). These services also offer higher upload speeds than superfast broadband. Over time we expect ultrafast technologies to evolve towards providing gigabit speeds and above – 1 Gbit/s or more.

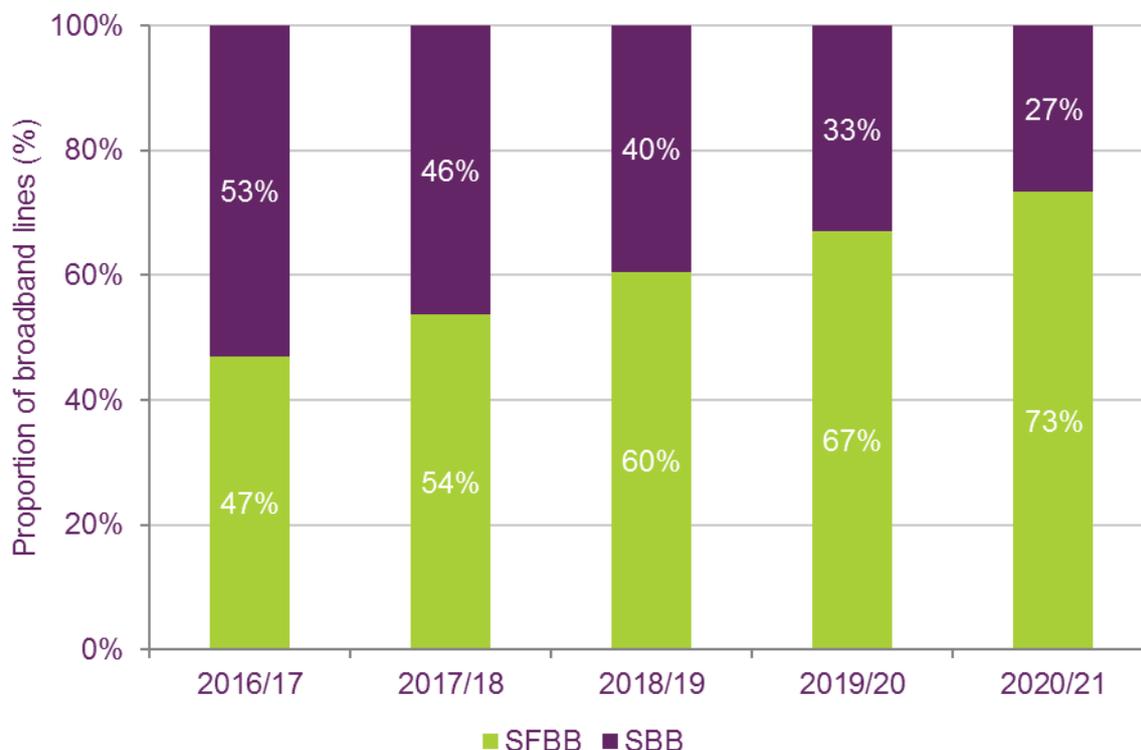
²⁴ The European Commission refers to these as Next Generation Access (NGA) networks, which it defines as wired access networks which consist wholly or in part of optical elements and which are capable of delivering broadband access services with enhanced characteristics (such as higher throughput) as compared to those provided over already existing copper networks. In most cases NGAs are the result of an upgrade of an already existing copper or co-axial access network. In the UK, fibre to the cabinet and fibre to the premises networks fall under that characterisation. See Commission Recommendation of 20 September 2010 on regulated access to Next Generation Access Networks (NGA) <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32010H0572&from=EN>.

²⁵ Connected Nations Report 2016.

²⁶ The International Communications Market Report 2016 <https://www.ofcom.org.uk/research-and-data/cmr/cmr16/international>. European Union Five (France, Germany, Italy, Spain, United Kingdom).

2.15 Our forecast to the period to 2020/21 is that take up of superfast broadband will increase to around three-quarters of lines.

Figure 2.2: Ofcom forecasts of SFBB take-up (as a proportion of all broadband lines – i.e. not adjusted for incomplete coverage of SFBB)



Source: Ofcom forecast based on Openreach and Virgin Media data²⁷

2.16 However, based on our 2016 Connected Nations data, we have estimated that in June 2016, around 1.4 million homes and businesses are still unable to receive download speeds of 10 Mbit/s,²⁸ and 3.5 million are unable to receive superfast speeds of 30 Mbit/s.²⁹

2.17 The UK Government is supporting improvement of broadband services across the country. It established Broadband Delivery UK (BDUK) to deliver superfast broadband to areas where there was no prospect of commercial deployment, with the aim of providing broadband with download speeds of 24 Mbit/s or more to 95% of the UK by the end of 2017. More recently, the Government has announced its intention to introduce a broadband Universal Service Obligation (USO) that would give

²⁷ Response dated 3 December 2015 to questions 2,3,5 and 6 of the 1st WLA s.135 request and response dated 2 September 2016 to questions 1 and 2 of the joint 2nd WBA and WLA BT s.135 request; and Virgin Media, 31 December 2015, Consolidated Financial statements, <http://www.libertyglobal.com/pdf/financial/Virgin-Media-December-31-2015-FINAL.pdf> and Virgin Media, 16 February 2016, 2016 Liberty Global Group Investor Call, <https://www.libertyglobal.com/pdf/presentations/Liberty-Global-Group-Q4-2016-Investor-Call-Presentation-FINAL.pdf>.

²⁸ The Government considers that a speed required for a decent broadband service is 10 Mbit/s.

²⁹ 3.5 million homes are unable to receive 30/6 service.

everyone a right to a decent broadband line on reasonable request.³⁰ This regulation would deliver a better broadband service to those homes and small businesses currently receiving poor broadband speeds.

- 2.18 Ultrafast broadband can be provided with different technologies. The majority of ultrafast broadband services are currently provided with FTTP technology. In 2016 only around 2% of homes and small businesses (500,000) had access to FTTP.³¹ BT is now piloting G.fast technology which uses fibre and BT's copper network, which may be able to provide ultrafast services to some of the customers in the areas where it is deployed.³² Virgin Media is in the process of upgrading its network and is beginning to offer services with download speeds of 300 Mbit/s. Later versions of the technology used could support, in theory, download speeds of up to 10 Gbit/s and upload speeds of up to 1 Gbit/s.³³

Telecoms providers with local access networks

- 2.19 The largest provider of broadband services is BT with close to 100% coverage of the UK for standard broadband and around 90% of the UK for superfast. Virgin Media uses its own cable network to serve its customers, which covers around half of the UK. It has recently upgraded its network to DOCSIS 3.0, and offers speeds of up to 300 Mbit/s. Virgin Media has also announced that it plans to invest £3bn in connecting a further four million homes by 2020 (referred to by Virgin Media as 'Project Lightning'). This would increase the coverage of its network to 60-65% of the UK. The majority of Virgin Media's network expansion will be FTTP technology.
- 2.20 In the Hull Area³⁴, KCOM is the incumbent operator offering broadband services using both copper and fibre networks. KCOM's FTTP network covers around 35% of homes and small businesses in the Hull Area. KCOM has announced³⁵ that it is accelerating its FTTP plans with the aim of passing 150,000 homes and businesses by the end of 2017.

WLA services

- 2.21 BT, through Openreach provides wholesale local access to other telecoms providers, the largest of which are BT Consumer, Sky and TalkTalk who then offer services to

³⁰ Government press release, November 2015 <https://www.gov.uk/government/news/government-plans-to-make-sure-no-one-is-left-behind-on-broadband-access>.

³¹ Connected Nations Report 2016.

³² G.fast is a technology which is similar to VDSL2 based FTTC service that provides higher bandwidth broadband. BT offers two speed variants in its G.fast pilot: the first offers up to 160 Mbit/s download and 30 Mbit/s upload, and the second offers up to 330 Mbit/s download and 60 Mbit/s upload. These higher speeds may only be available to customers within 300-400m of the cabinet. Unlike FTTP, G.fast technology can offer only asymmetric download and upload speeds.

³³ See the commentary on DOCSIS3.1 and other cable futures in <http://www.libertyglobal.com/pdf/public-policy/Liberty-Global-Policy-Series-Connectivity-for-the-Gigabit-Society.pdf> [accessed 15 March].

³⁴ The 'Hull Area' refers to the area where KCOM operates as the incumbent and consists of the Kingston upon Hull City Council area and some parts of the East Riding of Yorkshire Council area.

³⁵ *KCOM announces major milestone in ultrafast broadband rollout*, 30 September 2016. <http://www.kcomplc.com/business-insight/news-and-media/kcom-announces-major-milestone-in-ultrafast-broadband-rollout/> [accessed 8 March].

customers. There are a number of WLA services that telecoms providers use to provide broadband services using BT's network:

- Physical Infrastructure Access (PIA): a form of duct and pole access that enables providers to deploy fibre in the access network using BT's ducts and poles;
- LLU: enables providers to deliver standard broadband over BT's copper network. The two variants of LLU are MPF and Shared Metallic Path Facility (SMPF);³⁶
- Sub Loop Unbundling (SLU): allows providers to physically take over or share part of BT's existing copper lines between a cabinet and the customer's premises; and
- VULA: provides access to BT's fibre network through a virtual connection. BT meets this obligation through the provision of Generic Ethernet Access (GEA). It has variants: GEA-FTTC and GEA-FTTP.

2.22 LLU and VULA are the most widely used products. Telecoms providers use BT's LLU service to serve around ten million customers. VULA is used by BT's competitors to supply around 2.5 million customers.³⁷ Some smaller telecoms providers use SLU, but compared to LLU and VULA the number of lines supplied in this way is very limited.

2.23 Our PIA remedy was first introduced to support potential competition for contracts in the early stages of the BDUK programme, but to date the take-up has been limited. As we discussed in our December 2016 initial consultation³⁸, we are now developing a more effective PIA remedy.

Strategic Review of Digital Communications

2.24 Our Strategic Review sets out a ten year vision for communications services in the UK. This envisaged the UK becoming a world leader in the availability and capability of its digital networks, with widespread competing networks delivering choice, innovation and affordable prices to homes and businesses.

2.25 Our long term strategy for fixed network competition and investment focusses on three main elements:

- encouraging and enabling network investment by reducing the cost and barriers to that new investment;
- continuing to regulate access to Openreach's network and services where network competition is not effective, including in more remote and rural areas; and

³⁶ With MPF a telecoms provider can provide voice and broadband, and with SMPF just broadband services to customers.

³⁷ BT Key Performance Indicators Q3 2016/2017, <http://btplc.com/Sharesandperformance/Quarterlyresults/2016-2017/Q3/Downloads/KPIs/q317KPIs.pdf> [accessed 20 February 2017].

³⁸ 2016 PIA Consultation.

- regulating access to superfast and ultrafast services to give both BT and its competitors incentives to invest in new networks whilst balancing the need to protect customers from excessive pricing. In particular, we want to ensure the incentives are there for operators to build new networks as opposed to relying predominantly on buying access from BT.

Summary of existing regulation

- 2.26 In the 2014 Fixed Access Market Review (FAMR) we defined the WLA market as comprising the provision of copper, cable and fibre lines at a fixed location.³⁹ We defined two geographic markets: the UK excluding the Hull Area and the Hull Area. We found that BT held SMP in the first of these geographic markets and KCOM in the second, and we applied remedies in each accordingly.
- 2.27 We imposed charge controls on BT's MPF and SMPF services and the relevant ancillary services. We also imposed an obligation on BT to provide VULA. We did not impose a charge control on this service but allowed BT pricing flexibility subject to it complying with the VULA margin condition.⁴⁰ The current MPF and SMPF charge controls expire on 31 March 2017.
- 2.28 BT remains subject to a requirement for its charges to be fair and reasonable imposed in 2014. BT has made a voluntary commitment to keep prices covered by the previous charge control at current levels until 31 December 2017. Given the importance of the MPF service to competition, we have consulted separately alongside this document on a proposal to issue a direction to BT specifying £84.38 as the fair and reasonable charge that it may apply for MPF at this time.⁴¹

Regulatory framework

- 2.29 The regulatory framework for market reviews is set out in UK legislation and is transposed from five EU Directives. These Directives impose a number of obligations on relevant regulatory authorities, such as Ofcom, one of which is to carry out periodic reviews of certain electronic communications markets.⁴²
- 2.30 This market review process is carried out in three stages:
- we identify and define relevant markets;
 - we assess whether the markets are effectively competitive, which involves assessing whether any operator has SMP in any of the relevant markets; and

³⁹ 2014 FAMR, paragraph 7.9.

https://www.ofcom.org.uk/_data/assets/pdf_file/0032/78863/volume1.pdf.

⁴⁰ VULA margin means the difference between the charge levied by BT for Virtual Unbundled Local Access and the charge levied by its retail divisions for the supply of a VULA-based broadband package. See Ofcom, Fixed Access Market Reviews: Approach to the VULA margin 19 March 2015, SMP condition 14

https://www.ofcom.org.uk/_data/assets/pdf_file/0020/71606/vula_margin_statement_annexes.pdf.

⁴¹ We propose that this maximum charge will apply to the annual rental charge for MPF SML1, <https://www.ofcom.org.uk/consultations-and-statements/category-3/mpf-rental-at-service-maintenance-level-1/>.

⁴² We set out the applicable regulatory framework and the approach to market definition and SMP assessment in more detail in Annexes 5 and 6.

- where we find SMP, we assess the appropriate remedies, based on the nature of the competition problems identified in the relevant markets.

2.31 In carrying out the review we are required to define relevant markets appropriate to national circumstances. In so doing, we are also required to take due account of the European Commission's (EC) Recommendation on relevant product and service markets⁴³ (the 2014 EC Recommendation) and SMP Guidelines.⁴⁴ More broadly, we are required to take utmost account of all applicable opinions, common positions, recommendations, guidelines, advice or regulatory best practice adopted by BEREC.⁴⁵

Relevant documents

The 2014 EC Recommendation

2.32 The Relevant Markets Recommendation sets out those product and service markets which, at a European level, the Commission has identified as being susceptible to *ex ante* regulation. These markets are identified on the basis of the cumulative application of three criteria:

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

2.33 We, as the national regulatory authority in the UK, in accordance with competition law and taking due account of the 2014 EC Recommendation, have defined the proposed relevant markets appropriate to our national circumstances in Section 3 of this consultation.

The EC SMP Guidelines

2.34 The EC SMP Guidelines include guidance on market definition, assessment of SMP and SMP designation. In Section 3 of this consultation, we set out how we have taken the EC SMP Guidelines into account in reaching our proposals.

⁴³ The WLA market is Market 3a in the Commission's list of relevant markets. *Commission Recommendation of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services* (2014/710/EU) <http://eurlex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014H0710&from=EN>.

⁴⁴ *Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services* (2002/C 165/03). Available at: [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52002XC0711\(02\)&qid=1488374690159&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52002XC0711(02)&qid=1488374690159&from=EN) (SMP Guidelines).

⁴⁵ Body of European Regulators for Electronic Communications. See Article 3(3c) of the Framework Directive. See also Article 3(3) of the BEREC Regulation (Regulation (EC) No 1211/2009 of the European Parliament and of the Council of 25 November 2009 establishing the Body of European Regulators of Electronic Communications and the Office).

The NGA Recommendation and the Costing and Non-discrimination Recommendation

- 2.35 The NGA Recommendation aims to foster the development of the single market by enhancing legal certainty and promoting investment, competition and innovation in the market for broadband services, and in particular, the transition to next generation access networks. It does so by setting out a common approach for the implementation of remedies with regard to such networks.
- 2.36 The Costing and Non-discrimination Recommendation concerns the application of non-discrimination, price control and cost accounting obligations. It provides further guidance on the regulatory principles established by the NGA Recommendation, in particular the conditions under which regulation of wholesale access prices should or should not be applied.
- 2.37 In relation to both of these documents, we note that we must take utmost account of each recommendation, but that in the light of particular factors it may be appropriate to depart from them.

BEREC Common Position

- 2.38 In considering the remedies in this consultation, we have taken utmost account of the BEREC Common Position on remedies in the market for wholesale (physical) network infrastructure access at a fixed location, as set out in the sections below. To the extent that any of our proposals depart from the BEREC Common Position, we have set out our reasons in this consultation.

Relevant legal tests and statutory duties

- 2.39 Where we propose that a market is not effectively competitive, we identify the undertaking(s) with SMP in that market and propose what we consider to be appropriate SMP obligations. When proposing a specific SMP obligation, we need to demonstrate that the obligation in question is based on the nature of the problem identified, proportionate and justified in the light of the policy objectives as set out in Article 8 of the Framework Directive.⁴⁶
- 2.40 Specifically, we explain why we consider each of the conditions we are proposing satisfies the test set out in section 47 of the Communications Act 2003 (the Act), namely that the obligation is:
- objectively justifiable in relation to the networks, services or facilities to which it relates;
 - not such as to discriminate unduly against particular persons or against a particular description of persons;
 - proportionate to what the condition or modification is intended to achieve; and
 - transparent in relation to what is intended to be achieved.
- 2.41 Additional legal requirements also need to be satisfied depending on the SMP obligation in question. For example, when we propose a charge control, we must

⁴⁶ See Article 8(4) of the Access Directive.

consider whether there is a relevant risk of adverse effects arising from price distortion; and the appropriateness of the control for the purpose of promoting efficiency; sustainable competition; and conferring the greatest possible benefits on end-users of public electronic communications services.

- 2.42 We also explain why we consider the performance of our general duties under section 3 of the Act would be secured or furthered by our proposed regulatory intervention. Our principal duty, in this regard, is to further the interests of citizens in relation to communications matters and customers in relevant markets, where appropriate by promoting competition. We explain why we are acting in accordance with the six Community requirements under section 4 of the Act. This is also relevant to our assessment of the likely impact of implementing our proposals.
- 2.43 Consistent with our duties under section 4A of the Act and under Article 3(3) of the BEREC Regulation, we have also taken due account of the applicable EC recommendations and utmost account of the applicable opinions, common positions, recommendations, guidelines, advice and regulatory best practices adopted by BEREC relevant to the matters under consideration in this consultation document.

Forward look

- 2.44 Market reviews look ahead to how competitive conditions may change in the future. For the purposes of the review, we consider the period up to March 2021, reflecting the characteristics of the retail and wholesale markets and the factors likely to influence their competitive development.

Impact Assessment and Equality Impact Assessment

Impact Assessment

- 2.45 The analysis presented in this consultation constitutes an impact assessment as defined in section 7 of the Act.
- 2.46 Impact assessments provide a valuable way of assessing the options for regulation and showing why the chosen option was preferred. They form part of best practice policy-making. This is reflected in section 7 of the Act, which means that, generally, we have to carry out impact assessments in cases where our conclusions would be likely to have a significant effect on businesses or the general public, or where there is a major change in Ofcom's activities. However, as a matter of policy Ofcom is committed to carrying out impact assessments in relation to the great majority of our policy decisions.⁴⁷

Equality Impact Assessment (EIA)

- 2.47 Annex 7 sets out our EIA for this market review. Ofcom is required by statute to assess the potential impact of all our functions, policies, projects and practices on race, disability and gender equality. EIAs also assist us in making sure that we are meeting our principle duty of furthering the interests of citizens and consumers regardless of their background or identity.

⁴⁷ For further information, see Ofcom, 2005. *Better Policy Making: Ofcom's approach to Impact Assessment*, https://www.ofcom.org.uk/_data/assets/pdf_file/0029/45596/condoc.pdf.

- 2.48 It is not apparent to us that the outcome of our review is likely to have any particular impact on race, disability and gender equality. More generally, we do not envisage the impact of any outcome to be to the detriment of any group of society. Nor do we consider it necessary to carry out separate EIAs in relation to race or gender equality or equality schemes under the Northern Ireland and Disability Equality Schemes.

Consultation period

- 2.49 The deadline for responses to this consultation is 9 June 2017. Annexes 1 to 4 set out the process for responding to the consultation.

Document structure

- 2.50 In Volume 1 of this consultation we define the relevant market by looking at the downstream services in order to inform upstream market definition and assessment of market power (Section 3). We next discuss our over-arching approach to remedies (Section 4) and then explain the general and specific access remedies proposed (Sections 5 and 6), quality of service remedies (Section 7) followed by the pricing remedies proposed for VULA and LLU (Sections 8 and 9). Finally, we set out our proposed regulatory financial reporting requirements (Section 10).
- 2.51 In Volume 2 we discuss in detail our proposed charge controls. We set out the principles we propose to follow in setting of cost-based charges (Section 2). We then explain our charge control design (Section 3) and charge control cost modelling (Section 4) followed by implementation and assessment of proposals against the applicable legal tests (Section 5).
- 2.52 There are also a number of annexes (Annexes 5 to 22) which provide supporting information and analysis for our proposals. Annex 23 contains our draft legal instruments.

Section 3

Market definition and significant market power assessment

Summary

- 3.1 In this section, we set out our assessment of the product and geographic market definition, and our assessment of market power, in relation to the provision of WLA. As explained in Section 2, WLA is the fixed connection from the local exchange (or other appropriate point of aggregation of subscriber lines) to a home or business premises. This line is an input into a number of retail services, including retail telephone and broadband services.
- 3.2 WLA corresponds to Market 3(a) in the 2014 EC Recommendation. In our assessment of market definition and market power for this review we have taken utmost account of both that recommendation and the SMP Guidelines. The reason for carrying out a market definition and market power assessment, including our general approach to doing so, is set out in Annexes 5 and 6.
- 3.3 In summary, we propose to:
- define WLA as a single product market for the supply of copper loop, cable- and fibre-based wholesale local access at a fixed location;
 - define two distinct geographic markets for the WLA product market identified above, namely (i) the UK excluding the Hull Area, and (ii) the Hull Area; and
 - conclude that BT will continue to have Significant Market Power (SMP) in the supply of WLA within the UK (excluding the Hull Area) over the review period.
- 3.4 As explained in Section 2, we will address SMP in the Hull Area in a separate consultation document to be published in Q1 2017/2018.

Introduction

- 3.5 The purpose of market definition is to structure and inform our assessment of whether SMP exists. As set out in Annex 6, for the purposes of undertaking an assessment of market definition and SMP in the context of a market review we apply a forward-looking 'Modified Greenfield approach'. This means that we consider a hypothetical scenario, over the forthcoming review period, in which there are no *ex ante* SMP remedies in the WLA market, or in any markets downstream of WLA. In this hypothetical scenario, a network operator is unlikely to provide other telecoms providers access to its network. Consequently, retail services would only be supplied by vertically integrated operators.
- 3.6 It is possible that different types of network operator exert a strong constraint on each other at the retail level. This can then be viewed as an indirect constraint on the upstream product (i.e. on WLA). For example, if a cable network competes strongly with copper- or fibre-based services at the retail level, then the notional price that the

copper or fibre network supplies WLA is also likely to be constrained.⁴⁸ We therefore start our assessment of wholesale markets by analysing the relevant retail services.

3.7 The remainder of this section considers:

- the retail services that use WLA as an input;
- our proposed definition of the relevant product market;
- our proposed definition of the relevant geographic markets for WLA; and
- our assessment of market power.

Retail services

3.8 WLA services are used as an input into a number of retail services in particular broadband which is typically bundled with fixed voice telephony.

3.9 Voice services were considered in our 2016 Narrowband Market Review (NMR) Consultation. The 2016 NMR recognised the increasing significance of mobile (and to a lesser extent VoIP) calls at the retail level for fixed voice calls. Nonetheless, we proposed that mobile services did not impose a sufficiently strong constraint at the retail level to be included as an indirect constraint in the upstream (i.e. wholesale) market for fixed voice calls.⁴⁹

3.10 Given that voice services were analysed in detail in the 2016 NMR, we do not repeat that analysis here. Instead, this consultation focuses on broadband services. Using fixed broadband internet access as our starting point, this sub-section considers the degree of substitutability between:

- residential and business services;
- broadband services provided over copper, cable and fibre networks;
- broadband services of different speeds;
- mobile and fixed broadband;
- leased line services and fixed broadband;
- fixed wireless access and fixed broadband;
- satellite access and fixed broadband; and
- bundled and non-bundled services.

⁴⁸ We note that the actual wholesale price of WLA access may not be constrained by cable absent regulation. Even if the retail price is constrained by downstream competition, BT could potentially increase the wholesale price of WLA services without making a corresponding change in its retail prices to avoid increasing competition in the retail market.

⁴⁹ 2016 NMR Consultation, paragraph 4.175.

https://www.ofcom.org.uk/_data/assets/pdf_file/0016/95011/Narrowband-Market-Review.pdf

Residential and business supply

- 3.11 At the retail level, many providers of broadband services offer distinct residential and business packages.
- 3.12 These services use the same wholesale input, and it would therefore be hard for any supplier at the wholesale input level (i.e. WLA) to discriminate between downstream providers that were then serving different retail segments (in this case residential and business customers). Moreover, we do not think the constraints from the alternative technologies discussed below differ significantly between residential and business services.
- 3.13 We therefore do not believe it necessary to consider the constraints between retail level residential and business services in detail here.

Copper, fibre and cable

- 3.14 Fixed line broadband services can be provided over copper, fibre and cable but at the retail level the services have the same intended use. It is clear from the marketing of these services that services over different technologies are positioned as alternative methods of delivering the same retail services, with the main difference being the speed of the service.⁵⁰ The substitutability of different broadband speeds is discussed below.

Different broadband speeds

- 3.15 There are currently a wide range of headline speeds available – the main Internet Service Providers (ISPs) typically offer services with headline speeds ranging from 17 Mbit/s to 300 Mbit/s. As consumers usually only have one broadband line, services of different speeds are likely to substitute for each other to some extent.
- 3.16 When considering the substitutability of different speeds, we have focussed on the distinction between Standard Broadband (SBB) and Superfast Broadband (SFBB). We have also considered Ultrafast Broadband (UFBB). This is because, broadly speaking, different technologies underpin the differences in headline speeds. SFBB speeds are usually delivered via FTTC or cable, while SBB speeds are normally delivered by copper loop-based access.⁵¹
- 3.17 Although the technology can determine the headline speed, the actual speeds often differ from headline speeds as it is limited by factors beyond the access technology. Table 3.1 below shows the average actual speed delivered.

⁵⁰ For example, marketing by Virgin Media has compared its cable-based services to the fibre services of other providers. Virgin Media, <http://www.virginmedia.com/shop/broadband/ultrafast.html> [accessed 11 January 2017].

⁵¹ Typical technologies used in FTTC and cable networks are VDSL (and evolutions) and Docsis 3.0 respectively while typical technology used in copper loop-based access networks is ADSL2+.

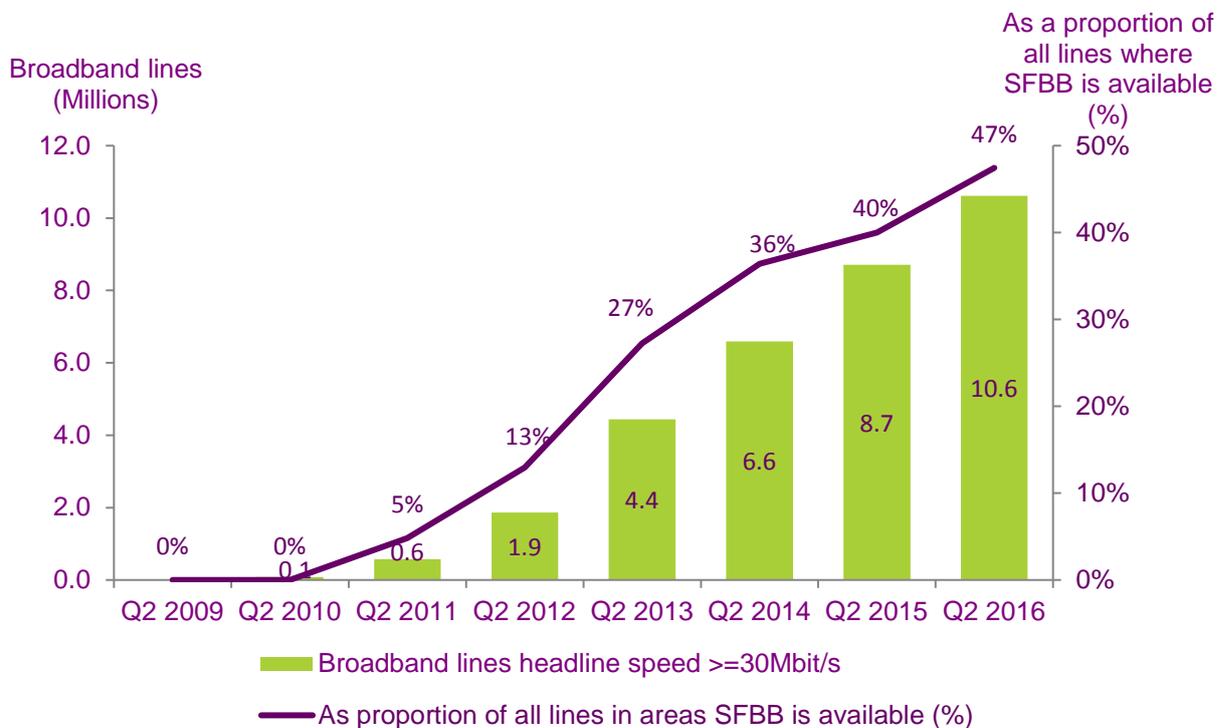
Table 3.1: Headline and actual speeds

	Average actual	Typical technology
Standard broadband	10.5 Mbit/s	ADSL2+
Superfast broadband	66 Mbit/s	VDSL, Docsis 3.0

Source: Derived from Ofcom, *Connected Nations Report 2016*, p1. Note that the figures do not correspond to average speeds in the *Connected Nations Report* because that report defines standard and superfast broadband as having an actual speed, rather than headline speed, less than or greater than 30 Mbit/s.

SFBB take-up is growing rapidly

3.18 40% of customers had superfast lines in 2016.⁵² Adjusting this to take account of incomplete coverage of SFBB shows that, where available, take-up of SFBB was actually 47%. As illustrated in Figure 3.2 below, this has grown from a within-footprint take up of just 5% in 2011.

Figure 3.2: SFBB Take-Up, Q2 2009- Q2 2016

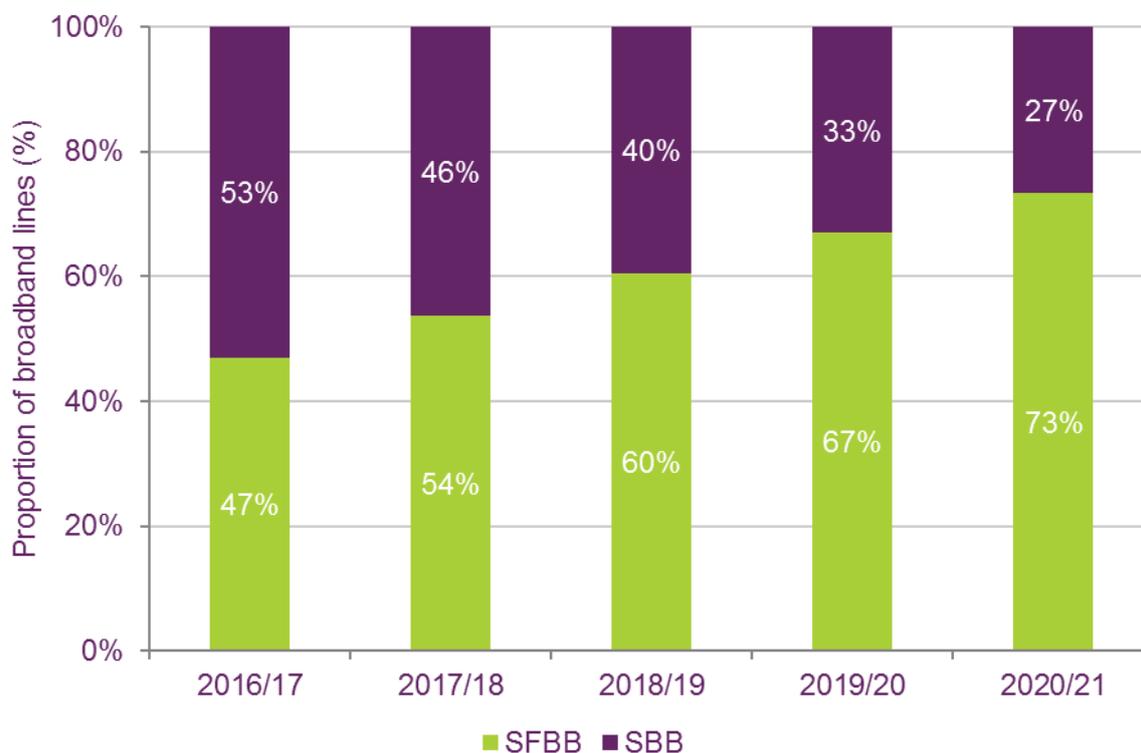
Source: Ofcom analysis of operator data

Note: Includes estimates where Ofcom does not receive data from operators

3.19 As shown in Figure 3.3, we forecast that there will be continued growth in the SFBB segment over the review period. We estimate that SFBB will account for around three-quarters of all broadband lines by 2020/21.

⁵² Derived from Ofcom, December 2016, *Connected Nations 2016*, Figure 11.

Figure 3.3: Ofcom forecasts of SFBB take-up (as a proportion of all broadband lines – i.e. not adjusted for incomplete coverage of SFBB)



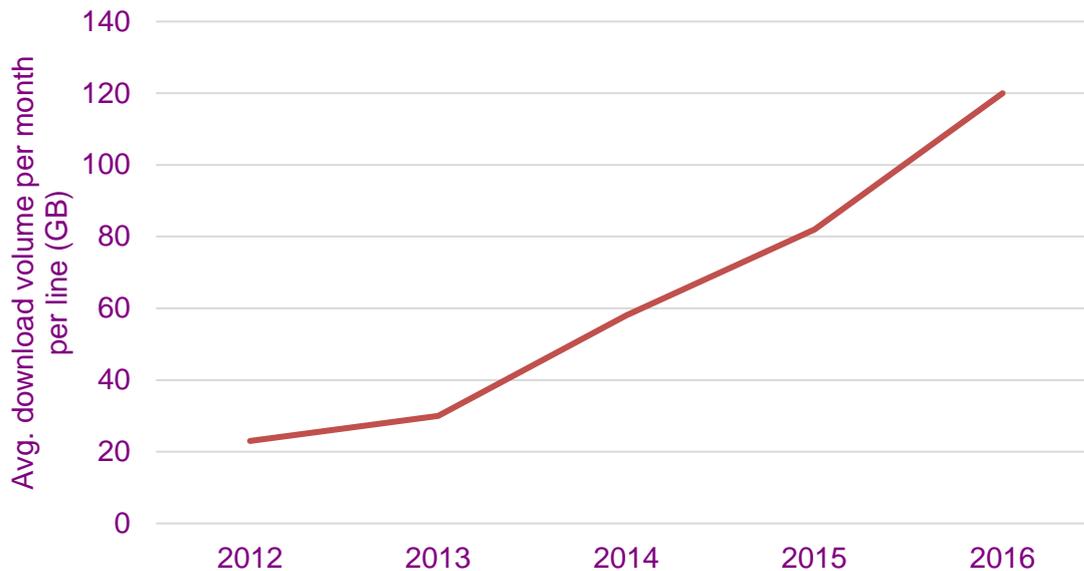
Source: Ofcom forecast based on Openreach and Virgin Media data⁵³

3.20 We believe this continued migration to SFBB suggests that SFBB is likely to be a good substitute for SBB and that the constraint of SBB on SFBB is weakening.

Usage trends drive demand for SFBB

3.21 As shown in Figure 3.4, broadband usage has increased dramatically over time. The average monthly download volume per line has increased more than four-fold in the past four years alone, rising from around 25 GB in 2012 to nearly 120 GB in 2016. We believe that this increase in usage reflect trends which mean that, in many cases, SBB speeds will no longer be sufficient for household needs.

⁵³ Response dated 3 December 2015 to questions 2,3,5 and 6 of the 1st WLA BT s.135 request and response dated 2 September 2016 to questions 1 and 2 of the joint 2nd WBA and WLA BT s.135 request; and Virgin Media, 31 December 2015, *Consolidated Financial statements*, <http://www.libertyglobal.com/pdf/financial-income/Virgin-Media-December-31-2015-FINAL.pdf> and Virgin Media, 16 February 2016, *2016 Liberty Global Group Investor Call*, <https://www.libertyglobal.com/pdf/presentations/Liberty-Global-Group-Q4-2016-Investor-Call-Presentation-FINAL.pdf> [accessed 24 March 2017].

Figure 3.4: Speed and data usage, 2012-16

Source: Derived from Ofcom, *Infrastructure reports 2012, 2013 and 2014* and *Connected Nations reports 2015 and 2016*

- 3.22 There is a trend for new services needing ever more bandwidth. Some of these often only function well with SFBB speeds. For example, new Ultra High Definition (UHD) streaming services require download speeds of around 30 Mbit/s to work well (whereas more established HD services require less than 5 Mbit/s).⁵⁴
- 3.23 Even where SBB is technically sufficient, SFBB may provide a better quality experience, for example by reducing buffering when streaming video. This is reflected in BT’s marketing material which says that its fibre service (BT Infinity) is “*great for downloading or streaming movies, TV shows and music. You can watch iPlayer with less interruption and HD video with less buffering*”.⁵⁵ Indeed, some BT TV packages are only available with its fibre broadband.⁵⁶
- 3.24 SFBB services also tend to have higher upload speeds. They are therefore more suitable for cloud-based services for back-up of data or sharing of content which are also increasingly popular.
- 3.25 Demand for SFBB may also be increasing due to several people within a household being on line at the same time, often each downloading a large amount of data. Such multi-use is likely to have increased as ownership of internet enabled devices has spread – in 2016, 71% of UK households owned a smartphone, 64% owned laptops and 59% owned tablets.⁵⁷ Our residential broadband research found that 71% of

⁵⁴ See https://www.ofcom.org.uk/_data/assets/pdf_file/0035/95957/Ofcom-Mobile-and-Broadband-Checker.pdf page 15 which sets out that the broadband checker will be “green” for UHD services if the line provides >30 Mbit/s; amber if it provides 15-30 Mbit/s; and red for less than 15 Mbit/s.

⁵⁵ BT, 2017, <http://www.productsandservices.bt.com/products/speed-checker> [accessed 9 February 2017].

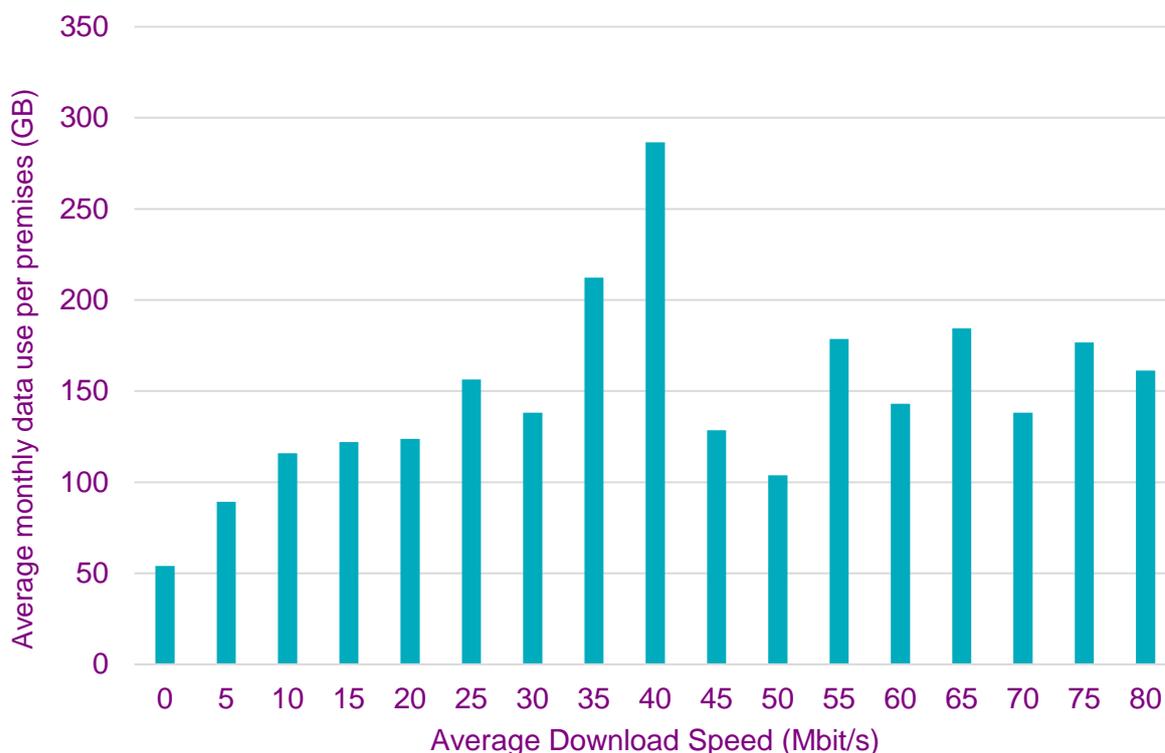
⁵⁶ BT, 2017, <http://www.productsandservices.bt.com/products/tv-packages> [accessed 9 February 2017].

⁵⁷ 2016 CMR, p189.

households now said simultaneous use of high bandwidth services occurred either ‘a lot’ or ‘sometimes’.⁵⁸

- 3.26 SFBB services may also be needed for those households with lower than average SBB speeds.⁵⁹ Around a quarter of customers on SBB cannot receive more than 5 Mbit/s given their distance from the exchange.⁶⁰
- 3.27 Figure 3.5 confirms that customers with higher broadband speeds generally consume higher volumes of data (although this trend breaks down after average download speeds exceed 40 Mbit/s). Customers receiving 40 Mbit/s, in particular, consume very high amounts of data. This suggests consumers get significant value from SFBB lines.

Figure 3.5: Variation in data use with download speed, 2016



Source: Derived from Ofcom, Connected Nations Report 2016

- 3.28 Demand for speed is likely to continue to increase throughout the forward look of this review period. Some evidence from BT suggests that even low bandwidth demand households may need speeds nearing SFBB in future. For example, one piece of research concluded that: “Low bandwidth demand homes need [x] Mbit/s today. This could increase to [x] Mbit/s in 2018. Most users need [x] Mbit/s today and

⁵⁸ Ofcom, Residential and SME Broadband Research, March 2016, slide 27.

⁵⁹ BT is trialling an 18/2 fibre service for those customers with low SBB speeds but such services nevertheless require a wholesale fibre input.

⁶⁰ Derived from data provided by telecoms providers for Connected Nations 2016.

could need [3<] Mbit/s in 2018.”⁶¹ It also created its own forecast and found for SMEs that the median ‘peak’ download demand in 2019 is likely to be around [3<] Mbit/s.⁶²

- 3.29 In summary, usage trends suggest that SFBB speeds are becoming increasingly necessary in people’s lives. Significant numbers of customers, including those in multi-user households, customers who carry out very high bandwidth activities and those with slower than average SBB, are likely to have a strong need for SFBB. Moreover, demand for higher bandwidth is likely to continue to increase substantially over the review period as new high bandwidth services develop, multi-usage continues to grow, and customer expectations around quality increases.

Customers are less satisfied with SBB when conducting simultaneous high-bandwidth activities

- 3.30 Our consumer research suggests customers are generally satisfied with their broadband speeds: 82% of SBB customers and 90% of SFBB customers say their broadband speed is sufficient for their household.⁶³ However, there is a much greater difference in satisfaction when a connection was used to carry out simultaneous high bandwidth activities. Table 3.6 shows that 85% of SFBB SME customers are always or mostly happy with the speed of their connection when conducting simultaneous high bandwidth activities, compared to just over one-half of SBB SME customers. For residential customers, the difference is slightly narrower with 83% of SFBB customers being always or mostly happy compared to 64% of SBB customers. This corroborates the greater need for SFBB for multi-user households, and suggests that as households increasingly need to carry out high-bandwidth activities simultaneously, more customers may upgrade.

Table 3.6: Satisfaction with the connection speed when conducting simultaneous high-bandwidth activities

Satisfied?	Residential		SMEs	
	SBB	SFBB	SBB	SFBB
Always	39%	52%	24%	62%
Always or Mostly	64%	83%	54%	85%

Source: Ofcom, Residential and SME Broadband Research, March 2016⁶⁴

⁶¹ Response dated 14 January 2016 to the 1st WLA BT s.135 request.

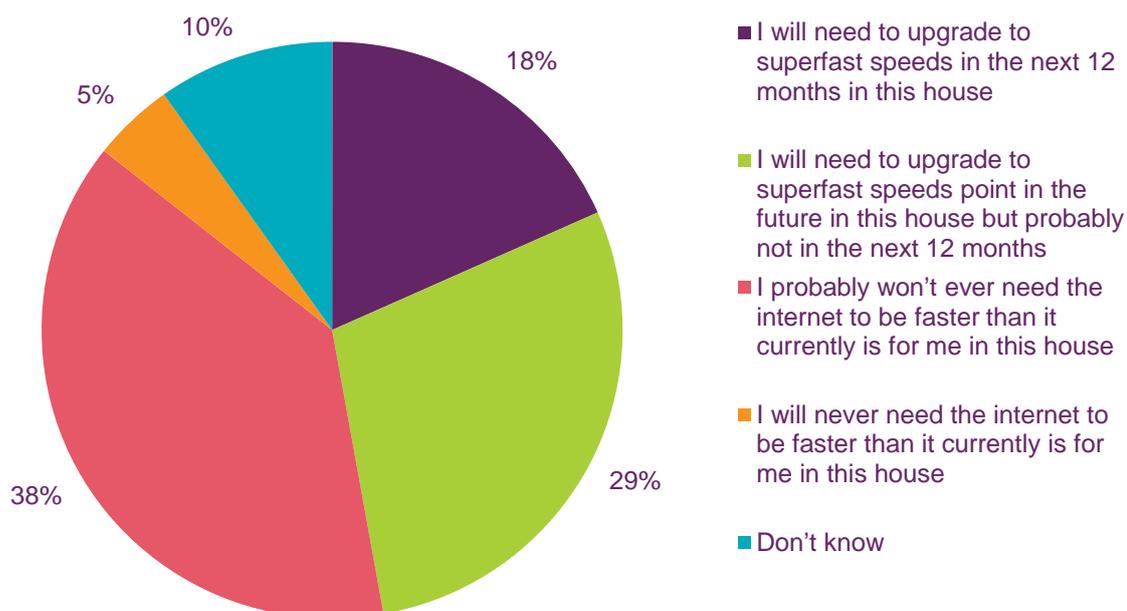
⁶² Response dated 14 January 2016 to the 1st WLA BT s.135 request.

⁶³ Source: Ofcom, 3 December 2015, *Residential and SME Broadband Research*, response to question: Is the speed of service you receive from fixed broadband service sufficient for your household, i.e. are you able to do the activities that you want with it? (Base: All with responsibility for fixed broadband internet access, SBB [606] and SFBB [635]). Note: Not sufficient here refers to broadband being unreliable or too slow.

⁶⁴ Question: And are you satisfied with the quality of speed of the connection while conducting these activities simultaneously. Residential Base: All UK adults with fixed broadband connection that conducts activities with high bandwidth simultaneously ‘a lot’ [222]. SME Base: All SMEs fixed broadband connection that conduct activities with high bandwidth simultaneously ‘a lot’ [176]. Residential high bandwidth activities are defined as: watching TV or films online on any device (including on a Smart TV set); downloading large files such as photos, videos, software, or music; online gaming; uploading large files as photos, videos, software, or music; streaming ultra HD video. SME high bandwidth activities are defined as: online software/ apps; online data and storage backup; FTP (File Transfer Protocol); VPN (remote login to work server); video conferencing.

3.31 Consumer research conducted by BT provides further evidence on customers' likely future behaviour. It asked non-fibre customers about their likelihood of upgrading their broadband speed in future. Figure 3.7 shows that 47% (i.e. 18% + 29%) of respondents stated they will need to upgrade to superfast speeds in the future, while 43% stated they probably would not, or would never, upgrade to superfast speeds. This is broadly consistent with the forecasts we have seen for future upgrades.⁶⁵ It suggests that despite many customers being satisfied with SBB speeds for now, a significant proportion of them expect to upgrade in the future.

Figure 3.7: Likelihood of upgrading in future (non-fibre customers)



Source: Openreach market research⁶⁶

Consumers have shown limited propensity to downgrade

3.32 We considered evidence on the propensity of SFBB customers to downgrade. This is important as telecoms providers can set prices to existing customers separately from those for new customers - around 80% of new dual play customers to a telecoms provider take a promotional tariff.⁶⁷ So if existing SFBB customers are unlikely to downgrade in response to a price rise, telecoms providers may increase prices to them while setting lower introductory tariffs for SBB customers that have yet to experience SFBB speeds.

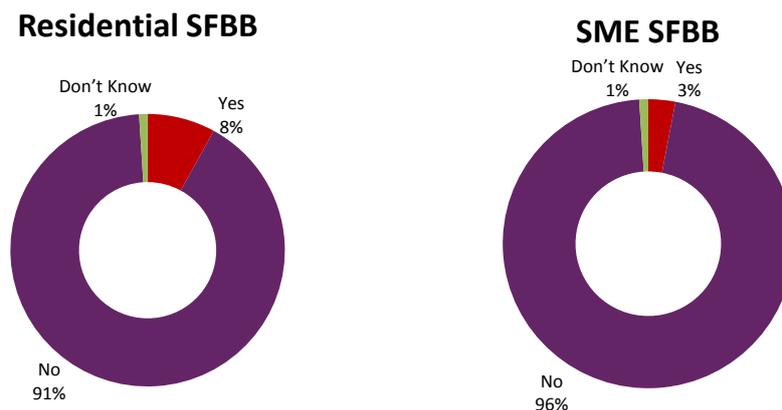
⁶⁵ Those forecasts suggested the share of SFBB would grow to around three-quarters of lines from its current share of under half of lines (Figure 3.2). The Openreach data suggests 47% of the current SBB base (60%) will upgrade to SFBB, which would add 47% x 60% = 28% to the current SFBB base of 40% of all broadband customers, taking the future SFBB base to 73% of all broadband customers.

⁶⁶ Response dated 14 January 2016 to Q5 of the 1st WLA BT s.135 request.

⁶⁷ Simplify Digital, Q3 2016. Promotional prices are available to customers who switch providers or those who buy a new package after the completion of their contract period with the same provider. These promotional discounts do not include any 'retention' discounts which are offered to existing customers.

- 3.33 The propensity of SFBB customers to downgrade is relevant even if telecoms providers cannot perfectly price discriminate. This is because it is clear that, during this review period, there will be a greater number of existing SFBB customers than potential SFBB customers. So even pricing policies set with both existing and potential consumers in mind are likely to be increasingly dominated by the price sensitivity of existing customers.
- 3.34 We believe the evidence shows that existing SFBB customers rarely downgrade from SFBB to SBB. Our consumer research asked questions about whether customers had switched, and if so, whether they chose a higher or lower speed. We have found that around 20% of residential customers had switched to a faster speed services and only 2% to a lower speed. Among SMEs, there has been more total switching between speeds (40% had made a speed related switch) but even fewer had switched to a lower speed (1%).⁶⁸
- 3.35 We also used our consumer research to ask directly about customer willingness to consider downgrading. We asked customers who currently have SFBB if they would consider switching to a ‘cheaper but slower’ broadband service. Figure 3.8 shows that for residential customers around 8% said they would consider a slower service while for SMEs this was only around 3%.⁶⁹

Figure 3.8: Consideration of switching to a slower, cheaper service



Source: Residential and SME Broadband Research, 3 December 2015⁷⁰

- 3.36 This is corroborated by evidence in Table 3.9 which shows the extent of “within-provider” upgrading and downgrading (i.e. customers of a particular telecoms provider upgrading or downgrading to a different package with the same telecoms provider) in the three months from July to September 2015. It suggests that within-

⁶⁸ Residential and SME Broadband Research. 10th November 2015.

⁶⁹ Residential and SME Broadband Research, 3 December 2015.

⁷⁰ Question: If a cheaper BUT slower broadband connection was available to you, would you consider changing to this cheaper but slower broadband? Before you answer please bear in mind that if you had any other services such as TV or a phone line these would remain exactly as before, only the broadband speed would change with the decrease in price. Base residential: All UK adults with fixed BB connection who have responsibility for it [1263]. Base SME: All SMEs with fixed broadband [516].

provider downgrades accounted on average for less than 0.5% of their SFBB consumers, representing only a fraction of upgrades.⁷¹

Table 3.9: Quarterly telecom provider upgrades and downgrades, July to September 2015

	Quarterly upgrades (% of SBB base)	Quarterly downgrades (% of SFBB base)	Ratio of absolute upgrades/ absolute downgrades
BT	[X]	[X]	[X]
EE	[X]	[X]	[X]
Sky	[X]	[X]	[X]
TalkTalk	[X]	[X]	[X]

Note: Upgrades are calculated with respect to SBB base, downgrades with respect to SFBB base. Thus the above upgrades figures cannot be derived from the downgrades figures and vice versa, as each uses a different customer base.

Source: BT, EE, Sky and TalkTalk⁷²

3.37 Telecoms providers were largely unable to provide evidence on inter-provider switches because it is usually unclear whether a new customer is coming from a competing telecom provider's SBB or SFBB service. However, one telecoms provider did have relevant data. This data was for the period 2014 and 2015 and showed that the large majority of customers who switched from one specific provider's SFBB products to its own products took a SBB product, rather than an SFBB product. However, we believe that this was because the gaining provider's SFBB retail offer was not particularly attractive to consumers over the period in question.

3.38 Specifically, [X].

3.39 [X]^{73 74}

3.40 Overall, the evidence suggests that the large majority of customers who have upgraded to a SFBB service do not tend to revert to SBB. We think this is likely to mean that SBB prices will provide a limited constraint on SFBB prices.

SFBB services command a premium

⁷¹ Virgin Media submitted a report by Communication Chambers ("Robert Kenny & Brian Williamson, Proportionate regulation of wholesale local access, July 2016") which provided data on downgrading for different speed brackets in the US. It shows that in some speed brackets 10% of consumers downgraded in 2013. As this is evidence from the US, rather than the UK, we think it less relevant for the purposes of our analysis.

⁷² Response dated 16 November 2015 to Q5.1 of the 1st BT WBA s.135 request; response dated 5 November 2015 to Q3.4 of the 1st Sky s.135 request; response dated 19 October 2015 to Q3.4 of the 1st TalkTalk s.135 request; response dated 13 October 2015 to Q4 of the 1st EE s.135 request.

⁷³ This is an approximation estimated from data in Ofcom's 2015 Switching Tracker. The tracker suggests that [X]% of those who switched in the last 12 months joined [X], while [X]% of all those who switched in the last 12 months were previously BT customers. Thus we estimate that [X]% x [X]% ≈ [X]% of switchers are those who have switched from [X].

⁷⁴[X]

- 3.41 A submission provided by Communications Chambers on behalf of Virgin Media⁷⁵ argues that there is low willingness to pay for SFBB so that prices of SFBB are tightly constrained. The submission refers to the low price differential of BT's SBB and SFBB services, claiming the differential is due only to the connection charge for SFBB. It also presents international evidence which it claims shows that high take-up of SFBB services corresponds with low premiums for SFBB.
- 3.42 We disagree with Virgin that there is a low price differential between SBB and SFBB services. Table 3.10 below shows the cheapest unlimited tariff, excluding promotional discounts, offered by each of the main telecoms providers for SBB and SFBB.⁷⁶ There are clear differences in pricing between SBB and SFBB, ranging between £6.50 and £10, even excluding differences in connection fee.

Table 3.10: Comparison of selected SFBB and SBB pricing of major retail providers (excluding connection charges)

	BT	Sky	TalkTalk	Virgin
SFBB package	Unlimited Infinity 1	Sky Fibre Unlimited	Faster Fibre Broadband	Super Fibre 50 and calls
Headline speed	52 Mbit/s	38 Mbit/s	38 Mbit/s	50 Mbit/s
Monthly price	£47.49	£37.40	£32	£40
Contract length	12 months	18 months	12 months	12 months
SBB package	Unlimited Broadband	Sky Broadband Unlimited	Fast Broadband	N/a
Headline speed	17 Mbit/s	17 Mbit/s	17 Mbit/s	N/a
Monthly price	£40.99	£27.40	£25.50	N/a
Contract length	12 months	12 months	12 months	N/a

Source: Pure Pricing Monthly Broadband Pricing Tracker, February 2017

- 3.43 We also believe that BT's differential between SBB and SFBB prices has been increasing over time. Figure 3.11 shows the difference between BT's average monthly non-promotional price for SFBB and SBB has more than doubled from just under £5 at the end of 2012 to over £11 towards the end of 2016. For Sky and TalkTalk, the trend is less clear and Sky's differential may be on a downward trend. However, with Virgin Media now only offering SFBB (at prices above almost all SBB offerings of other providers)⁷⁷ and with BT accounting for a similar share of

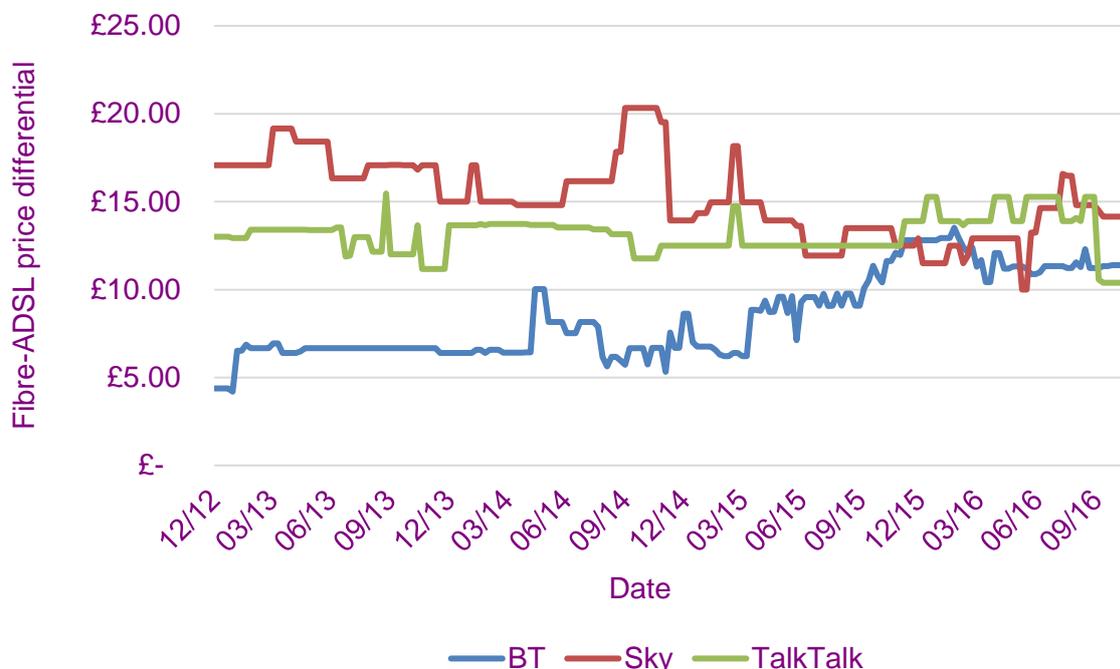
⁷⁵ Communication Chambers report submitted by Virgin Media ("Robert Kenny & Brian Williamson, *Proportionate regulation of wholesale local access*, July 2016")

⁷⁶ Where a provider offers the same speed for the same non-promotional price but with a different contract length, we have used the shortest contract length.

⁷⁷ Virgin's promotional price of £32/month for 50 Mbit/s is more expensive than all promotional prices for SBB (including non-promotional prices for packages where no promotional price is available). Virgin's 50 Mbit/s non-promotional price of £40/month is also more expensive than all SBB prices with the exception of the non-promotional price of BT Broadband Unlimited, which is priced at £40.99/month. Source: *Pure Pricing, February 2017 Monthly Broadband Pricing Tracker*.

broadband lines as Sky and TalkTalk combined, we consider that on average a sizeable price premium remains between SFBB and SBB and this is likely to be growing overall.

Figure 3.11: Differential between average monthly non-promotional SBB and SFBB retail broadband prices, 12/12 to 09/16



Source: SimplifyDigital

3.44 The report submitted by Virgin Media also notes that a 2014 Eurobarometer survey found that 42% of UK households considered speed as a ‘main factor’ when selecting broadband provider, which is behind price at 59%. Our research confirms this, suggesting that 62% of customers considered price an important factor when changing broadband providers, compared to 35% who considered speed an important factor.⁷⁸ That some customers consider price is more important than speed does not contradict the fact that speed is also important and that many customers are willing to pay a premium for SFBB. Indeed, we interpret this as showing that speed is an important factor to customers – second only to price. We note BT research suggested that [X]% of consumers are willing to pay more to have the highest possible broadband speed.⁷⁹

Provisional assessment of substitutability between SBB and SFBB at the retail level

3.45 The evidence discussed above regarding the current degree of substitutability between SBB and SFBB suggests:

⁷⁸ See Jigsaw report published alongside our recent Automatic Compensation Consultation. https://www.ofcom.org.uk/_data/assets/pdf_file/0026/98711/automatic-compensation-jigsaw-report.pdf.

⁷⁹ Response dated 16 November 2015 to Question 5.2 of the 1st WBA BT s.135 notice, *Customer Demand and our Fibre Strategy – GPLC(14)68*.

- Continued high take-up of SFBB, with SFBB accounting for around three-quarters of broadband lines by the end of the review period (Figure 3.3). This migration suggests that SFBB is likely to be a good substitute for SBB and that the constraint of SBB on SFBB is weakening.
- Many households' broadband use requires SFBB, especially those using multiple broadband based services at the same time, those using services needing high bandwidths, and households whose SBB speed is low. As demand for bandwidth continues to grow, the number of households requiring SFBB will rise further.
- SBB customers are far more likely to upgrade than SFBB customers are to downgrade (Table 3.9). This again suggests SFBB is attractive to SBB users but SBB is a weaker substitute for existing SFBB users.
- There is a significant premium for SFBB products, and BT's price premium has been increasing. This again suggests that SBB has become a weaker substitute for SFBB.

3.46 Based on this, we believe that while SFBB is likely to be a stronger constraint on SBB during the review period, SBB is likely to exert a diminishing constraint on SFBB.

Provisional conclusion on further segmentation between higher speed services

- 3.47 We believe that, in the period of this review, there will be fairly strong substitutability between different SFBB services that are currently being delivered by fibre and cable. We also believe these will pose a constraint on the higher speed services being developed using new technologies, including UFBB services.
- 3.48 It is not clear that there will be a widespread requirement for higher speed SFBB services (such as 55 or 80 Mbit/s) or ultrafast services in the short-term. BT's internal research department suggests that 40 Mbit/s speeds will be sufficient in [x] % of premises until 2020. Around [x] % will want higher speeds. However, it states that if mass 4K TV viewing takes off earlier than 2018, then the proportion of premises that will need more than 40 Mbit/s by 2020 could be materially higher than [x] %.⁸⁰ [x]⁸¹
- 3.49 SMEs may have greater demand for higher speed services. BT's technology research modelling suggests that FTTC will not be sufficient for [x] % of SMEs in 2018. Moreover, the median peak downstream demand may reach [x] Mbit/s by 2019.⁸²
- 3.50 BT's internal documents suggest customers seem to be sensitive to this pricing. It noted that "many customers who choose fibre broadband are price sensitive, choosing the lower speed 40/10 Mbit/s service rather than the 80/20". This conclusion appears to be drawn from BT's finding that when the price difference between the 40/10 and 80/20 service increased to more than £[x] pcm (about [x] %

⁸⁰ Response dated 16 November 2015 to Q5.2 of the 1st WBA BT s.135 request, *Customer Demand and our Fibre Strategy – GPLC(14)68*.

⁸¹ Response dated 6 November 2015 to Q3 of the 1st WBA BT s.135 request.

⁸² Response dated 14 January 2016 to the 1st WLA BT s.135 request.

of the 40/10 retail price inclusive of line rental), the 40/10 take up exceeded that of 80/20. [X]⁸³

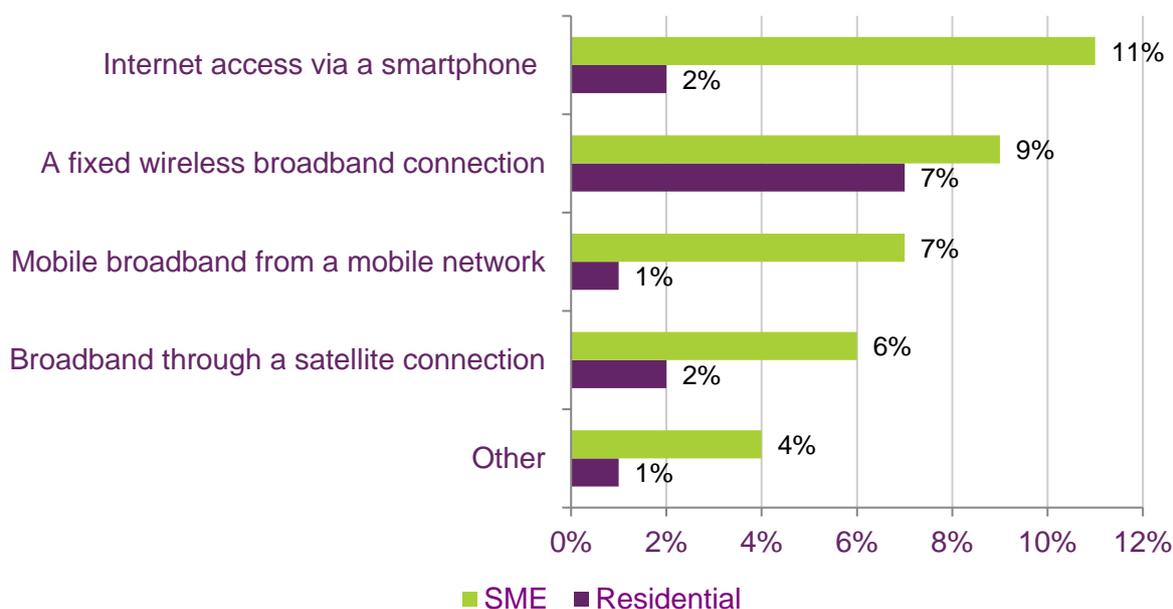
3.51 Moreover, our forecasts of SFBB services suggest limited demand for speeds above 40 Mbit/s. We forecast that [X] of Openreach's external GEA subscription over this review period will be the 40/10 and 40/2 services, while [X] will be the 55/10 and 80/20 services. BT has forecast that more than [X]% of internal sales will be on the 80/10 service (perhaps including early adopters) [X] This suggests that telecoms providers are able to substitute between different high speed services, suggesting that many customers do not face a strong need for higher speed services. We also note that the current degree of UFBB take-up is relatively low: in areas where >300 Mbit/s services are available, take up is around 5%.⁸⁴

3.52 On the basis of this evidence it seems that some customers are willing to pay more to get higher speed SFBB and UFBB services. However, given the evidence above, we do not consider that these higher speeds constitute a separate market at this time.

Overview of alternative technologies

3.53 Figure 3.12 shows the willingness of residential and SME customers to consider switching to alternative technologies.

Figure 3.12: Willingness to consider alternative technologies



Source: Residential and SME Broadband Research, 3 December 2015⁸⁵

⁸³ Response dated 16 November 2015 to Q5.2 of the 1st WBA BT s.135 request, *Customer Demand and our Fibre Strategy – GPLC(14)68*.

⁸⁴ Ofcom, Connected Nations Report 2016 (p1 and p5) state that 480,000 premises have access to >= 300 Mbit/s speeds and 27,000 have taken it up.

⁸⁵ Question: Have you ever seriously considered cancelling your current fixed broadband and replacing this with an alternative type of broadband connection? IF RESPONDENT SAYS YES: What

- 3.54 For both residential and SME customers, the strength of substitutability to any given alternative technology appears weak. For residential customers, the closest substitute appears to be fixed-wireless to which 7% considered switching. For SME customers the closest substitute appears to be internet access via a smartphone, to which 11% would consider switching.
- 3.55 This evidence does not appear to suggest these alternative technologies are strong substitutes. We review this further for each technology below.

Mobile

- 3.56 In the following paragraphs we consider whether the retail broadband market should be defined to include mobile broadband services. We consider two types of mobile services: mobile broadband (i.e. dongles) and internet via smartphones.

Mobile broadband use is decreasing but the internet is increasingly accessed via smartphones

- 3.57 Use of mobile broadband is declining. Based on Ofcom's 2016 Communications Market Report (CMR)⁸⁶, the proportion of households using dongles or built-in data cards in laptops or tablets is down to 4% in 2016 from 17% in 2011.
- 3.58 On the other hand, there has been an increase in the use of data services over mobile phones: 66% of adults used data services on their mobile phones in 2016 up from 61% in 2015 and 57% in 2014; 61% used their mobile phone to browse the internet up from 56% in 2015 and 52% in 2014.⁸⁷
- 3.59 Coverage of mobile services has also been improving, particularly in the case of higher speed 4G services. Nearly all premises (96%) can now receive 4G services indoors from at least one operator and 72% of premises can receive 4G services indoors from four operators.⁸⁸ Growth in the use of 4G has been rapid: in December 2015 48% of mobile subscriptions used 4G, up from 28% in the previous year.⁸⁹

Mobile products provide similar speeds at similar prices to SBB but have relatively limited data allowances

- 3.60 The rollout of 4G services has substantially increased the speeds of mobile broadband and internet access via smartphones - maximum speeds over mobile can now be quite high.⁹⁰ However, average actual speeds are a lot lower than maximum

would you use for your broadband connection (Base: All UK adults with fixed BB connection who have responsibility for it [1263]).

Question: Have you ever seriously considered cancelling your current fixed broadband and replacing this with an alternative type of broadband connection? IF RESPONDENT SAYS YES: What would you use for your broadband connection. (Base: All SMEs with a fixed BB connection [516]).

⁸⁶ This report contains statistics and analysis of the UK communications sector, and is a reference for industry, stakeholders, academics and consumers. The full report is available at

<https://www.ofcom.org.uk/research-and-data/cmr/cmr16>.

⁸⁷ 2016, CMR Figure 4.44 and Figure 4.45.

⁸⁸ Ofcom, Connected Nations Report 2016, page 2.

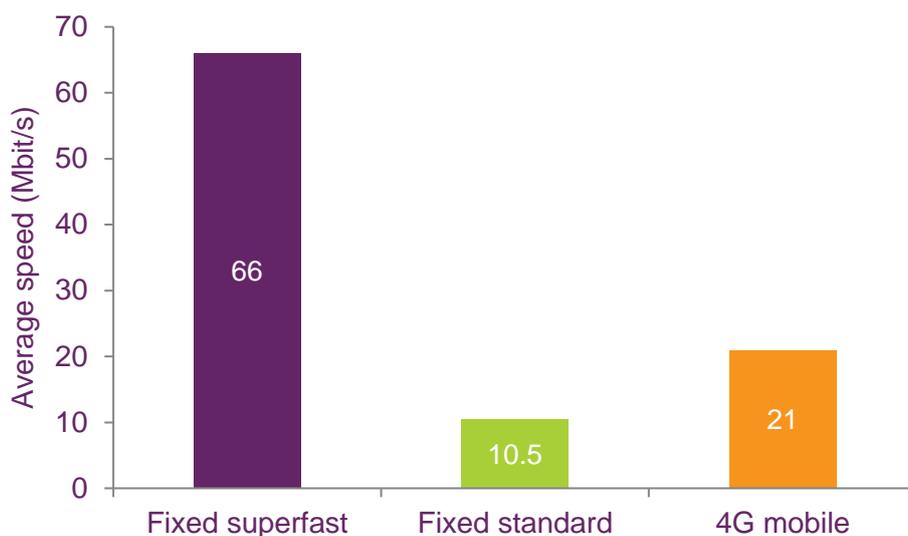
⁸⁹ 2016 CMR: Figure 4.25

⁹⁰ For example, our Smartphone Cities research found that, in 5 UK cities, the average 4G speed of the fastest operator in each city was between 17 and 23Mbit/s. Ofcom, 31 March 2016, *Smartphone Cities*, https://www.ofcom.org.uk/data/assets/pdf_file/0017/68201/smartphone_cities.pdf.

speeds. This is mainly due to the number of users within a cell using a service simultaneously affecting the realised speeds. It may also be due to other factors such as whether the user is indoor and their distance from the cell site. Mobile speeds can be particularly constrained indoors - which is particularly relevant for substitution with fixed services - due to the difficulties some mobile signals have in penetrating buildings effectively.

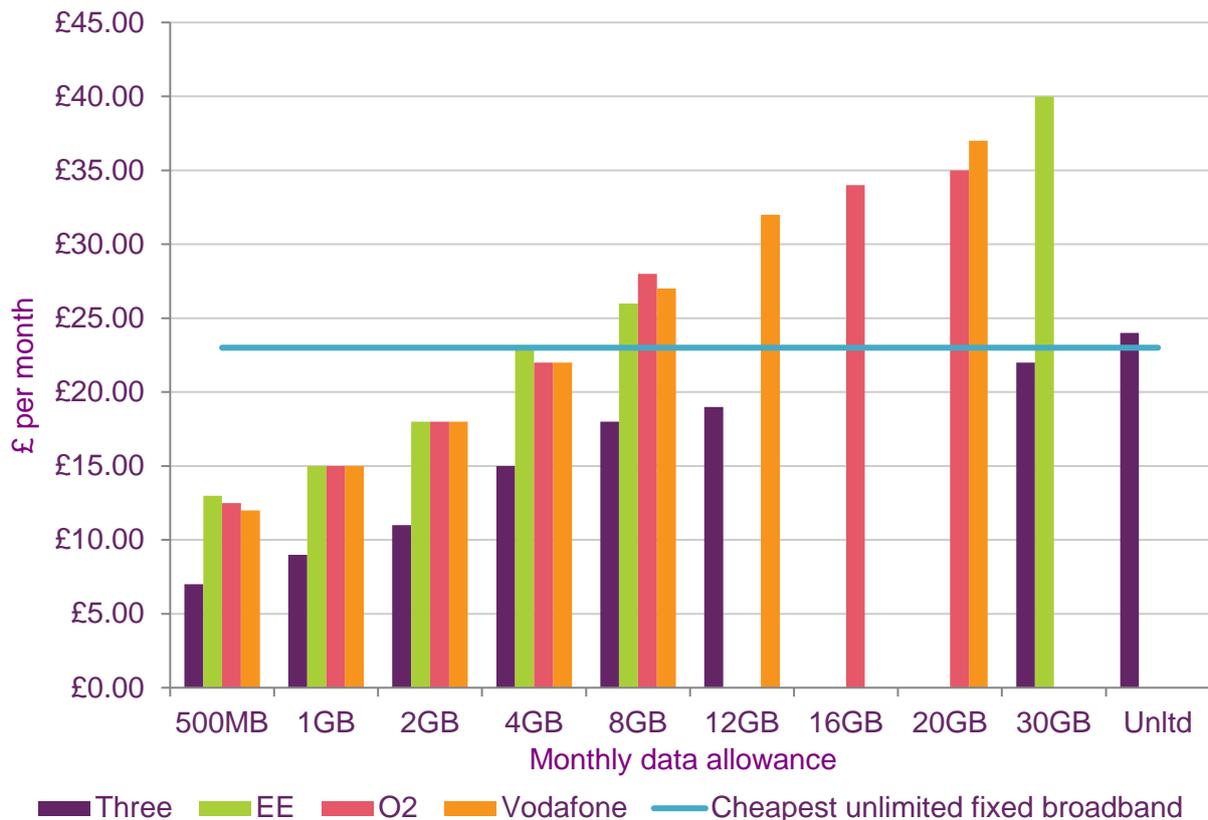
- 3.61 Figure 3.13 below shows average actual speeds over fixed and mobile connections. Mobile speeds over 4G average around 21 Mbit/s, which is above the average speed of SBB fixed lines of 10.5 Mbit/s. However, mobile speeds are a long way below SFBB speeds. Moreover, these estimates overstate the substitutability of mobile and fixed, as they cover all usage of mobile broadband, and not solely indoor usage.

Figure 3.13: Average speeds over fixed and mobile connections



Source: Ofcom analysis of data provided for the Connected Nations Report 2016; Ofcom, Smartphone Cities, 16 December 2016, fieldwork in July to October 2016. Note that the figures do not correspond to average speeds in the Connected Nations Report because that report defines standard and superfast broadband as having an actual speed, rather than headline speed, less than or greater than 30 Mbit/s

- 3.62 4G mobile broadband is currently priced at a comparable level to standard fixed broadband, with most mobile tariffs in the range of £15 to £35 per month, as shown in Figure 3.14. However, as Figure 3.14 also shows, mobile tariffs typically have limited data allowances. This contrasts with fixed services which typically have unlimited data allowances. Therefore, per GB of data provided, mobile broadband access far exceeds the prices for equivalent usage on a fixed broadband line.

Figure 3.14: Least expensive tariff per data cap by mobile operator

Note: Mobile tariffs shown are SIM Only, 12 month contracts. Fixed tariff shown is Sky Broadband Unlimited, 12-month contract, inclusive of line rental.

Source: Pure Pricing data January 2017.

3.63 Data allowances on mobile packages are also significantly below the typical average usage of fixed line broadband of 120 GB per month in 2016.⁹¹ By comparison, monthly data usage per mobile SIM is only 1.3 GB.⁹²

3.64 Overall, mobile provides prices and speeds comparable to SBB. It could be an effective substitute for low bandwidth demand customers or for customers with a low speed fixed line service.⁹³ However, for the majority of people, data caps would severely limit the ability to substitute from fixed broadband to mobile services.

Mobile users rely on fixed services as well

3.65 Where a fixed broadband service is available mobile customers often use WiFi, supplied over a fixed line to connect their smartphones, in preference to their mobile connection. 91% of 4G users and 88% of other smartphone users use WiFi to connect their smartphone to the internet when at home.⁹⁴ This suggests there is

⁹¹ We recognise that household data usage is likely to be reflect the requirements of more than one person for the majority of UK households. But even taking this into account, this level of data usage seems unlikely to be satisfied by mobile contracts.

⁹² See Ofcom, Connected Nations Report 2016, pages 1-2.

⁹³ This point was also made in [3].

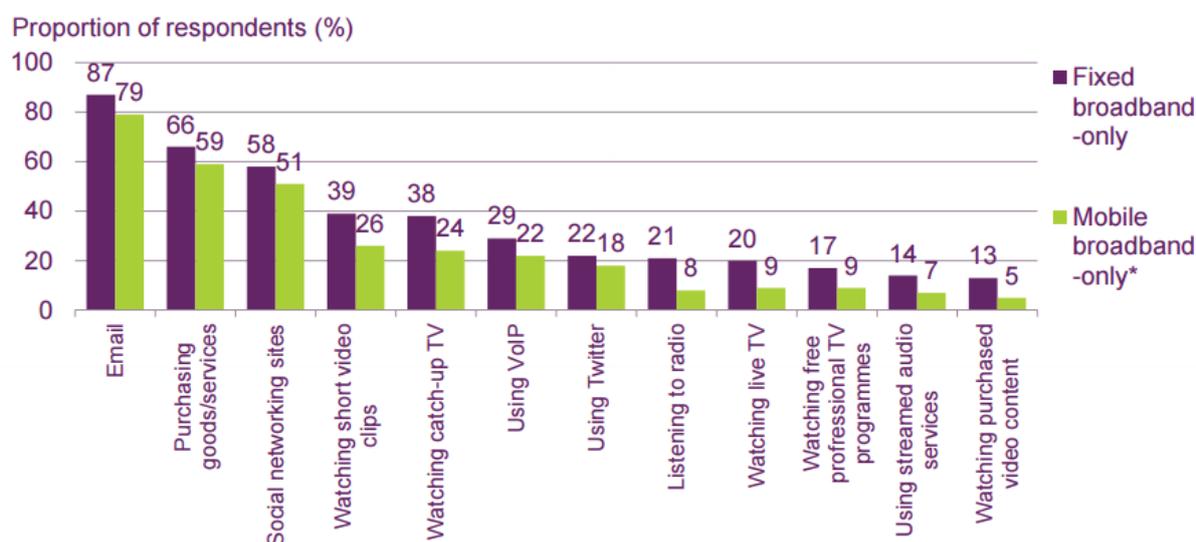
⁹⁴ CMR 2015, Figure 1.58.

limited substitutability between mobile and fixed broadband where fixed broadband is available.

3.66 This is corroborated by evidence on the use of mobile and fixed broadband. Both services are used for many of the same services. But, for high bandwidth services, fixed broadband is used more than mobile broadband. For example, Figure 3.15 below shows that 20% of respondents watch live TV over fixed broadband compared to 9% over mobile broadband. This suggests that for data intensive uses, such as watching live TV, customers may not consider fixed and mobile services to be substitutes.

3.67 Finally, there is as yet little sign of a large proportion of customers using these services to dispense with their fixed line broadband services. Only 8% of households rely solely on mobile services for broadband connections (including internet via a smartphone) and have no fixed broadband service.⁹⁵

Figure 3.15: Online activities among fixed-only and mobile-only broadband users



Note: *Caution: base between 50 and 100 therefore results are indicative only QE20 (QE5A) Which, if any, of these do you use the internet for?

Source: Ofcom Technology Tracker, wave 1 2015 Base: All adults who only use fixed broadband (2519), all adults who only use mobile broadband (75). See also CMR 2015, Figure 4.20.

Provisional conclusion

3.68 The above analysis suggests that neither mobile broadband access nor internet access via smartphones will be strong substitutes for fixed broadband access over the course of the review period. We consider that most consumers will continue to use mobile broadband and/or internet access via smartphones in addition to fixed broadband.

⁹⁵ Ofcom, 2016, *Technology Tracker H1 2016*, Table 66. https://www.ofcom.org.uk/data/assets/pdf_file/0030/68358/ofcom_technology_tracker_h1_2016.pdf.

Leased line services

- 3.69 Leased lines provide equal upload and download speeds and can be configured to deliver high quality broadband services for example with a bandwidth guarantee, lower latency⁹⁶ and dedicated connectivity.
- 3.70 As noted in the BCMR⁹⁷, there are large price differences between leased lines and fixed broadband services and the services seem to be marketed to different groups of customers with different needs. Given the existing price differences between SFBB and leased lines, we consider that there is likely to be limited switching to leased lines in response to a small price increase in fixed broadband services. The BCMR also noted that users do not appear to regard them as close substitutes and neither do telecoms providers, and that this was reflected in most stakeholders' responses to the consultation, replies to the market questionnaires and in telecoms providers' marketing of fibre-based services.

Fixed wireless access

- 3.71 Fixed wireless access provides an access service where the connection between the network and the equipment located at the customer premises is provided over the radio access medium, so that the customer would not need a connection provided using copper, fibre or cable.
- 3.72 Even though fixed wireless access has been available for several years, it has not to date become a common alternative to fixed broadband.
- 3.73 At present, the quality of fixed wireless access can be lower than that of fixed broadband due to limitations on the strength of the signal particularly indoors. However, in some locations fixed wireless access may be functionally equivalent to fixed broadband access, particularly where premises are close to the broadcasting router, or in areas where fixed broadband speeds are particularly low.
- 3.74 Table 3.16 below details some examples of fixed-wireless provision. It shows that at present these services tend to be focused only on specific geographic areas, particularly rural areas. Several of the services require substantial set-up costs, typically where some form of specialist receiving equipment must be installed. Many, but not all, have monthly usage caps.

⁹⁶ Latency is the time it takes a packet of data to travel to a third-party server and back. A connection with low latency will feel more responsive for simple tasks like web browsing and certain applications perform far better with lower latency.

⁹⁷ See, for example, Ofcom, 2016, *Business Connectivity Market Review – Annexes 1 to 13, Review of competition in the provision of leased lines*, paragraph A6.83, https://www.ofcom.org.uk/_data/assets/pdf_file/0024/54249/final-annexes-1-13.pdf.

Table 3.16: Examples of fixed wireless providers

Service Provider	Where they offer service	Cheapest package			
		Max download speed (Mbit/s)	Monthly usage cap (GB)	Monthly charge (£)	Setup costs (£)
Hebrides	Western Isles	1	20	21.99	None stated
AirBand	Warwickshire, Worcestershire, Herefordshire, Powys, Shropshire	10	1	10.00	150.00
County Broadband	Rural communities of East Anglia	6	10	9.99	99.00
AirNet	Hull	10	20	12	120 - 200
Relish	London	50	Unlimited	20.00	£0.00
EE	Newcastle, Manchester, Hull, Cumbria, Basingstoke, Vale of Aylesbury, South Gloucestershire, Derby and County Durham	-	20	30.00	£29.99

Source: Ofcom, data collected September 2016

- 3.75 Current levels of fixed-wireless take-up are low. Our consumer research found no residential consumers in the survey and only 3% of SMEs surveyed currently use fixed-wireless services.⁹⁸
- 3.76 We provisionally conclude that for most customers fixed wireless is unlikely to be a close substitute for broadband services over copper, fibre or cable for this market review period. However, we note there are innovations that may challenge this assumption and offer stronger substitutes to fixed broadband in the longer term. These developments include:
- the planned auction of higher frequency spectrum which may be suited to small cell, limited distance high bandwidth applications; and
 - 5G standards, due to be established in 2017, may lead to the availability of higher speed mobile data services from 2019.

Satellite

- 3.77 Satellite broadband coverage is available everywhere in the UK including the Scottish Islands and it therefore has similar coverage to SBB services.
- 3.78 Satellite broadband speeds are generally up to 20 Mbit/s and therefore comparable to SBB but not SFBB. One service aspect where there is a difference between satellite broadband and fixed broadband is latency. The latency of satellite

⁹⁸ Residential and SME Consumer Research, March 2016, slides 7 and 11.

broadband services tends to be poorer than fixed line services. This could potentially affect some users who have requirements for low latency (e.g. gamers).

- 3.79 Prices for low data allowance satellite services are comparable to fibre/cable broadband. For example, Europasat, Broadband Wherever and Avonline all offer services with 10 GB data allowances for around £24.95 a month. These prices increase substantially for higher allowances, for example a 50 GB allowance is charged at around £60 a month. The other significant pricing difference for satellite services is that they typically involve large upfront charges for equipment, which can be in the region of £300.
- 3.80 It is notable that satellite broadband providers typically market their services as an alternative solution to fixed broadband where it is not available rather than as a direct competitor.⁹⁹
- 3.81 We propose that satellite broadband is a weak substitute for fixed line broadband services.

Bundles

- 3.82 Retail services are increasingly provided in bundles comprising double-, triple- and quadruple-play packages.¹⁰⁰ That is, broadband services can be bundled with different combinations of fixed voice telephony, mobile telephony and pay TV services.
- 3.83 The increasing trend towards bundles was noted in the Explanatory Note to the 2014 EC Recommendation. However, it noted that: “[D]espite the fact that bundling is one of the dominant trends observed at the retail level, this Recommendation does not propose to define a separate retail market for bundles because evidence to date has not indicated that there is a need for ex ante regulation of bundles, which may contain a previously regulated input. Furthermore, even if an NRA would define a retail market for triple play, for example, the wholesale inputs needed to compose this bundle would remain separate and non-substitutable, such as for example local access, higher-level access and termination.”¹⁰¹
- 3.84 We agree that the existence or otherwise of a bundled market would not affect our upstream WLA market definition. We therefore do not consider it relevant to evaluate whether or not there are separate markets for bundles.

Provisional conclusions on indirect constraints from the retail level

- 3.85 This section has considered the relevant retail services which form the basis of the derived demand for WLA, with a particular focus on broadband.
- 3.86 Within broadband services, we believe that while SFBB is likely to constrain SBB during the review period, SBB is likely to exert a diminishing constraint on SFBB.

⁹⁹ For example, we noted Europasat offered release from contract for consumers once fibre arrived in their area. <https://www.europasat.com/satellite-broadband-tariffs/england/> [accessed 14 March 2017].

¹⁰⁰ CMR 2016, page 13.

¹⁰¹ Explanatory Note, page 18.

- 3.87 We believe the indirect constraints from mobile broadband, leased line services, fixed wireless access and satellite broadband are not sufficient to widen the market definition for WLA beyond copper-loops, fibre and cable.
- 3.88 We do not consider that the extent of substitutability between residential and business services would affect our proposed market definition for WLA. For the same reason, we have also not concluded on whether there is a separate market for retail bundles.

Wholesale product market definition

- 3.89 The starting point for our analysis of product market definition is the provision of WLA at a fixed location by a network that uses a mixture of copper loops and fibre. This is the mixture of technologies that both BT and KCOM use to supply WLA.
- 3.90 The high entry barriers to establishing a substantial new fixed access network mean that substitution by retail suppliers of other products will not be sufficient to be included within the market. Therefore, our focus for defining the WLA market is demand-side substitutability between retail services delivered by our focal products and retail services delivered by other access networks. These retail services have been discussed above, and that analysis forms the basis of our wholesale market definition.
- 3.91 Having regard to that analysis, our provisional conclusion is that the indirect constraints from the retail level are sufficient to include cable in the relevant market at the wholesale level. But the indirect constraints from mobile broadband, leased line services, fixed wireless access and satellite broadband are not sufficient to widen the market definition for WLA beyond copper-loops, fibre and cable.
- 3.92 We therefore provisionally define a product market for WLA comprising services supplied over copper loops, services supplied using fibre (together with a supporting copper loop where necessary – i.e. in the case of GEA) and cable.

Geographic market definition

- 3.93 There are four main issues to consider in relation to geographic market definition during the period covered by this review:
- the UK excluding the Hull Area and the Hull Area, which represent the areas covered by BT and KCOM's networks, respectively;
 - new build areas where BT is not present;
 - areas included in the BDUK programme; and
 - areas covered by Virgin Media's cable network or other operators alongside BT.
- 3.94 The potential for demand- and supply-side substitution between geographic areas is very limited. This is because consumers are unlikely to move to other areas just to get better or cheaper broadband. There are also barriers to entry which make supply-side substitution difficult.
- 3.95 Below we assess whether the highlighted areas should be considered as separate geographic markets, or whether a single geographic market should be defined on the basis of homogeneity of competitive conditions and/or common pricing constraints.

The Hull Area and the rest of the UK

- 3.96 KCOM and BT operate distinct local access networks covering the Hull Area and the rest of the UK respectively and both have significantly larger market shares in these areas than other providers. Competitive conditions are unlikely to be homogenous between the Hull Area and the rest of the UK given that they are served by different providers. In line with our longstanding practice we consider that the Hull Area and the rest of the UK lie in separate geographic markets.

New build areas where BT is not present

- 3.97 In some geographic areas (e.g. new housing developments) telecoms providers other than BT have deployed fibre networks, while BT itself is not present.
- 3.98 We recognise that there may be a case for identifying such areas as distinct geographic markets on the same basis as the Hull Area. This potentially leads to a number of additional geographic markets for each of which we would need to assess whether the local network operator has SMP. However, where the areas relate to new build sites, the degree to which there is competition for the market, mitigates competition concerns from an *ex ante* perspective.
- 3.99 We do not propose in this review that such areas represent distinct geographic markets. Should competition concerns arise in future we would consider the specific case in question and the appropriate regulatory instrument to address any concerns, including competition law.

Areas included in the BDUK programme

- 3.100 In BDUK areas, BT has a number of obligations that are defined by contracts with local authorities. There is a possibility that BT's pricing may be constrained by these contracts in a way in which it is not in the rest of the UK. This could mean competitive conditions in the BDUK areas are different to those in the rest of the UK.
- 3.101 We have reviewed certain BDUK contracts¹⁰² to understand the extent to which they already constrain BT's prices. We found that the contracts within the sample vary significantly. Although some have what amounts to charge control provisions relying on Ofcom's market reviews, they do not directly stipulate pricing obligations.
- 3.102 In addition, the BDUK contracts may change and expire. Thus, we cannot be confident that the contracts provide the same degree of certainty or scope of access regulation as SMP obligations.
- 3.103 Based on the above, we believe that competitive conditions in the BDUK areas are not sufficiently different from the rest of the UK.

Areas covered by other operators (including Virgin Media)

- 3.104 BT has close to 100% coverage of the UK excluding the Hull Area, while other operators have sub-national coverage. The biggest competitor, Virgin Media, currently has 45% coverage and is expected to reach over 60% by 2020 as a result of expansion plans. The coverage of other operators is very limited.

¹⁰² Response dated 12th July 2016 to question 1 of the 4th BT WLA s.135 request.

- 3.105 BT's universal service obligation requires it to supply a basic voice service and functional internet access at a uniform price. This is likely to affect BT's retail pricing of dual play and triple play services in which the line and calls are a key component. In particular, it may make it harder for BT to price differently in different parts of the country.
- 3.106 In addition, academic research suggests that a monopolist in one region facing competition in other regions may use national pricing to soften competition in those other regions. This is because uniform pricing commits the monopolist to price less aggressively than it otherwise would in the competitive areas. This commitment can induce rivals to price less aggressively too.¹⁰³
- 3.107 Where BT has adopted local pricing (for example for WBA services), it has been in response to relatively intense levels of competition, not the presence of a single competitor and never in response to cable infrastructure alone.
- 3.108 Finally, national pricing may also have a positive impact on brand and reputation.
- 3.109 For these reasons, we consider that BT would have strong incentives to adopt a national pricing strategy and would likely face a common pricing constraint under the Modified Greenfield approach.

Provisional conclusions

- 3.110 We provisionally define two geographic markets for the supply of copper loop, cable- and fibre-based wholesale local access at a fixed location: the UK excluding the Hull Area; and the Hull Area.

Market power assessment

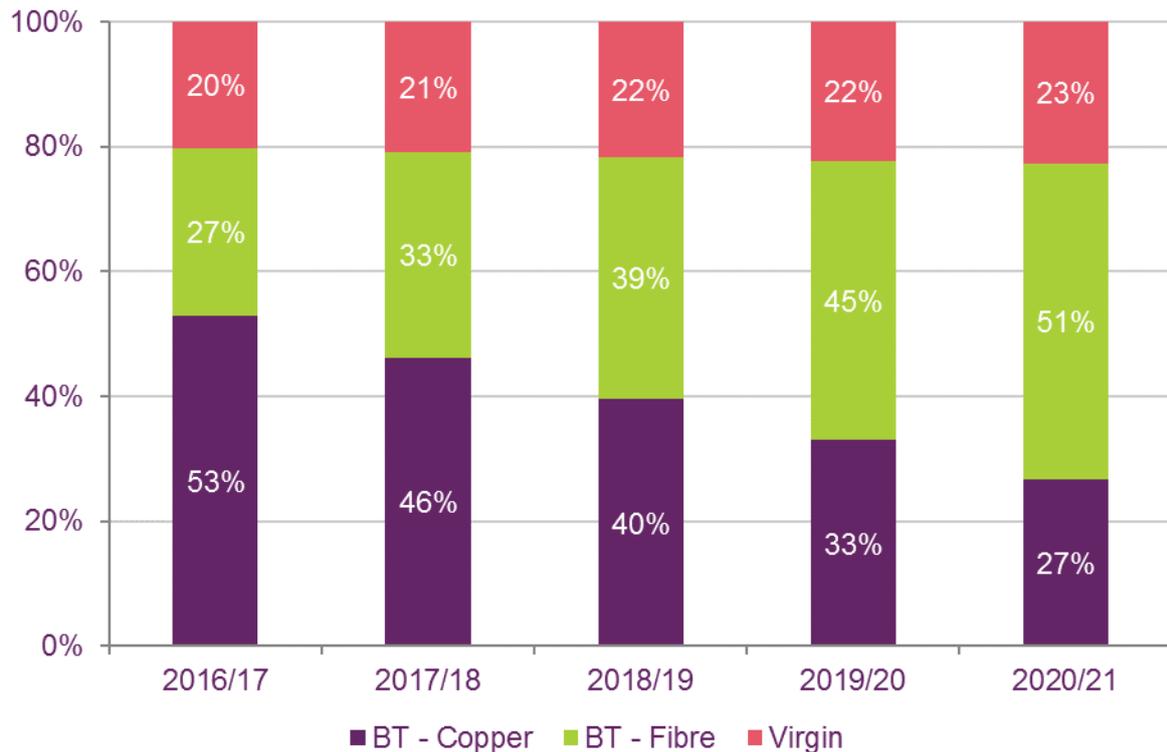
- 3.111 Below we set out our assessment of whether BT possesses SMP in WLA in the UK excluding the Hull Area. As set out in Section 2, the assessment of market power in Hull will be considered in a separate consultation.
- 3.112 In making that assessment we have had regard to the criteria for assessing SMP set out in the EC SMP Guidelines, in particular, market shares, pricing and profitability, barriers to entry and expansion, and countervailing buyer power. Our general approach to the assessment of market power is described in Annexes 5 and 6.

Market power assessment for the UK excluding the Hull Area

Market shares

- 3.113 To calculate market shares, we have compared the number of lines provided by BT (based on the number of WLR lines plus the number of MPF lines) with the number of lines served by Virgin Media. Our forecast is presented in 3.17 below.

¹⁰³ For a detailed discussion on this point, see Dobson P and Waterson M, 2008, *Chain-Store Competition: Customized vs. Uniform Pricing*, Warwick Economic Research Paper No. 840, http://wrap.warwick.ac.uk/1375/1/WRAP_Dobson_twerp_840.pdf [accessed 24 March].

Figure 3.17: Forecast WLA market shares

Source: Ofcom forecast based on Openreach and Virgin Media data¹⁰⁴

3.114 BT has a high market share, currently almost 80%. We forecast this to decline somewhat, mainly due to Virgin Media's expected deployment in new areas (Project Lightning), but forecast that it will remain high at around 75% by 2020/21. As set out in Annex 6, market shares of the magnitude forecast for BT give rise to a presumption of SMP.

Pricing and profitability

3.115 As explained in Annex 6, in a competitive market, individual firms would not be able to raise prices above costs and sustain excess profits. The ability to price at a level that keeps profits persistently and significantly above the competitive level is an important indicator of market power.

3.116 BT's provision of LLU (i.e. MPF and SMPF as well as a number of associated ancillary services) has been subject to charge controls for a number of years. BT has priced up to the cap for these services since the last review.¹⁰⁵

¹⁰⁴ Response dated 3 December 2015 to questions 2,3,5 and 6 of the 1st WLA BT s.135 request and response dated 2 September 2016 to questions 1 and 2 of the joint 2nd WBA and WLA BT s.135 request; and Virgin Media, 31 December 2015, Consolidated Financial statements, <http://www.libertyglobal.com/pdf/fixed-income/Virgin-Media-December-31-2015-FINAL.pdf> and Virgin Media, 16 February 2016, 2016 Liberty Global Group Investor Call, <https://www.libertyglobal.com/pdf/presentations/Liberty-Global-Group-Q4-2016-Investor-Call-Presentation-FINAL.pdf> [accessed 24 March 2017].

- 3.117 GEA is currently not subject to a charge control, and BT has had pricing flexibility (subject to Competition Law and the specific VULA margin condition).
- 3.118 Overall, BT's profitability in the WLA market, measured by Return on Capital Employed (ROCE), was 14.5% in 2015/16¹⁰⁶ which is above BT's weighted average cost of capital (WACC) and up from 10.2% in 2014/15. For GEA alone, ROCE was [x<] % in 2015/16, up from [x<] % in 2014/15.¹⁰⁷ Both are above the benchmark cost of capital.
- 3.119 The fact that BT has continued to price up to the cap for LLU is consistent with regulation rather than competition constraining BT's pricing and profitability to a level consistent with cost recovery. For BT's non-charge controlled fibre services, the increasing returns observed (now well above the benchmark cost of capital) suggests that downstream competition from other providers (such as Virgin Media or those using charge controlled LLU services to offer SBB) will not be sufficient to constrain BT's pricing.

Barriers to entry and expansion

- 3.120 We consider there are still very high entry barriers to constructing a significant scale local access network independent of the incumbent's network. Entry would require very high levels of investment to install local access lines between end-users' premises and an entrant's core network, and would require a considerable period of time.
- 3.121 The most significant expansion is expected from Virgin Media, a player already well established in the market. Virgin Media is expected to expand its coverage from 45% to over 60% by 2020. This will still leave a substantial minority of the UK excluding the Hull Area without any alternative network at all, and BT may continue to adopt a largely national pricing approach which will dampen the impact of competition from Virgin Media. Moreover, and in any case, we do not expect that competition from Virgin Media alone would be sufficient to constrain BT to the extent that it has no SMP.
- 3.122 Developments by other providers are expected to be on a much smaller scale during the period of this review. This will not significantly alter the competitive conditions in this review period.

Countervailing buyer power

- 3.123 We also consider that there is likely to be insufficient countervailing buyer power to constrain BT's position as a supplier of WLA.
- 3.124 At the wholesale level, absent WLA remedies, BT would be unlikely to offer third party telecoms providers access, as is currently the approach adopted by Virgin Media. Even if BT did allow access, other telecoms providers could only credibly threaten to switch if Virgin Media also allowed access, which is unlikely. In addition, switching is likely to be difficult and costly for telecoms providers who have already built their networks to connect to BT's.

¹⁰⁵ There are some exceptions for ancillary services, where BT has reduced its priced by an additional 0.6% on average in each year.

¹⁰⁶ BT Current Cost Financial Statements 2016, page 21.

¹⁰⁷ BT Additional Financial Information for VULA services 2015/16 and 2014/15, schedule B4.

3.125 As such, we provisionally conclude that BT is unlikely to face significant countervailing buyer power for the period of this review.

Provisional conclusions

3.126 We provisionally conclude that BT will continue to have SMP in the supply of WLA services in the UK excluding the Hull Area for the period of this review.

Consultation questions

Question 3.1: Do you agree with our proposed product and geographic market definition? Please provide reasons and evidence in support of your views.

Question 3.2: Do you agree with our proposal that BT holds SMP in the supply of WLA products in the UK excluding the Hull Area? Please provide reasons and evidence in support of your views.

Section 4

Approach to remedies

Introduction

4.1 In the light of our provisional conclusion that BT has SMP in the supply of WLA in the UK excluding the Hull Area, in the following sections we explain the remedies we are proposing to impose on BT. Before setting out the detail of our proposed remedies, we explain below:

- the competition concerns that we are seeking to address in this review;
- how we have designed our remedies to address those competition concerns;
- in so doing, how we have sought to reflect our long term strategy for digital communications; and
- the implications for this review of our reforms to Openreach.

WLA market and competition concerns

4.2 In Section 3 we set out our competition assessment of the WLA market and provisional conclusion that BT has SMP in the UK excluding the Hull Area. We are concerned that this could lead to poor outcomes for retail customers, such as high prices for retail services that rely on WLA, reduced levels of innovation and suboptimal quality of service (i.e. risk of increased faults, slow repair and provision times). As a vertically integrated provider, in the absence of regulation there are behaviours that BT could engage in that could distort downstream competition, including refusing to supply access at the wholesale level and providing access, but on less favourable terms compared to those obtained by its own downstream businesses. This could further worsen consumer outcomes.

4.3 When considering the structure and form of our proposed remedies, we take account of our approach in previous reviews, together with recent and expected market developments. We also reflect our long term vision for ensuring the quality and availability of communication services in the UK, as set out in our Strategic Review. Two of the key elements in our strategy are to make a strategic shift to encourage investment in the large-scale deployment of new ultrafast broadband networks, including fibre direct to homes and businesses, and to focus on improvements in the quality of service delivered by the whole of the telecoms industry, including Openreach.

4.4 In developing remedies to address the competition concerns we have identified as arising from SMP in the WLA market, we have, where appropriate, adopted an approach that we consider will promote greater network competition. At the same time, our proposed remedies are designed to protect consumers from higher prices and protect retail competition based on the current model in the short term. We also consider that the model of competition is in a period of transition towards greater network competition, and our proposed remedies must also support that transition. As such, our proposed approach involves remedies that require BT to provide wholesale access to its network at different points in the value chain.

- 4.5 In the following sections we propose a number of remedies to address our competition concerns. Our main proposed network access obligations are the provision of network access on reasonable request and on fair and reasonable terms, conditions and charges and specific remedies to supply VULA, LLU (in the form of MPF), and SLU. We also propose remedies to complement these, namely non-discrimination, transparency and notification requirements, as well as rules on financial reporting and cost accounting. In addition, where necessary, we propose charge controls to mitigate the risk of excessive pricing.

Greater network competition is likely to bring consumer benefits in retail services

- 4.6 We consider that there are significant benefits to consumers from competition based on rivals investing in their own networks, compared to competition based on regulated access to BT's network and wholesale services. In particular, network competition provides much greater scope for product differentiation and is a more effective spur for innovation. For example, investing in their own networks gives providers full control over the quality of service provided. Competing telecoms providers can strive to win customers and generate higher margins by offering a better service than their competitors, in terms of both speed and reliability. Network competition is therefore a powerful driver of continued investment in high quality networks, delivering long term benefits to consumers. By exposing more of the value chain to competition, network competition also provides strong incentives for firms to innovate to become more efficient and reduce costs.¹⁰⁸
- 4.7 We recognise that network competition may entail the duplication of assets, which could put upward pressure on average costs, but believe that in this case such effects are likely to be outweighed by the significant benefits to consumers in the longer term from innovation (including innovation to increase efficiency and lower costs), choice, stronger incentives to price keenly to attract customers and higher quality of service.
- 4.8 Historically, we have seen benefits from network competition to BT. The degree of network competition from cable networks plays an important role in encouraging incumbents to deploy faster broadband.¹⁰⁹ In the early 2000s, one of the factors that drove BT to increase the performance of its initial broadband service was the availability of cable broadband. When we allowed access to LLU, we saw innovation around the electronic equipment deployed and the capacity of broadband connections. Recent research has confirmed that this policy led to faster broadband speeds.¹¹⁰ Similarly, BT announced its rollout of superfast broadband shortly after Virgin Media's upgrade to DOCSIS 3.0.¹¹¹ BT's recent announcement of G.fast investment plans was in the context of Virgin Media offering a maximum service speed of 200 Mbit/s compared to a maximum of 80 Mbit/s available from Openreach using its current FTTC network.

¹⁰⁸ Without network competition, even vigorous competition between service providers will not prevent customers being disadvantaged by inefficient, poor quality or otherwise sub-optimal choices concerning the underlying network.

¹⁰⁹ 2016 Strategic Review, paragraph 4.11.

¹¹⁰ See Valletti T. 2015, *Unbundling the incumbent: evidence from UK broadband*.

¹¹¹ 2016 Strategic Review, paragraph 4.11.

4.9 We think there are good prospects for investment in new networks. The evidence we have seen suggests that the investment case has improved in recent years to the point where it now appears to be commercially viable in more geographic areas.

- Changes in demand: customers are increasingly demanding more from their broadband access, both in terms of speed and reliability. Over the last few years, demand for higher bandwidth and consumption of broadband data have both grown significantly. For example, average household data consumption increased from 97 GB/month in 2015 to 132 GB/month in 2016.¹¹²
- Reduction in cost: costs of investment based on new duct build have fallen as a result of improvements in network build techniques.¹¹³

4.10 These developments provide a backdrop to recent significant interest in new network investment from telecoms providers other than BT:

- Virgin Media, which already operates the second largest broadband network in the UK, is extending its network. It plans to reach 4 million additional premises by 2020, half of which are to be connected using FTTP.¹¹⁴ Virgin Media has added 314k premises to its network coverage in 2016, with a further 800,000 expected in 2017.¹¹⁵ [3<].
- TalkTalk and CityFibre have recently announced their intention to extend their FTTP York trial from 14,000 homes to cover a further 40,000 premises over the next 18 months.¹¹⁶
- A number of smaller providers are also deploying FTTP; for example, Hyperoptic, whose network reaches 100,000 UK premises, and Gigaclear, and B4RN which provide FTTP in more rural areas.
- KCOM has rolled out FTTP to over 150,000 premises¹¹⁷ and aims to make its FTTP product 'Lightstream' available to 150,000 premises by the end of 2017.¹¹⁸

¹¹² Ofcom, 16 December 2016, *Connected Nations 2016*, paragraph 2.15,

https://www.ofcom.org.uk/_data/assets/pdf_file/0035/95876/CN-Report-2016.pdf.

¹¹³ For example, micro-trenching and slot-trenching enables narrower digging of trenches to lay micro-ducts which fibre can then be blown into, significantly reducing the time and cost of digging and repairing the carriageway. In addition, the move to IP networks has allowed greater economies of scope for some network equipment.

¹¹⁴ Virgin Media, 2017, *Project Lightning: Supercharging the UK*.

<http://www.virginmedia.com/corporate/about-us/our-key-projects.html> [accessed 1 February 2017].

Note, FTTP may also be referred as FTTH or full-fibre.

¹¹⁵ Liberty Global, 28 March 2017. Form 8-K/A - Amendment to a previously filed 8-K.

<http://www.libertyglobal.com/ir-sec-filings.html> [accessed 29 March 2017].

¹¹⁶ TalkTalk, 25th October 2016, *Ultra Fibre Optic Trial set to cover the whole of York*,

<https://www.talktalkgroup.com/articles/talktalkgroup/2016/October/Ultra-Fibre-Optic-Trial-set-to-cover-the-whole-of-York>.

¹¹⁷ KCOM plc, 14 March 2017, KCOM press release, <https://www.kcomhome.com/news/articles/kcom-welcomes-its-40-000th-lightstream-customer/> [accessed 15 March 2017].

¹¹⁸ KCOM home, <https://www.kcomhome.com/products/broadband/lightstream/>, [accessed 6 February 2017].

- 4.11 BT itself has announced its ambition to reach 12 million homes and businesses with faster broadband services by 2020, through a mix of two million premises with FTTP and ten million premises with G.fast technology.¹¹⁹
- 4.12 We are at an important juncture in the development of the networks that will serve the needs of the UK in the future. In particular, network competition would make the decisions about how to serve the needs of customers in the future contestable. Instead of being constrained by BT's chosen strategy of incrementally upgrading its existing copper network, competing telecoms providers have the opportunity to build their own ultrafast networks, such as FTTP.
- 4.13 Allowing telecoms providers to respond to the prospect of BT's investment by themselves investing in competing networks will help ensure that the investment decisions serve the needs of customers. In particular, we observe that under BT's current plans, the majority of the 12 million homes and businesses will receive higher speed broadband via FTTC. Although this may meet customers' bandwidth needs in the medium term, there may be limited scope for improvements to the copper network beyond this should bandwidth demand increase further. Moreover, the speeds that can be reached also deteriorate over distance so the highest headline speeds may not be available to all customers in an area. FTTP networks can also be more reliable and experience fewer faults than services based fully or partially on the traditional copper-based telephone networks. For example, in Hull, [3<]. We know from our quality of service research that customers "simply want and expect the service to work" and place a high value on reliability and not having to be concerned that bandwidth may be a constraint.¹²⁰
- 4.14 We note that increased investment in FTTP also has the potential to deliver significant economic benefits. A recently published European Commission (EC) Staff Working Document notes that Very High Capacity (VHC) networks will enable the use of the best products, services and applications and provide the best service to European citizens.¹²¹ This in turn, creates a market for such online services.
- 4.15 The EC impact assessment also notes the potential for VHC networks, including those based on FTTP, to deliver disruptive change through innovation.¹²² It claims that better connectivity will allow all sectors of the economy to realise higher productivity, and may give a significant boost to innovation, including through supporting the development and use of the 'Internet of Things' (IoT). Similarly, a report by Arthur D Little on behalf of Vodafone has identified a broad range of

¹¹⁹ BT Group plc, November and December 2016, *Q2 2016/17 results – investor meeting slide pack*, <http://www.btplc.com/Sharesandperformance/Quarterlyresults/Investormeetingpack.pdf>.

¹²⁰ Jigsaw research, February 2016, *Quality of Service in Telecoms*, section 4.1, https://www.ofcom.org.uk/data/assets/pdf_file/0025/78370/jigsaw_quality_of_service_in_telecoms.pdf.

¹²¹ European Commission, 14 September 2016, *Commission staff working document accompanying the document communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions*, section 4.3.1, <http://teams/sites/kc/elib/br/Telco%20sector%20notes/ConnectivityforaCompetitiveDigitalSingleMarket-TowardsaEuropeanGigabitSociety-StaffWorkingDocument.pdf>.

¹²² European Commission, 14 September 2016, *Impact Assessment of Review of the regulatory framework for electronic communications*, part 3/3, pages 328 – 329, http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=17193.

industries that it argues would benefit from gigabit networks, such as healthcare and education.¹²³

Designing remedies

4.16 The key tools we can use to address competition concerns in this market review are network access, pricing and quality of service remedies.

Access Remedies

4.17 As we explain in Section 5, we propose to require BT to provide wholesale access to its network on reasonable request on fair and reasonable terms and conditions. Given that we are in a transition between models of competition, we propose to do so at different points in the value chain. The current model relies primarily on access to VULA and LLU whereas in the future we expect that in some parts of the UK the model will be competition between ultrafast networks, in part relying on physical infrastructure access.

4.18 We expect the relative importance of different points of access to evolve over time as competition between network providers grows – PIA will become significantly more important in the future and is important to our goal of promoting investment in competing ultrafast networks.

4.19 We believe that in parts of the UK there could be a change in the business model for those providers who currently use VULA and LLU, as they shift away from relying upon those services to competing on the basis of their own networks. Increased network competition may also reduce the need for the VULA and LLU access obligations in those areas, with a greater reliance on PIA. In other areas, it may become apparent that the prospects for rival investment are limited, and the need for VULA and LLU access obligations will be greater. While in theory it might be possible to apply different regulatory arrangements to these areas, we do not think we are currently in a position to identify these areas, and to do so would risk stifling incentives to invest in these areas. Therefore, for this review period, we propose that a single approach which applies to all geographic areas in the UK (excluding the Hull Area) is appropriate.

4.20 We expect this shift to network competition will take some time to happen, given in particular the time it takes to deploy new networks, and we therefore do not expect to see competitive fibre investment across a significant proportion of the country in the period of this review.¹²⁴ In the meantime, and at least for the duration of this market review, customers across much of the country will continue to rely on competition based on access to Openreach's network and it will remain important that we keep

¹²³ Arthur D Little 2016, Creating a Gigabit Society, page 5, http://www.vodafone.com/content/dam/group/policy/downloads/Vodafone_Group_Call_for_the_Gigabit_SocietyFV.pdf [accessed 24 March 2017]. For example, fibre networks could be used to provide digital health services such as remote patient monitoring and remote care & rehabilitation. In education, fibre networks could support increased digitisation within the classroom (e.g. to download content on tablets or laptops).

¹²⁴ We note that our vision of 40% of homes being reached by competitive FTTP networks in ten years is broadly equivalent to around one million homes passed per year, but within this review period, taking account of the time to invest and ramp-up of rollout, the rate may be considerably lower.

an appropriate range of access obligations in place. Therefore, while we set up a regime which delivers network competition in the long term, we will need to continue to regulate access to Openreach's network and services through remedies for VULA and LLU to protect customers from excessive pricing and protect downstream competition in these areas, at the same time as promoting the development of network competition.

Duct and pole access

- 4.21 A key element of our proposals to promote greater network competition is the imposition of a specific access remedy giving other providers access to BT's duct and pole infrastructure.
- 4.22 The high costs of deploying physical infrastructure (such as ducts and poles) remains a barrier to large scale network deployment in significant parts of the country. These costs constitute a large proportion of the overall capital expenditure of an access network and BT's ability to reuse its existing physical infrastructure gives it a significant advantage over its competitors.
- 4.23 We believe that an effective PIA remedy will reduce the absolute costs and time required to build ultrafast broadband networks at scale. Lowering the upfront cost of new network deployment is a key factor in helping to promote new entry and more investment. We believe that this will make network competition at scale viable. Moreover, by avoiding the need for rival networks to build their own ducts, PIA based network competition entails much lower duplication of fixed costs. In our view, an effective PIA remedy will, in due course, make downstream services potentially competitive in many geographic areas.
- 4.24 We have already consulted on elements of a new and effective PIA remedy,¹²⁵ and we will set out our proposals for an effective PIA remedy shortly.

Price regulation of VULA

- 4.25 Our approach to pricing remedies for VULA, as set out in Section 8, is important to our objective of promoting investment in building competitive networks. This is because the approach we take to regulating VULA services in this review period, and what we say about our likely approach in future reviews, will affect the incentives on telecoms providers to invest now in their own networks. We must ensure that our remedy is appropriate to address the competition concerns we have identified and also proportionate having regard to our regulatory objectives. In general, the tighter we regulate VULA, the more likely it is that we undermine the incentive for telecoms providers to build new networks as opposed to relying predominantly on buying access from BT. There are a number of reasons for this:
- the cost of buying VULA affects the build or buy cost comparison; the lower the cost of VULA, the less attractive it is to build an alternative network;
 - the price of VULA is likely to affect the retail prices that can be charged for services, and therefore the ability to generate margins from services supplied using the new network;¹²⁶

¹²⁵ 2016 PIA Consultation.

- a benefit of investing in a network is that telecoms providers take far greater control of the services that can be offered and of a large part of the cost stack. Tighter regulation of VULA can reduce the potential for competitors to gain from this; and
 - our approach to regulating VULA will also affect the gains that come from being the ‘first-movers’. If rivals to those who choose to invest have to rely on less tightly regulated access to Openreach’s network, there will be a greater incentive to invest first.
- 4.26 Sky and TalkTalk have each argued that a lower VULA price could incentivise investment as it would help them to build and maintain scale during the medium term while network build takes place. They argue that a lower VULA price would allow them to build and maintain larger customer bases which they could then more easily convert to ultrafast customers once they had built their own networks.
- 4.27 The challenge we face is to strike an appropriate balance between encouraging network investment, yet protecting consumers and competition in the short term (given that investment in new ultrafast networks will take time).¹²⁷ On the one hand we do not want to crowd out opportunities for network competition in geographic areas where it is economically viable; i.e. it must not be too ‘easy’ for competitors to rely on buying access to another’s network when there is the potential to invest in their own. On the other hand, we want to ensure that consumers and competition are sufficiently protected in these areas in the short term, as well as in other geographic areas where network competition is not likely to be economically viable.

Future regulation of broadband

- 4.28 We want a regulatory framework that is simple and designed to last, and which is capable of shifting away from price regulation of VULA towards a greater reliance on network competition in the longer term. Investment decisions being made now are affected by expectations of demand, competition and regulation long into the future. An important part of our approach is to provide, to the extent we can, certainty about the future regulatory framework.
- 4.29 We cannot prejudge what actions we will take in the future, as any pricing decisions in future reviews will be made in the light of the circumstances and legal framework applicable at that time. However, in the interests of regulatory certainty and consistency, we think it is useful to set out our initial thinking on the future regulation of broadband.
- 4.30 In general, we expect future reviews to consider the case for a shift away from price regulation of VULA towards greater reliance on market pricing as third party telecoms provider investment in competing networks increases.
- 4.31 For instance, where the prospect of network competition is likely to provide a sufficient constraint, we may not extend the scope of our charge controls beyond

¹²⁶ If FTTP services command a price premium relative to superfast broadband products (for example, due to the higher quality or bandwidth), then if superfast broadband prices are lower by virtue of the VULA price being lower, FTTP prices will also be lower, hence lower margins arising from investment in FTTP.

¹²⁷ As we explain in Section 8, in developing our approach, we have also taken into account the need to preserve the investment incentives faced by BT, by applying the ‘fair bet’ principle.

retaining cost-based charge controls on LLU and 40/10 VULA services. As higher bandwidth services become more important, the business case for competitive ultrafast investment is likely to strengthen, and with that the prospect of greater competition delivering innovation, quality and choice as well as lower prices for consumers. Future reviews are also likely to examine whether further deregulation of BT's services is appropriate.

- 4.32 We consider that the proposals set out in this consultation should give BT's competitors strong incentives to invest in their own networks, anticipating the potential for reduced access regulation in the future. Competitors who invest now in new networks can therefore expect to benefit from a first mover advantage, and consumers can expect to benefit from competition between networks.
- 4.33 In time, a greater degree of differentiation in our regulatory approach across the UK may also emerge. Different remedies may be needed in different geographic areas. For example, charge controls could be applied to higher bandwidth services in areas where there is no potential for competing networks, with pricing flexibility continuing, or even further deregulation, in areas with competition between networks.
- 4.34 However, the boundary will not always be clearly identifiable between geographic areas susceptible to competitive network build and areas where competitive network build is unlikely. Future market reviews will therefore need to consider these boundaries carefully based on the facts at the time. In the light of this uncertainty, we expect to continue to place weight on the risk of harm to consumers resulting from a regulatory error that stifles competitive investment. Our initial thinking therefore is that we would expect to err on the side of promoting competitive investment when setting such boundaries.
- 4.35 We believe our proposed approach in this market review, combined with more certainty about the direction of regulation in future reviews strikes the right balance between the objectives of encouraging rival network investment and protecting consumers from higher prices in the short term, and carries the best prospects for delivering the benefits of competition to consumers.

Price regulation of LLU

- 4.36 In Section 9 we set out our approach to pricing remedies for LLU, which is important to our objective of protecting consumers that rely on the current model of competition based on access to Openreach's network. This is a segment of the market which represents the majority of customers today, but which we expect to decline significantly over the period of the market review (as indicated in Figure 2.2 of Section 2). Therefore, we aim to provide a stable basis for competition by continuing with the current regulatory regime, including a specific access obligation and a charge control on the main form of LLU, i.e. MPF, and related ancillary services. For the reasons explained in Section 6 and Section 9, we propose lifting the specific access remedy and charge control obligations on SMPF LLU, instead relying on the general access remedies.

Quality of service

- 4.37 In our Strategic Review we identified the importance of quality of service to consumers and competition. We consider that wholesale regulation of local access should support our goal of achieving a step change in quality of service.

- 4.38 A good quality of service at the wholesale level is necessary to ensure effective competition and for customers to have a good quality experience when they buy and use fixed voice and broadband services. In particular, the time it takes to provide a new connection, the rate of faults and repair times are critical. We believe that because BT has SMP in the wholesale market it does not have sufficient incentive to set the quality of the service it is required to provide at an appropriate level, or to innovate to improve service quality.
- 4.39 In Section 7, we explain further our proposal to impose an SMP condition which allows us to make a direction setting quality of service standards relating to the wholesale access products for standard, superfast broadband services. We are setting out our proposed quality of services standards in a separate consultation published alongside this document.

Insufficiency of national and EU competition remedies

- 4.40 We consider that national and EU competition law remedies would be insufficient to address the identified competition concerns. Firstly, competition law, which would focus on preventing the abuse of a dominant position, may not place sufficient obligations on BT to facilitate and sustain effective downstream competition. In contrast, our experience is that *ex ante* regulation at the upstream level can better promote effective downstream competition. Secondly, the requirements to address competition concerns include provisions to ensure they remain effective during the review period and *ex ante* regulation better enables us to do this as it can be tailored to the particular circumstances in the market and services provided. Thirdly, competition law does not provide enough regulatory certainty, which itself can undermine downstream competition where there is upstream SMP and regulatory certainty is needed if there is to be long term infrastructure investment. In contrast, a benefit of *ex ante* regulation is that all industry stakeholders are clear in advance on the regulation that will apply. Moreover, *ex ante* regulation can facilitate more timely enforcement due to the greater certainty and specificity provided.

The impact of Openreach reform

- 4.41 Another element of our Strategic Review was to secure greater operational and strategic independence for Openreach. On 17 March 2017 we published an update setting out the detail of further voluntary commitments that BT has made regarding the reform of Openreach under section 89C of the Communications Act 2003.¹²⁸ We explained that BT's revised notification should provide an effective and long-term solution to address the competition concerns identified in our Strategic Review and that we were no longer proceeding with a formal notification to the European Commission to impose separation.
- 4.42 As we explained in our 17 March Update, we consider that, overall, the new arrangements established by BT's further section 89C notification provide Openreach with significantly more independence to take its own decisions about the strategic direction and operation of the network, acting with a clear focus on the equal treatment of all its customers, not just the needs of BT Group. In particular, we explained our view that BT's further section 89C notification addresses those areas in which its previous proposals (contained in a section 89C notification submitted in July 2016) was deficient. Specifically:

¹²⁸ Ofcom March 2017. *Delivering a more independent Openreach*.

https://www.ofcom.org.uk/data/assets/pdf_file/0035/98855/Openreach-consultation-2017.pdf.

- Openreach Limited is incorporated as a wholly-owned subsidiary of BT plc.
 - Openreach Limited has an executive that is appointed by, and reports to, the majority independent Openreach Board except for in specific circumstances.
 - The direct involvement of the BT Group CEO and CFO in Openreach Limited's management is significantly restricted. For example, they do not have the ability to access confidential customer information during the confidential Openreach consultation process between Openreach and BT's competitors.
 - Openreach Limited will be responsible for setting its own strategy to meet its purposes, within a financial envelope set by BT Group. In doing this, it will consider the interests and strategies of all its downstream customers, including BT and the overall BT Group strategy.
 - Openreach will consult with its customers on major future network investment decisions, including confidentially where this is appropriate.
 - Openreach Limited will be responsible for the operation and management of the Openreach business, including the direct employment of those employees working on Openreach products, services and network.
 - While ultimate ownership of all assets would remain with BT plc, Openreach Limited will be empowered to control the underlying network used to provide Openreach products and services on behalf of BT, including investing in and maintaining that network in support of its overall strategy.
- 4.43 We also consulted in that document on a proposal to release BT from the Undertakings it gave to Ofcom in 2005 under the Enterprise Act 2002, and which established Openreach as a functionally separate access and backhaul division of BT operating on an Equivalence of Inputs (EOI) basis.
- 4.44 Having received the section 89C notification from BT, we are required by section 89C(4) Communications Act 2003 to consider, as soon as reasonably practicable, the impact on SMP conditions set in relation to markets, which in our opinion, will be affected.
- 4.45 Under the Commitments that form part of BT's section 89C notification, Openreach will provide on behalf of BT a range of SMP Products which are provided over BT's access and backhaul networks and which are important in supporting future downstream competition. These products currently include (among others) MPF, PIA and GEA which are all services within the scope of the WLA market.
- 4.46 We have therefore considered whether the arrangements set out in BT's section 89C notification will have an impact on the SMP conditions we are proposing to set in this review. In this context, we note that the new arrangements build on and enhance the existing arrangements for the functional separation of Openreach established by the Undertakings. Since the Undertakings entered into force in September 2005, they have sat alongside and complemented SMP regulation which has been imposed by Ofcom as part of our programme of market reviews. That SMP regulation has, as part of the legal and economic context of the relevant market, reflected the existence of the Undertakings and the functionally separate nature of Openreach and its obligation to supply products on an EOI basis.

- 4.47 Under the new arrangements, Openreach will remain functionally separate from the rest of BT and it will be required to provide SMP products on an EOI basis, where required to do so by SMP regulation. The creation of Openreach Limited, with a majority independent board will enhance these arrangements and should secure greater operational and strategic independence for Openreach.
- 4.48 One of our goals of the reform of Openreach is to facilitate new models of investment in the industry, for example where Openreach co-invests with other telecoms providers than BT. We believe that our proposals in this consultation, including requirements for equivalence of inputs, provides flexibility for co-investment opportunities, with specific cases to be considered on their merits.
- 4.49 In our view, the remedies on which we are consulting for WLA are appropriate having regard to BT's section 89C notification which, like the Undertakings, will sit alongside and complement any SMP regulation that we impose on BT. We do not consider that any new SMP regulation is necessary specifically to take account of these arrangements and nor do we consider that any of our proposals are now unnecessary or requirement amendment. Stakeholders are invited to express their views on this position as part of any representations made on the substance of our proposals.

Section 5

General remedies

Introduction

- 5.1 In this section we set out our proposed general remedies on BT.
- 5.2 By general remedies we mean the key remedy of requiring BT to provide network access to services in the WLA market in the UK excluding the Hull Area, as well as a series of remedies designed to support and make effective that network access. The general remedies that we propose are designed to address the competition concerns that we have provisionally identified in our market analysis associated with a finding of SMP (see Section 3).
- 5.3 In addition to these general remedies, in Section 6 we propose specific access remedies on BT, namely the requirement to provide network access to LLU in the form of MPF, to VULA and to SLU. Our proposals for the approach to pricing of specific access products and services are discussed in subsequent sections of this consultation. Our proposals on the level of charges will be discussed in Volume 2 of this consultation.
- 5.4 The application of general remedies in relation to PIA will not be substantively discussed in this document. These issues will be discussed in a separate consultation document specifically relating to a proposed PIA remedy, to be published shortly.
- 5.5 In summary, we are proposing the following general remedies on BT in the WLA market in the UK excluding the Hull Area:

Table 5.1: Proposed general remedies

Proposed general remedies

- Requirement to provide network access on reasonable request
- Requirement to publish and operate a process for requests for new forms of network access
- Requirement not to unduly discriminate and EOI
- Requirement to publish a reference offer
- Requirement to notify changes to charges, terms and conditions
- Requirement to notify technical information
- Cost accounting
- Accounting separation

- 5.6 Having regard to our market analysis, these proposals largely replicate the general remedies currently imposed on BT following the 2014 FAMR. We are proposing the following changes from the existing regulation:

- aligning the Statement of Requirements (SoR) process for WLA with the SoR process imposed on BT in respect of the business connectivity markets (2016 BCMR);¹²⁹
- adding to the requirements that published Reference Offers (ROs) include specific Service Level Agreements (SLAs) and Service Level Guarantees (SLGs). This reflects our proposal not to re-impose the 2008 SLG directions;¹³⁰
- aligning our regulatory financial reporting conditions with the 2016 BCMR and proposed NMR processes; and
- amending the requirement for BT to notify relevant third party telecoms providers of any changes to terms and conditions, so that it must also notify changes required to implement a NICC standard. BT will continue to be exempted from the proposed 90 day notification period for such changes.¹³¹

Proposed general remedies

5.7 In this subsection, we set out our reasoning in respect of each proposed general remedy in turn by setting out:

- the current remedies (if any);
- the aim and effect of the proposed regulation;
- our proposals; and
- our consideration of the relevant legal tests for the proposed regulation.

Requirement to provide network access on reasonable request

Current remedies

5.8 BT is currently required to provide network access on reasonable request and to provide such access as soon as it is reasonably practicable and on fair and reasonable terms and conditions. Where no charge control or basis of charges obligation applies (including where a charge control has expired), BT is also required to provide such access at fair and reasonable charges. BT is also required to comply with any direction Ofcom may make regarding the provision of network access – this includes the directions of 20 March 2008 relating to quality of service.

Aim and effect of proposed regulation

5.9 The level of investment required by a third party to replicate BT's network and build sufficiently large access networks, and the time this would take to complete, represents a significant barrier to entry. In our view, an obligation requiring dominant

¹²⁹ Ofcom, April 2016. *Business Connectivity Market Review – Volume 1*, (2016 BCMR), https://www.ofcom.org.uk/_data/assets/pdf_file/0015/72303/bcmr-final-statement-volume-one.pdf.

¹³⁰ Ofcom, March 2008. *Service level guarantees: incentivising performance*, (2008 SLG directions), https://www.ofcom.org.uk/_data/assets/pdf_file/0020/33617/statement.pdf.

¹³¹ NICC is a technical forum for the UK communications sector that develops interoperability standards for public communications networks and services in the UK.

providers to make access to their network facilities available to third parties on reasonable request is fundamental to promoting and protecting competition in downstream markets.¹³² We consider that, in the absence of such a requirement, BT would have an incentive and the ability to refuse access at the wholesale level thereby favouring its own retail operations with the effect of hindering sustainable competition on the corresponding downstream markets, ultimately against customers' interests.

Proposals

- 5.10 We are proposing to re-impose SMP obligations requiring BT to provide network access where a third party reasonably requests it in respect of the WLA market in the UK excluding the Hull Area. The proposed condition will require BT to provide network access on fair and reasonable terms and conditions.
- 5.11 We also propose that this obligation includes a requirement for BT to provide network access at fair and reasonable charges where no charge control applies or where a charge control has expired. We consider that a fair and reasonable charges obligation (where applied) is necessary to address our concerns regarding a risk of adverse effects arising from a price distortion if BT fixes and maintains its prices at an excessively high level for services in the WLA market, or sets prices at a level that may result in a margin squeeze. In Sections 8 and 9 we discuss how we will interpret an obligation to set fair and reasonable charges for certain services. We do not propose to require a fair and reasonable charges obligation where a charge control or basis of charges obligation is in force. In our view, the charge control or basis of charges obligation is sufficient to address our competition concerns, in particular in relation to excessive pricing, such that additional price regulation is not required. We also consider that once our concerns in relation to excessive pricing are addressed via a charge control or basis of charges obligation, the likelihood of a margin squeeze is reduced.
- 5.12 We propose that it is appropriate for this SMP condition to include the power for Ofcom to make directions in order that we can secure the supply of services and, where appropriate, fairness and reasonableness in the terms and conditions (and, as discussed above, in certain circumstances also charges) of network access. The proposed condition includes a requirement for the dominant provider to comply with any such direction(s), so any contravention of a Direction would constitute a contravention of the condition itself and would therefore be subject to enforcement action under sections 94-104 of the Act.
- 5.13 Proposals regarding directions relating to quality of service under this proposed condition are set out in our separate quality of service consultation document, published alongside this consultation.

Legal tests

- 5.14 For the reasons set out below, we are satisfied that the proposed conditions for BT in the WLA market in the UK excluding the Hull Area meet the various tests set out in the Act.

¹³² Network access is defined in sections 151(3) and (4) of the Act. We consider that a requirement to provide network access would, therefore, include any ancillary services as may be reasonably necessary for a third party to use the services.

- 5.15 Section 87(3) of the Act authorises Ofcom to set SMP service conditions requiring the dominant provider to provide network access as Ofcom may from time to time direct. These conditions may, pursuant to section 87(5), include provision for securing fairness and reasonableness in the way in which requests for network access are made and responded to and for securing that the obligations in the conditions are complied with within periods and at times required by or under the conditions. Section 87(9)(b) of the Act authorises SMP services conditions to be imposed on a dominant provider in relation to the recovery of costs and cost orientation regarding the provision of network access, subject to the conditions of section 88 of the Act being satisfied.
- 5.16 In proposing these conditions, we have taken into account the factors set out in section 87(4) of the Act. When considering the imposition of such conditions in a particular case, we must take into account the following six factors set out in section 87(4):
- the technical and economic viability (including the viability of other network access products, whether provided by the dominant provider or another person), having regard to the state of market development, of installing and using facilities that would make the proposed network access unnecessary;
 - the feasibility of the provision of the proposed network access;
 - the investment made by the person initially providing or making available the network or other facility in respect of which an entitlement to network access is proposed (taking account of any public investment made);
 - the need to secure effective competition (including, where it appears to Ofcom to be appropriate, economically efficient infrastructure based competition) in the long term;
 - any rights to intellectual property that are relevant to the proposal; and
 - the desirability of securing that electronic communications services are provided that are available throughout the Member States.
- 5.17 In reaching our proposal that BT should be subject to a requirement to provide network access on reasonable request, we have taken all of the above six factors into account. In particular, having considered the economic viability of building access networks within this review period to achieve ubiquitous coverage that would make the provision of network access unnecessary, we consider that the SMP condition is required to secure effective competition, including economically efficient infrastructure based competition, in the long term in each of the wholesale access markets. The requirements for BT to meet only reasonable network access requests also ensure that due account is taken of the feasibility of the proposed network access, and of the investment made by BT initially in providing the network.
- 5.18 We are also required to ensure that the proposed condition satisfies the tests set out in section 88 of the Act as the requirement places controls on network access pricing, insofar as charges are required to be fair and reasonable. Section 88(1) of the Act requires that Ofcom must not impose pricing conditions unless it appears from the market analysis carried out for the purpose of setting that condition that there is a relevant risk of adverse effects arising from price distortion. We have discussed above that we consider that, in the absence of price regulation requiring prices to be 'fair and reasonable,' BT may price excessively.

- 5.19 Section 88(1)(b) of the Act requires that the pricing condition should be appropriate for the purposes of promoting efficiency, promoting sustainable competition and conferring the greatest possible benefits on the customers of public electronic communications services.
- 5.20 In the cases where we propose a fair and reasonable charges obligation, we consider that this will prevent BT from setting charges that are excessively high or that impact other wholesale providers' ability to compete with BT in downstream markets and so will support the aim of promoting improved efficiency.
- 5.21 We also consider that the provision of network access on fair and reasonable terms will promote sustainable competition by ensuring that other telecoms providers can effectively compete downstream. We consider this to be the appropriate approach for the purposes of conferring the greatest benefits on customers of downstream services.
- 5.22 We are also required, under Section 88(2) of the Act, to consider BT's investment. We believe that fair and reasonable charges will allow BT's costs to be taken into account and will also provide for common cost recovery. This condition is therefore an appropriate basis upon which to control BT's prices.
- 5.23 We have considered our duties under section 3 and all the Community requirements set out in section 4 of the Act. The condition is aimed at promoting competition and securing efficient and sustainable competition for the maximum benefit of consumers by facilitating the development of competition in downstream markets.
- 5.24 Section 47(2) requires conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. In our view, the proposed condition is:
- objectively justifiable, in that it facilitates and encourages access to BT's networks and therefore promotes competition to the benefit of consumers;
 - not unduly discriminatory, in that we are proposing to impose the requirement on BT. We have not provisionally identified any other telecoms providers as holding a position of SMP in the WLA market in the UK excluding the Hull Area;
 - proportionate, in that it is targeted at addressing the market power that we propose BT holds in the WLA market and does not require it to provide access if it is not technically feasible or reasonable; and
 - transparent, in that the condition is clear in its intention to ensure that BT provides access to its network in order to facilitate effective competition.
- 5.25 For the reasons set out above, we consider that the proposed condition is appropriate to address the competition concerns identified, in line with section 87(1) of the Act.

Requests for new forms of network access

Current remedies

- 5.26 BT is currently required to publish and follow a process by which it will address requests for new forms of network access in the WLA market. This is commonly referred to as the 'SoR process'.

Aim and effect of regulation

- 5.27 Vertically integrated telecoms providers have the ability to favour their own downstream business over third party telecoms providers by differentiating on price or terms and conditions. One form of discrimination is in relation to the handling of requests for new types of network access. This has the potential to distort competition at the retail level by placing third party telecoms providers at a disadvantage compared with the downstream retail business of the vertically integrated provider.
- 5.28 The aim of this regulation is to support access seekers in ensuring that there is a fair, reasonable and transparent process for assessing reasonable requests for new forms of network access. To make such a request, the telecoms provider should provide the dominant provider with an SoR against which the reasonableness of the request can be assessed.
- 5.29 We consider that in the absence of such a requirement, BT has the incentive and ability to refuse to provide new forms of network access at the wholesale level, thereby favouring its own retail operations with the effect of hindering sustainable competition in the corresponding downstream markets, ultimately against the interests of consumers. Our regulation is particularly important in relation to new forms of network access requested by third party telecoms providers, as the incentive for BT to favour its own retail operations by rejecting requests for new forms of network access would have the potential to result in a substantial limitation of innovation in this area. This is particularly significant given the impact that we consider network level competition will have on the market in the coming review period.

Proposals

- 5.30 Section 87(3) of the Act authorises Ofcom to set SMP services conditions requiring the dominant provider to provide network access as it may, from time to time, direct. These conditions may, pursuant to section 87(5) of the Act, include provision for securing fairness and reasonableness in the way in which requests for network access are made and responded to, and for securing that the obligations in the conditions are complied with within the periods and at the times required by or under the conditions. Some of the requests Openreach receives fall outside the definition of either Commercial or Regulatory SoRs. These requests are not considered in this WLA review but are part of our wider work to reform Openreach. In that context, we note the Customer Consultation Process contained in BT's Commitments to Ofcom of March 2017.
- 5.31 We propose to re-impose a condition regarding the process by which BT must address requests for new forms of network access (the SoR process). We consider that this requirement remains an appropriate and proportionate *ex ante* measure to complement the general network access requirement discussed in the preceding sub-section. Further, we have proposed alterations to the existing SoR conditions, as set out below.
- 5.32 Following concerns raised in the course of the 2014 FAMR regarding the SoR process we set out in the 2014 FAMR Statement that we would initiate a monitoring programme. This programme analysed BT's performance in responding to and assessing SoRs in the fixed access and business connectivity markets over a

12 month period, in addition to analysing BT's past performance from 2007-2013.¹³³ Our monitoring programme identified three main issues:

- The average time taken by BT to review and reach a decision on an SoR has increased significantly from 2007 to 2014.
- There is limited transparency from BT regarding SoR rejection and cost assessment, whereby customers have not been given sufficient information as to why their SoR request was denied, and on what basis their SoR request was assessed.
- BT does not distinguish between regulatory and commercial SoRs.

Increase in SoR completion time

5.33 The average time taken to complete an SoR has increased significantly from 2007 to 2014; from 5 to 22 months to deliver an SoR; and from 4 to 8 months to reject or cancel an SoR. At the same time, the volume of SoRs has decreased significantly from 175 in 2007, to 12 in 2014. As a result, telecoms providers have informed Ofcom that they are uncertain as to whether an SoR will be developed, which can raise issues regarding commercial planning. BT's lack of responsiveness and the lack of fixed timescales for carrying out assessments has been raised previously by telecoms providers.¹³⁴

Transparency of cost assessment thresholds and reasons for rejecting SoRs

- 5.34 Telecoms providers raised with us issues about the lack of transparency regarding SoR rejection and cost assessment, whereby third party telecoms providers were not given sufficient information as to why their SoR request was rejected, or the basis on which their request was assessed. We have identified that many SoRs were rejected or cancelled with the simple statement "insufficient business or forecast volumes" or "do not fit Openreach strategy". In all cases, no quantitative or further information explaining the decision was provided making it impossible for telecoms providers to reasonably challenge the decision, should they have wished to do so.
- 5.35 BT is already subject to an obligation to clearly identify the criteria by which requests will be assessed, however we consider this part of the SoR process still lacks clarity for telecoms providers. This makes it difficult for telecoms providers to challenge rejections of SoRs or to raise complaints to us, and may mean there is a greater incentive for BT to reject SoRs without a full assessment.
- 5.36 We sent an information request to BT in April 2016, requesting it to provide all SoRs received between 1 January 2014 and 31 December 2015 and information on their assessment costs and outcomes. The information provided by BT in response demonstrated that the financial thresholds which BT applies to SoR requests are unclear and, although BT does not require SoRs to be cost neutral (i.e. an SoR can be accepted even if its development requires more money than it will generate for BT), financial viability appears to be a factor (i.e. an SoR's ability to generate sufficient revenue to meet its operating expenses). BT's response also indicates that

¹³³ Ofcom, June 2014. *Fixed Access Market Reviews – Volume 1*, (2014 FAMR), paragraph 10.118, https://www.ofcom.org.uk/data/assets/pdf_file/0032/78863/volume1.pdf.

¹³⁴ 2016 BCMR, paragraph 8.45.

BT considers its strategic priorities, regulatory obligations, intangible benefits and wider industry/consumer interests when assessing SoR requests.

SoR Classification

5.37 Under the current SoR guidelines, which are drafted by BT, BT must classify SoR requests as either ‘regulatory’ or ‘commercial’, and treat each request accordingly. However, BT’s SoR tool does not support such a classification and BT has said it treats all SoRs equally. The distinction between regulatory and commercial SoRs is important:

- In markets where BT has been found to hold SMP, the test of whether BT should provide a new form of network access as requested by an SoR is whether the request is a reasonable one.
- Where BT does not hold SMP, BT is not obliged to provide network access under an SMP condition. For these SoRs, BT’s Undertakings state BT is free to treat a relevant SoR as any other commercial organisation would and can assess an SoR on the basis of its fit with Openreach’s assets, skills and resources, its commercial attractiveness, and the opportunity cost to Openreach.¹³⁵

5.38 As BT does not differentiate between the two types of SoRs and adopts the same approach to both (commercial and regulatory), there is a risk it could be rejecting reasonable regulatory SoR requests for purely commercial and strategic reasons. In order for BT to meet its obligations it must either treat every SoR as a regulatory SoR (and amend its published guidelines accordingly), or implement a system that allows it to differentiate between regulatory and commercial SoRs so that it can meet its regulatory obligations where they apply. BT cannot apply purely commercial considerations to all SoRs, as this would be in breach of the SMP condition.

Monthly audit of SoR process

5.39 As a result of the monitoring programme, a monthly meeting to audit the SoR process was established. In this meeting the attendees (Office of the Telecommunications Adjudicator (OTA2), Openreach, Equality of Access Office (EAO) and Equality of Access Board (EAB)) scrutinise each closed SoR to check the process was correctly followed. Ofcom has since noted improved consistency in the completion of SoRs.¹³⁶

Proposals regarding the SoR process

5.40 Our proposals regarding the SoR process are set out in detail below. In summary, we propose to:

- align the legal conditions for dealing with requests for new forms of network access in the WLA market with the legal conditions for dealing with requests for new forms of network access as imposed in the 2016 BCMR;

¹³⁵ BT, June 2010. *Undertakings given to Ofcom by BT pursuant to the Enterprise Act 2002*, paragraph 5.11, <http://stakeholders.ofcom.org.uk/binaries/telecoms/policy/bt/btundertakings.pdf>. Note that we are consulting on a proposal to release BT from the Undertakings. See *Delivering a more independent Openreach*.

¹³⁶ Ofcom also attended these meetings for a period of 18 months but has since withdrawn. The OTA2 has agreed to monitor the meetings on our behalf and inform us of any issues.

- set prescriptive timescales for each stage of the SoR process;
 - allow for an extension to the prescribed timescales in certain circumstances;
 - require BT to carry out a feasibility study in order to determine whether an SoR request is reasonable, if necessary;
 - require BT to be more transparent in setting out its reasons for rejecting an SoR request; and
 - ensure that BT has a suitable SoR classification tool.
- 5.41 The number of SoR requests Openreach receives is currently in decline. However, fibre access products are increasing in importance and telecoms providers may identify changes to these products. It is therefore important to ensure that the process for assessing requests for new forms of network access is sufficiently robust to deal with SoR requests. As such, we propose to align the legal conditions for dealing with requests for new forms of network access in the WLA market with the legal conditions for dealing with requests for new forms of network access as imposed in the 2016 BCMR.¹³⁷
- 5.42 We consider that the SoR process as outlined in the 2016 BCMR is well placed to increase the robustness of the SoR process for products in the WLA market. Specifically, we are proposing that the legal condition sets out prescriptive timescales that BT must adhere to in following its SoR process. This is in contrast to the approach as set out in the 2014 FAMR, whereby the key requirement is limited to the publication of industry agreed guidelines which must meet an agreed set of principles including setting reasonable timescales for each stage of the process. The SoR process we are proposing includes a requirement that BT may need to carry out a feasibility study in order to determine whether an SoR request is reasonable. We consider that the inclusion of this requirement will provide greater transparency with regard to why BT has rejected an SoR request.
- 5.43 Given the significant increase in time taken to complete SoRs over previous review periods, we consider it is appropriate to implement prescriptive timescales, aligned with those applied in the BCMR.
- 5.44 In addition, we consider it appropriate to also include the same exception clauses as currently apply in relation to the BCMR to ensure the obligation is proportionate and not onerous. These exception clauses allow for an extension to the prescribed timescales if circumstances have arisen which, despite BT using its best endeavours, prevent it from completing a feasibility study within the prescribed time limit, or if the relevant third party telecoms provider and BT agree to extend the time limit. The time limit can on occasion also be extended if Ofcom agrees to an extension. This proposal also addresses the issue of BT being subject to two different sets of requirements, which should assist compliance.
- 5.45 BT is required under the current SMP condition, and will continue to be required under the proposed SMP condition, to clearly identify the criteria by which requests will be assessed. This is a crucial aspect of the SoR process, as if the assessment criteria are unclear to telecoms providers, they will be unable to reasonably challenge

¹³⁷ 2016 BCMR, *Legal Instruments*, pages 32-35,
https://www.ofcom.org.uk/data/assets/pdf_file/0023/47840/final-annex-35.pdf.

BT's rejection of their request, should they wish to. In the event of a refusal of request BT is obliged to detail all of the defects in the SoR request that led to its rejection, or detail its reasons for rejecting the request on the basis of unreasonableness.

- 5.46 In order to be consistent with its own published guidelines, BT must classify SoR requests as either regulatory or commercial, and treat each request accordingly. We have set out above why this aspect of the SoR process is important and we expect BT to ensure that its systems are capable of ensuring that regulatory SoRs are treated appropriately. We will continue to monitor this issue with a view to initiating enforcement action if there is evidence that BT is not complying with this regulatory obligation.
- 5.47 We consider that a suitable SoR classification system should help to address the issue of transparency regarding rejection of requests and cost assessment thresholds. An SoR classification system will encourage BT to demonstrate that it has not given improper consideration to strategic or commercial factors in assessing regulatory SoRs. It will also correct the information asymmetry of the current system whereby telecoms providers may be unaware of whether an SoR is regulatory or commercial, and therefore unable to argue that BT has not fulfilled its obligations under the process for assessing regulatory SoRs. The provision of a feasibility report and greater clarity in setting out why a request has been denied will demonstrate to the monthly audit meeting, Ofcom, and the relevant telecoms provider, whether BT has given undue consideration to strategic or commercial concerns when assessing a regulatory SoR request.
- 5.48 When implementing the proposed condition in the BCMR, BT argued that the proposed SoR condition should be limited to the publication of industry agreed guidelines which must meet an agreed set of principles. BT argued that this would provide flexibility for BT and other telecoms providers to agree future changes to the process (including timescales) without the need for regulatory intervention.¹³⁸ However, given the concerns we have identified above, we consider that a more prescriptive SoR process, such as that applied in the 2016 BCMR, is necessary to ensure that our regulatory objectives are met.
- 5.49 Finally, the proposed condition requires BT to publish guidelines in relation to requests for new forms of network access and allows us to direct BT to make amendments to those guidelines.
- 5.50 We consider that the proposals, as set out above, alongside the ongoing voluntary monthly audit of the SoR process, will address the issues raised regarding the SoR process. Whilst our proposals in this consultation are intended to address the SoR process, concerns about specific SoR requests that cannot be addressed satisfactorily through industry fora or in co-operation with the OTA2 can be escalated to Ofcom through the disputes and complaints process.

Legal tests

- 5.51 For the reasons set out below, we are satisfied that the proposed conditions for BT in the WLA market in the UK excluding the Hull Area meet the relevant tests set out in the Act.

¹³⁸ 2016 BCMR, paragraphs 8.42-8.44.

- 5.52 Section 87(3) of the Act authorises the setting of SMP services conditions in relation to the provision of network services and these conditions may, pursuant to section 87(5) of the Act, include provision for securing fairness and reasonableness in the way in which requests for network access are made and responded to, and for securing that the obligations in the conditions are complied with within the periods and at the times required by or under the conditions. We consider that the proposed condition will assist in securing fairness and reasonableness in the way in which requests for network access are made and responded to, as provided for under section 87(5)(a).
- 5.53 In making our proposals, we have also taken into account the factors set out in section 87(4) of the Act. In particular, we consider that the SMP condition specifying how BT should handle requests for new network access is required in order to ensure that BT does not discriminate in favour of its own downstream business. Our proposed obligation achieves this by:
- requiring BT to publish reasonable guidelines specifying the required content and form of requests for new network access and how they will be handled;
 - requiring BT to provide sufficient technical information to telecoms providers to allow them to draft product specifications which satisfy the reasonable requirements; and
 - specifying timescales within which BT must acknowledge and process requests.
- 5.54 We have considered our duties under section 3 of the Act. We consider that, in ensuring access seekers are able to make requests for new forms of network access based on an agreed SoR process, the condition would in particular further the interests of consumers in relevant markets by the promotion of competition, investment and innovation. In this regard we have taken particular account of section 3(4)(d) of the Act, which highlights the desirability of encouraging investment and innovation in relevant markets.
- 5.55 We have considered the Community requirements as set out in section 4 of the Act. We consider that the condition will promote competition in relation to the provision of electronic communications networks and encourage the provision of network access for the purpose of securing efficiency and sustainable competition in the markets for electronic communications networks and services.
- 5.56 We also consider that the condition meets the criteria set out in section 47(2) of the Act. The condition is:
- objectively justifiable, in that its purpose is to support the provision of access to BT's network and non-discrimination obligations in the processing of requests for new network access;
 - not unduly discriminatory, in that it applies to BT which is the only telecoms provider that we propose to have found has SMP in the WLA market in the UK excluding the Hull Area;
 - proportionate, in that it sets out the general process for requests for new forms of network access and thus encourages competition at the retail level, while allowing the detail of the process to be agreed between the dominant provider and industry. As this process is consistent with the 2016 BCMR SoR process

which BT is already subject to, this should minimise the regulatory burden for WLA SoRs; and

- transparent, in that it is clear the intention is to support the provision of access to BT's networks in order to facilitate competition.

5.57 For the reasons set out above, we consider that the condition is appropriate to address the competition concerns identified, in line with section 87(1) of the Act.

Requirement not to unduly discriminate and Equivalence of Inputs (EOI)

Current remedies

5.58 BT is currently prohibited from unduly discriminating in relation to the provision of network access in the WLA market in the UK excluding the Hull Area. BT is also subject to a specific requirement to provide network access to LLU, VULA and other key wholesale services on an EOI basis.

Aim and effect of regulation

5.59 Section 87(6)(a) of the Act gives us a power to impose “a condition requiring the dominant provider not to discriminate unduly against particular persons, or against a particular description of persons, in relation to matters connected with network access to the relevant network or with the availability of the relevant facilities”. We consider any conditions imposed pursuant to this power require equivalence as per Article 10(2).¹³⁹

5.60 A non-discrimination obligation is intended as a complementary remedy to the network access obligation, principally to prevent the dominant provider from discriminating in favour of its own downstream divisions and to ensure that competing providers are placed in an equivalent position. Without such an obligation, the dominant provider has the ability and incentive to provide wholesale network access on terms and conditions that discriminate in favour of its own downstream divisions.

5.61 Non-discrimination can have different forms of implementation. A strict form of non-discrimination – i.e. a complete prohibition of discrimination – would result in the SMP operator providing exactly the same products and services to all telecoms providers (including its own downstream divisions) on the same timescales, terms and conditions (including price and service levels), by means of the same systems and processes and by providing the same information. Essentially, the inputs available to all telecoms providers (including the SMP provider's own downstream division) would be provided on a truly equivalent basis, an arrangement which has become known as equivalence of input. An EOI obligation removes any degree of discretion accorded to the nature of the conduct.

¹³⁹ This position is supported by our 2005 guidance on undue discrimination by SMP telecoms providers where we state at paragraph 1.10 that “in wholesale markets Requirements not to unduly discriminate (under the Act) have the same meaning, and describes the same concept, as an obligation of non-discrimination (under the [Access] Directive)”. Ofcom, November 2005. *Undue discrimination by SMP providers*, https://www.ofcom.org.uk/_data/assets/pdf_file/0023/38183/statement.pdf.

- 5.62 In certain cases, a less strict interpretation of non-discrimination may be appropriate, in order to allow for flexibility and a more practical or cost-effective provision of wholesale inputs. For example, equivalence of outcome ('EEO') requires the provision of all wholesale inputs to access seekers in a manner which is comparable, in terms of functionality and price, to those the SMP operator provides to its own downstream businesses, albeit using potentially different systems and processes. EEO would allow for certain discriminatory conduct – compliance with this obligation needs to establish in particular whether the discrimination in question is undue.¹⁴⁰
- 5.63 Article 10 of the Access Directive, as implemented by section 87(6)(a) of the Act, provides a basis for imposing both EOI and a less strict interpretation of non-discrimination which only prevents discrimination that is undue.

Proposals

- 5.64 We propose to re-impose a non-discrimination obligation on BT in the WLA market in the UK excluding the Hull Area. In our view, such an obligation is required in order to address BT's ability and incentive (arising out of its SMP) to discriminate in favour of its own downstream retail operations, thereby distorting and restricting competition at the retail level. In particular, we are concerned that BT is incentivised to provide wholesale network access services on terms and conditions that discriminate in favour of its own downstream division. For example, it might decide to charge competing providers more than the amount charged to its own downstream division or it might provide the same services but within different delivery timescales. Both these behaviours could have an adverse effect on competition. Moreover, we consider that BT has the ability and incentive to supply products with different levels of quality – e.g. different Service Level Agreements ('SLAs') and Service Level Guarantees ('SLGs'), providing fault repair of products on different timescales, creating new variants restricted to the requirements of its downstream division, and taking longer to address, or avoiding addressing, the requirements of competitors.
- 5.65 We explain below the form of the non-discrimination obligation we are proposing to impose on BT.

EOI

- 5.66 We consider that EOI is the most effective form of non-discrimination. The concept of EOI was identified in Ofcom's 2004-2005 Strategic Review of Telecommunications as one of our key policy principles to ensure that regulation of the telecommunication markets is effective.¹⁴¹ In principle, EOI delivers advantages over EEO. It generates better incentives on the dominant undertaking to improve the products it offers to its competitors, and it increases transparency. It therefore offers greater potential to address the issue of inequality of access in a sustainable fashion. However, we recognise it may be costly to introduce for some existing products.

¹⁴⁰ Ofcom, November 2005. *Undue discrimination by SMP providers – How Ofcom will investigate potential contraventions on competition grounds of requirements not to unduly discriminate imposed on SMP providers*,

<http://stakeholders.ofcom.org.uk/binaries/consultations/undsmp/statement/contraventions4.pdf>.

¹⁴¹ Ofcom, November 2004. *Strategic Review of Telecommunications – Phase 2 consultation document*, Section 6,

http://stakeholders.ofcom.org.uk/binaries/consultations/telecoms_p2/summary/maincondoc.pdf.

- 5.67 We have assessed whether it is appropriate for EOI to apply to BT in the WLA market in the UK excluding the Hull Area by reference to two key factors:
- whether the importance of ensuring a level playing field in downstream markets justifies imposing EOI; and
 - whether to do so is proportionate.

The importance of ensuring a level playing field in downstream markets

- 5.68 The services provided in the WLA market are essential components for many downstream products and services used by business and residential customers. These wholesale services are essential for telecoms providers to deliver their own services to customers, as the majority remain reliant on BT's network in doing so.
- 5.69 Given the importance of these products and services, it is essential that BT is prevented from any discrimination both on a price and non-price basis in order to prevent the distortion or restriction of competition and ensure a level playing field on which other telecoms providers can compete with BT.
- 5.70 In our view, the EOO remedy would, by its very nature, allow for certain discriminatory conduct – compliance with that obligation needs to establish in particular whether the discrimination in question is undue. However, whether the conduct in question is such as to amount to a breach of the undue discrimination obligation can only be determined on a case-by-case basis.
- 5.71 Conversely, an EOI obligation removes any degree of discretion in the provision of the relevant access product. The distinction between the two forms of non-discrimination is that, in the case of EOO, both the ability and the incentive on the part of the SMP operator may still exist to engage in the discriminatory conduct.
- 5.72 Further, EOI is particularly important in ensuring non-discrimination in relation to non-price terms as it requires BT's downstream division to use the same systems, processes and information as its competitors in relation to the development, provision, maintenance and repair of access services. In contrast, it would be more difficult to detect and address non-price discrimination through the application of a normal undue discrimination remedy.
- 5.73 We consider that discriminatory behaviour by BT in the supply of WLA services could undermine a level playing field in the related downstream markets to the detriment of competition and consumers. Therefore, we propose that EOI is likely to be the most effective non-discrimination remedy (as part of a wider package of remedies) to address BT's SMP in the WLA market in the UK excluding the Hull Area in order to maintain a level playing field between BT's downstream businesses and other telecoms providers over the course of this review period.

Proportionality

- 5.74 Whilst we have a general preference for EOI we have also considered the proportionality of re-imposing EOI to address the competition concerns identified.
- 5.75 We consider that there are likely to be significant costs involved in re-engineering systems to provide existing services in the WLA market in the UK excluding the Hull Area on an EOI basis where BT does not already do so. We do not consider that, in general, it would be proportionate to require BT to provide existing services on an

EOI basis where it does not already do so. We will discuss the requirement for EOI in relation to the provision of PIA in a forthcoming consultation document.

- 5.76 However, as noted above, BT already provides a number of key wholesale services in the WLA market on an EOI basis by virtue of its Undertakings and the EOI obligation imposed in the 2014 FAMR. We therefore do not consider that re-imposing EOI in these circumstances would be onerous as it would not require BT to re-engineer existing systems and processes.
- 5.77 Therefore, we propose to re-impose an EOI condition on BT, which will apply to key wholesale services which BT already provides on an EOI basis. We also propose a mechanism whereby Ofcom can consent in writing to the provision of network access on a non-EOI basis as a means of affording flexibility in the application of EOI where circumstances warrant it.

No undue-discrimination

- 5.78 Having set out our reasoning for re-imposing an SMP EOI obligation on BT applying in respect of those wholesale services which it currently provides on an EOI basis, we are also proposing that it remains appropriate to impose a no undue discrimination requirement on BT.
- 5.79 This is to ensure that there is appropriate non-discrimination protection to remedy the incentive and ability for BT to engage in discriminatory pricing and/or non-pricing practices for those services provided currently that will not be subject to an EOI obligation, or in circumstances where we consider there is a risk that an EOI requirement may not be effective in preventing discrimination.¹⁴²
- 5.80 In Chapter 3 of our Access Guidelines we explain that the aim of a no undue-discrimination condition is to ensure that a vertically integrated SMP operator does not treat itself in a way that benefits itself, its subsidiaries or its partners in such a way as to have a material adverse effect on competition. Furthermore, we explain that:

“In order to ensure compliance with its obligations as regards non-discrimination under the AID [Access and Interconnection Directive], in general, an SMP operator should ensure that:

- a) it applies equivalent conditions in equivalent circumstances to other undertakings providing equivalent services and provides services and information to others under the same conditions and of the same quality as it provides for its own services, or those of its subsidiaries or partners; and
- b) it can objectively justify any differentiation”.

¹⁴² We consider this risk arises where, for example, BT provides a range of product variants such as different GEA speed and installation options some of which BT’s downstream divisions may not consume. This could also occur with new services requested by other telecoms providers. There is therefore a risk that BT could favour the variants its own downstream divisions consume over those it does not. In this case EOI would not be, or would be less, effective.

- 5.81 We have also taken utmost account of the EC's Costing and Non-discrimination Recommendation in reaching our decision to impose a no undue discrimination condition on BT.¹⁴³ There are three recommendations relevant in this regard:
- a) that NRAs should ensure that the SMP operator provides wholesale inputs on at least an EOO basis;
 - b) that NRAs should ensure that when a non-discrimination obligation is imposed, access seekers can use the relevant systems and processes with the same degree of reliability and performance as the SMP operators' own downstream retail arm; and
 - c) that NRAs should require SMP operators subject to a non-discrimination obligation to provide access seekers with regulated wholesale inputs that allow the access seeker to effectively replicate technically new retail offers of the downstream retail arm of the SMP operator, in particular where EOI is not fully implemented.
- 5.82 We consider that the no undue discrimination obligation which we are proposing to re-impose is consistent with the Costing and Non-discrimination Recommendation. The Costing and Non-discrimination Recommendation (Recommendation 10) makes clear that we should ensure that whatever the systems and processes used by access seekers, the end result provides the same degree of reliability and performance to that enjoyed by the SMP operator's own downstream retail division.
- 5.83 We note that the Costing and Non-discrimination Recommendation also provides for the application of a technical replicability test, whether undertaken by the SMP operator and provided to the NRA or undertaken by the NRA itself, to ensure that access seekers can technically replicate new retail offers of the downstream business of the SMP operator.
- 5.84 We stated in the 2014 FAMR that, having taken utmost account of the Costing and Non-discrimination Recommendation, it was neither appropriate nor proportionate to impose specific technical replicability requirements on BT. In this review, having regard to the other remedies we are proposing to address BT's SMP – notably EOI – it is not additionally necessary to impose a technical replicability requirement.
- 5.85 We are satisfied that the regulated wholesale inputs, which have been carefully developed to ensure they are fit-for-purpose, ensure that competitors can technically replicate BT's fibre-based and copper loop-based retail offerings. Consequently, having taken utmost account of the Costing and Non-discrimination Recommendation in relation to technical replicability, we consider that the additional imposition of a technical replicability test is not appropriate or proportionate. We are satisfied that, where access seekers demand network access in the WLA market in the UK excluding the Hull Area, the necessary provisions are in place to enable telecoms providers to access regulated wholesale inputs that enable them to technically replicate BT's downstream retail offers.

¹⁴³ EC, September 2013. *Commission recommendation of 11.9.2013 on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment*, http://ec.europa.eu/smart-regulation/impact/ia_carried_out/docs/ia_2013/c_2013_5761_en.pdf.

Legal tests

- 5.86 For the reasons set out below, we are satisfied that the proposed conditions for BT in the WLA market in the UK excluding the Hull Area meet the various tests set out in the Act.
- 5.87 Section 87(6)(a) of the Act authorises the setting of an SMP services condition requiring the dominant provider not to discriminate unduly against particular persons, or against a particular description of persons, in relation to matters connected with the provision of network access.
- 5.88 We have considered our duties under section 3 and all the Community requirements set out in section 4 of the Act. In particular, the conditions are aimed at promoting competition and securing efficient and sustainable competition for the maximum benefit of consumers by preventing BT from leveraging its SMP through discriminatory behaviour into related downstream markets.
- 5.89 We also consider that the proposed conditions meet the criteria in Section 47(2) of the Act which require conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. The proposed conditions are:
- objectively justifiable, in that they provide safeguards to ensure competitors, and hence consumers, are not disadvantaged by BT discriminating in favour of its own downstream activities or between competing providers;
 - not unduly discriminatory, in that the no undue-discrimination and EOI conditions are proposed to apply to BT which is the only telecoms provider which we propose to find has SMP in the WLA market in the UK excluding the Hull Area;
 - proportionate, in that it seeks to prevent discrimination that would adversely affect competition and ultimately cause detriment to consumers, and in relation to the requirement on BT to provide services on an EOI basis, that requirement only applies where BT is already providing services on the basis of EOI; and
 - transparent, in that the conditions are clear in what they are intended to achieve.
- 5.90 For the reasons set out above, we consider that the proposed condition is appropriate to address the competition concerns identified, in line with section 87(1) of the Act.

The EC recommendations and BEREC Common Position

- 5.91 We have explained above how we have taken into consideration the EC Recommendation on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment.¹⁴⁴

¹⁴⁴ September 2013 EC Recommendation on non-discrimination obligations.

- 5.92 We have also taken utmost account of the BEREC Common Position. In relation to achieving the objective of a level playing field, the BEREC Common Position identifies, amongst other things, as best practice that:¹⁴⁵

“BP19 NRAs should impose an obligation on SMP CPs requiring equivalence, and justify the exact form of it, in light of the competition problems they have identified.

BP19a NRAs are best placed to determine the exact application of the form of equivalence on a product-by-product basis. For example, a strict application of EOI is most likely to be justified in those cases where the incremental design and implementation costs of imposing it are very low (because equivalence can be built into the design of new processes) and for certain key legacy services (where the benefits are very high compared to the material costs of retro-fitting EOI into existing business processes). In other cases, EOO would still be a sufficient and proportionate approach to ensure non-discrimination (e.g. when the wholesale product already shares most of the infrastructure and services with the product used by the downstream arm of the SMP operator).”

Ensuring transparency

- 5.93 The requirements for the transparency of charges, terms and conditions in markets in which one operator is dominant are complementary remedies to ensure that third party providers are able to make effective use of the dominant provider’s network access. We set out our proposals below in relation to the requirement on BT to:
- publish a Reference Offer;
 - notify changes to charges, terms and conditions; and
 - notify technical information.

Requirement to publish a Reference Offer

Current remedies

- 5.94 BT is currently required to publish a Reference Offer (RO) in relation to the provision of network access in the WLA market in the UK excluding the Hull Area. The RO must include terms and conditions for provisioning, technical information, SLAs and SLGs, and availability of co-location.
- 5.95 BT is further subject to a requirement to publish additional information in its RO concerning LLU and PIA network access remedies which it is currently required to provide. Our considerations concerning the requirement on BT to provide specific forms of network access are set out in Section 6.

¹⁴⁵ In this respect, the BEREC Common Position identifies the following competition issues which arise frequently: SMP players having an unfair advantage; having unmatchable advantage, by virtue of their economies of scale and scope, especially if derived from a position of incumbency; discriminating in favour of their own group business (or between its own wholesale customers), either on price or non-price issues; and exhibiting obstructive and foot-dragging behaviour.

Aim and effect of regulation

- 5.96 A requirement to publish an RO has two main purposes:
- to assist transparency for the monitoring of potential anti-competitive behaviour; and
 - to give visibility to the terms and conditions on which other providers will purchase wholesale services.
- 5.97 This helps ensure stability in the WLA market in the UK excluding the Hull Area and without it incentives to invest might be undermined and market entry less likely.
- 5.98 The publication of an RO would potentially allow for speedier negotiations, avoid possible disputes and give confidence to those purchasing wholesale services that they are being provided on non-discriminatory terms. Without this, market entry might be deterred to the detriment of the long term development of competition and hence consumers.
- 5.99 We consider that imposing a requirement to publish an RO is necessary to achieve these aims and effects in the WLA market in the UK excluding the Hull Area, where we propose to find that BT holds SMP. This remedy complements our proposals to impose network access and non-discrimination requirements.

Proposals

- 5.100 Section 87(6)(c) of the Act authorises the setting of SMP services conditions requiring the dominant provider to publish, in such a manner as Ofcom may direct, the terms and conditions on which it is willing to enter into an access contract. Section 87(6)(d) also permits the setting of SMP services conditions requiring the dominant provider to include specified terms and conditions in the RO. Finally, section 87(6)(e) permits the setting of SMP services conditions requiring the dominant provider to make such modifications to the reference offer as may be directed from time to time.
- 5.101 We consider that the requirement to publish ROs imposed in previous market reviews has been effective in meeting the aims of the regulation detailed above. Therefore, we propose that BT should be required to publish an RO for the provision of WLA.
- 5.102 The proposed condition requires the publication of an RO and specifies the information to be included in that RO (set out below) and how the RO should be published. It prohibits the dominant provider from departing from the charges, terms and conditions in the RO and requires it to comply with any directions Ofcom may make from time to time under the condition. The published RO must set out (as a minimum):
- a clear description of the services on offer including technical characteristics and operational processes for service establishment, ordering and repair;
 - the locations of points of network access and the technical standards for network access;
 - conditions for access to ancillary and supplementary services associated with the network access including operational support systems and databases etc.;

- contractual terms and conditions, including dispute resolution and contract negotiation/renegotiation arrangements;
- charges, terms and payment procedures;
- service level agreements and service level guarantees; and
- to the extent that BT uses the service in a different manner to other telecoms providers or uses similar services, BT is required to publish a reference offer in relation to those services.

5.103 We further consider it appropriate to retain, for the purposes of transparency, the existing additional RO requirements in respect of the provision by BT of LLU services which we propose that BT should continue to be required to provide. They require, amongst other things, details to be included in an RO about LLU co-location arrangements. Regarding BT's requirement to publish information in its RO concerning PIA, this will be discussed in the separate consultation document in relation to developing an effective PIA remedy.

SLAs and SLGs

5.104 We consider that it is important that the contractual arrangements for the supply of LLU and VULA products and services that telecoms providers buy from BT in the wholesale markets are such that:

- they incentivise the efficient provision of reliable services to BT's wholesale customers;
- they set out fair and reasonable compensation payments for delays in delivery and repair of such services; and
- they allow BT and its wholesale customers to monitor effectively the performance of BT's provision and repair regulated wholesale products.

5.105 In order to achieve these objectives, contractual arrangements need to include:

- a set of SLAs which reflect the commercial SLAs provided to customers of fixed line voice and broadband services; and
- a set of SLGs which set out fair and reasonable compensation for delays in the provision and repair of such services.

5.106 We propose to re-impose a regulatory requirement on BT to include SLAs and SLGs linked to specific services in its RO for specific forms of network access. This requirement is for LLU and GEA services. We consider that this is necessary in order to make it clear for which forms of network access BT is required to include SLAs and SLGs within its RO. However, BT and its customers are free to negotiate the terms of these SLAs and SLGs and to incorporate additional terms. These negotiations are facilitated by the OTA2.

5.107 In relation to the RO for GEA we consider, as we did in the 2014 FAMR, that specifying that BT must offer an SLA/SLG for GEA appointment availability, as well as for the completion of provision work, completion of repair work and missed appointments, would not unduly undermine BT's ability to negotiate appropriate commercial terms for the delivery of the product. This requirement does not constrain

the terms of the SLA or SLG, which must otherwise be fair and reasonable. Moreover, we are concerned that not to impose such a requirement in relation to GEA would risk inconsistency with LLU and potentially result in a future point of service failure. Condition 8.5 in Annex 23 sets out the list of the minimum set of services for which an SLA/SLG should apply.

Proposal not to re-impose the 2008 SLG Directions

5.108 On 20 March 2008 we published our statement; Service level guarantees: incentivising performance (2008 SLG directions)¹⁴⁶ in which we directed BT to amend its network access contracts for the supply of LLU products to, among other things, provide for:

- BT to pay compensation for LLU proactively; and
- BT to pay Equivalent Management Platform (EMP) service credits for LLU proactively.

5.109 We reimposed this direction as part of the 2014 FAMR. For the following reasons, we do not consider that it is necessary or appropriate to re-impose the 2008 SLG directions for LLU in the next market review period.

5.110 The amendments to BT's terms and conditions required by the 2008 SLG directions are now well established in BT's relevant contractual agreements for the supply of regulated wholesale network access products; in particular, provisions which provide for proactive compensation payments to telecoms providers and SLAs with SLGs for the availability of BT's EMP gateway. Moreover, the relevant contractual agreements themselves set limitations on the circumstances in which BT may change, with notice, its contract and makes provision for contractual changes to be made following agreement between BT and other telecoms providers. BT and its telecom provider customers remain able to refer a dispute to Ofcom where those negotiations do not result in an agreement.

5.111 The 2008 SLG directions required BT to amend its terms and conditions governing the supply of LLU which we considered to be necessary to address the competition concerns we had identified at that time. Since then, as markets have evolved, we have imposed VULA to enable telecoms providers to access BT's network to provide competitive superfast broadband services to customers and (as explained in Section 6) we are now proposing to remove the requirement on BT to provide SMPF as a specific form of network access.

5.112 In the 2014 FAMR Statement, the RO condition included specific SLAs to which SLGs apply for MPF, SMPF and GEA in respect of matters such as availability of appointments, completing provision orders and repairing faults.

5.113 Moreover, in the 2014 FAMR Statement, we adopted (after consultation with stakeholders) contract negotiation principles and SLA/SLG assessment criteria to be applied to future industry negotiations in relation to SLAs/SLGs facilitated by the

¹⁴⁶ Ofcom, March 2008. *Service level guarantees: incentivising performance*, (the 2008 SLG directions), https://www.ofcom.org.uk/_data/assets/pdf_file/0020/33617/statement.pdf.

OTA2.¹⁴⁷ We believe that these arrangements have proved helpful in enabling significant progress to be made between BT and its telecoms provider customers over the last few years on the inclusion of SLAs and SLGs not limited to those required by regulation.

- 5.114 In the light of the above, rather than rely on the 2008 Directions as the source of regulatory obligations on BT, we consider that it is more appropriate to include certain key elements of those directions in the SMP conditions themselves. In this regard, we consider that the reasons why BT's contracts for certain services must provide for proactive compensation payments to telecoms providers remain relevant today. We therefore propose to include in the proposed SMP condition a requirement that SLG payments are made on a proactive basis by BT.
- 5.115 In order to ensure consistency, we are also proposing to add a requirement for BT's VULA RO to include SLAs in respect of; 'completion of the transfer of the service'; 'line working at completion of the provisioning process'; and 'attending fault repair appointments', with associated proactive SLG's to match the package of minimum SLAs and SLGs which we consider remain appropriate for inclusion in BT's MPF RO. These additional obligations were not imposed on BT's VULA RO in the 2014 FAMR at a time when GEA was a new and low volume product. In this review, having observed the growth in demand for superfast broadband and our expectations for growth over the forward looking period, we consider that it is now appropriate and proportionate to require that BT's VULA RO provides telecoms providers with the same expectations as MPF regarding the minimum set of SLAs with SLGs they should receive from BT.
- 5.116 The aim and effect of our proposal is to retain the same regulatory requirements regarding SLAs and SLGs as was provided for in the imposition of previous RO obligations and the application of the 2008 SLG directions, but extended to VULA. We consider that our proposals make no material change to the status quo as SLAs and service credits for EMP are provided for in BT's current contract for GEA. We set out proposals regarding quality of service remedies in a consultation published alongside this document, including our consideration of any directions regarding BT's terms and conditions for the supply of regulated network access products.

Legal tests

- 5.117 For the reasons set out below, we are satisfied that the proposed condition for BT in the WLA market within the UK excluding the Hull Area meets the various tests set out in the Act.
- 5.118 As explained above, sections 87(6)(c), (d) and (e) authorise the SMP condition we propose to make.
- 5.119 We consider that the proposed condition meets our statutory obligations and the Community requirements under sections 3 and 4 of the Act.
- 5.120 The requirement to publish an RO would, in combination with a requirement not to unduly discriminate, facilitate service interoperability and allow telecoms providers to make informed decisions about future entry into downstream markets. Further, the

¹⁴⁷ The Office of the Telecommunications Adjudicator – an independent organisation tasked by Ofcom to oversee co-operations between communications providers and enable a competitive environment in the telecommunications sector: <http://www.offta.org.uk/>.

proposed obligation would enable purchasers to adjust their downstream offerings in competition with BT, in response to changes in BT's terms and conditions. Finally, the proposed obligation would make it easier for Ofcom and other telecoms providers to monitor any instances of discrimination. Therefore, we consider that the proposed condition in particular furthers the interests of consumers in relevant markets by the promotion of competition in line with section 3 of the Act.

5.121 We consider that the proposed condition meets the Community requirements set out in section 4 of the Act. In particular, the proposed condition promotes competition and encourages the provision of network access and service interoperability for the purpose of securing efficient and sustainable competition for the maximum benefit of consumers. The publication of an RO would mean that other telecoms providers would have the necessary information readily available to allow them to make informed decisions about entry into downstream markets.

5.122 We also consider that this proposal meets section 47(2) of the Act which requires conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. We consider the proposed condition is:

- objectively justifiable, in that it encourages competition, provides market stability and helps us to monitor discriminatory behaviour through the publication of terms and conditions;
- not unduly discriminatory, in that it is proposed only for BT which is the only telecoms provider that we propose to find has SMP in the WLA market in the UK excluding the Hull Area;
- proportionate, in that only information that is necessary to allow telecoms providers to make informed decisions about competing in downstream markets is required to be provided; and
- transparent, in that the condition is clear in its intention that BT publish details of its WLA offerings.

5.123 Article 9(4) of the Access Directive requires that where network access obligations are imposed, NRAs shall ensure the publication of a reference offer containing at least the elements set out in Annex II to that Directive – we are satisfied that this requirement is met.

5.124 For the reasons set out above, we consider that the proposed condition is appropriate to address the competition concerns identified, in line with section 87(1) of the Act.

The EC Recommendation and BEREC common positions

5.125 We have taken into account the EC Recommendation in relation to SLAs and SLGs. The EC Recommendation provides that NRAs should require SMP operators to implement SLAs alongside KPIs, which should include SLGs in the case of a breach of the SLA. The EC Recommendation also indicates that payment of financial penalties should, in principle, be made automatic and be sufficiently dissuasive. Our proposals in relation to this issue will be discussed in more detail in Section 7. Proposals regarding directions made under this proposed condition will be set out in our separate quality of service consultation document, published alongside this document.

5.126 We have also taken utmost account of the BEREC Common Position when forming these proposals.¹⁴⁸ In relation to the objective of achieving reasonable quality of access products (operational aspects), the BEREC Common Position identifies, among other things, as best practice that:¹⁴⁹

“BP32 NRAs should require SMP operators to provide a reasonable defined level of service.

BP32a Service Level Agreements (SLAs) should cover specific service areas. Services areas when SLAs are most likely to be necessary are ordering, delivery, service (availability) and maintenance (repair).

BP32b SLAs should be made available to wholesale operators. To ensure maximum transparency and comparability of the terms provided by SMP operators to alternative operators and their downstream arm, all SLAs could be made available to all relevant wholesale customers (including those outside from a specific Member State). For example, SMP operators could make them available on demand or automatically publish these on their website (as part of their RO).

BP32c NRAs should take oversight for the process of setting SLAs. NRAs should determine the level of their involvement in this process by taking into account specific market circumstances and particular concerns for discriminatory behaviour.

BP33 NRAs should impose a generic requirement on SMP operators to provide Service Level Guarantees (SLGs).

BP33a SLGs should cover all necessary specific service areas. Service areas where SLGs are most likely to be necessary are ordering, delivery, service (availability) and maintenance (repair).

BP33b SLG payments should be made without undue delay and should be proactive in nature. That is, with a pre-established process for the payment and billing of the SLGs among operators and without the need for alternative operators to request the intervention of any third party i.e. NRAs or courts.

¹⁴⁸ BoR (12) 127, December 2012. *BEREC Common Position on best practice in remedies on the market for wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location imposed as a consequence of a position of significant market power in the relevant market,*

[www.berec.europa.eu/files/document_register_store/2012/12/20121208163628_BoR_\(12\)_127_BE_REC_COMMON_POSITION_ON_BEST_PRACTICE_IN_REMEDIES_ON_THE_MARKET_FOR_WHOLESale.pdf](http://www.berec.europa.eu/files/document_register_store/2012/12/20121208163628_BoR_(12)_127_BE_REC_COMMON_POSITION_ON_BEST_PRACTICE_IN_REMEDIES_ON_THE_MARKET_FOR_WHOLESale.pdf).

¹⁴⁹ In this respect the BEREC Common Position identifies as a competition issue that SMP operators may have an incentive to discriminate in favour of their own downstream operations in relation to the quality of wholesale access products. As a result, access products may not be of reasonable quality and service levels may not be comparable with those provided by the SMP operators to their own downstream businesses.

BP33c NRAs should take oversight for the process of setting SLGs. NRAs should determine the level of their involvement in this process by taking into account specific market circumstances and particular concerns for discriminatory behaviour.”

5.127 We consider that our proposals are consistent with the best practice set out in the BEREC Common Position.

Requirement to notify charges, terms and conditions

Current remedies

5.128 BT is currently required to give advanced notice before making changes to its charges, terms and conditions for the provision of existing or new network access.

5.129 BT is subject to the following notice periods:

- 90 days’ notice for prices, terms and conditions relating to existing network access;
- 28 days’ notice for prices, terms and conditions relating to new service introductions; and
- 28 days’ notice for price reductions and associated conditions (for example conditions applied to special offers) and the end of temporary price reductions.

Aim and effect of proposed regulation

5.130 Notification of changes to charges at the wholesale level has the joint purpose of improving transparency for monitoring potentially anti-competitive behaviour, as well as giving advance warning of charge changes to competing providers who purchase wholesale access services. The latter purpose ensures that competing providers have sufficient time to plan for such changes as they may want to restructure the prices of their downstream offerings in response to charge changes at the wholesale level. Notifying changes therefore helps to ensure stability in markets, without which incentives to invest might be undermined due to high barriers of entry.

5.131 There may be some disadvantages to notifications, particularly in markets where there is some competition. It can lead to a ‘chilling’ effect where other telecoms providers follow BT’s prices rather than act dynamically to set competitive prices. However, on balance, we do not consider that this undermines the rationale for imposing a notification of charges condition. This is because the WLA market in the UK excluding the Hull Area is characterised by a high level of reliance by competitors on the provision of wholesale access products and services to enable them to compete in downstream markets. We therefore consider that the advantages of notifying charges are likely to outweigh any potential disadvantages.

5.132 In these markets, we also consider it appropriate to require providers to notify changes to terms and conditions as this will also ensure transparency and provide advance warning of changes to allow competing providers sufficient time to plan for them. For the same reasons as outlined above, we consider that notifying changes to terms and conditions will lead to greater market stability, without which incentives to invest might be undermined and market entry made more difficult.

5.133 This remedy complements the network access and non-discrimination requirements on dominant providers to address the competition concerns arising from a position of SMP in the WLA market in the UK excluding the Hull Area.

Proposals

5.134 Section 87(6)(b) of the Act authorises the setting of SMP services conditions which require a dominant provider to publish, in such manner as Ofcom may direct, all such information for the purpose of securing transparency. Section 87(6)(d) also permits the setting of SMP services conditions requiring the dominant provider to include specified terms and conditions in the RO.

5.135 We propose that it is appropriate for BT to be subject to an obligation to notify (by means of a written notice – an Access Charge Change Notice (ACCN)) changes to charges for wholesale network access products and services, and also changes to their terms and conditions.

5.136 Our provisional view is that changes to terms and conditions around the provision of regulated wholesale inputs in the WLA market in the UK excluding the Hull Area (such as VULA and LLU) could have material impacts on competitors. We therefore consider that it is appropriate to re-impose a requirement on BT to give advanced notice of changes to terms and conditions (as well as charges).

5.137 We propose that an ACCN must include the following:

- a description of the network access in question;
- a reference as to where the terms and conditions associated with the network access in question can be found in the dominant provider's RO;
- the date on which the new charges take effect (or the period over which the new charges will apply);
- the current and proposed charge; and
- other charges for services that would be directly affected by the proposed charge.

5.138 We believe that prior notification of changes to charges, terms and conditions remains important for ensuring that competing providers have sufficient time to plan for such changes.

5.139 We consider that the notification period should allow sufficient time for downstream providers to make necessary changes to their downstream products and services. We believe that 90 days would ordinarily be an appropriate notification period for existing WLA products and services.

5.140 However, we also recognise that the industry and customers could benefit from shorter notification periods when prices are being reduced. For example, there may be advantages in having a shorter notification period for price incentives to encourage migration to newer or more efficient fibre services.

5.141 We therefore continue to consider 28 days to be an appropriate notification period for price reductions for WLA access products and services. Often price reductions can

be part of a special offer to which conditions are attached so the shorter notice period would also apply to such conditions.¹⁵⁰

- 5.142 Finally, we consider that the prior notification period for new products and services should reflect the lesser need for advance notice, since there will not be existing customers for whom wholesale price changes might require revisions to their own pricing or other commercial decisions. We therefore propose that 28 days remains an appropriate notification period for new products and services.¹⁵¹

Legal tests

- 5.143 For the reasons set out below, we are satisfied that the proposed conditions for BT in the WLA market in the UK excluding the Hull Area meet the various tests set out in the Act.
- 5.144 Section 87(6)(b) of the Act authorises the setting of SMP services conditions which require a dominant provider to publish, for the purpose of securing transparency, all such information in such manner as Ofcom may direct. Section 87(6)(d) also permits the setting of SMP services conditions requiring the dominant provider to include specified terms and conditions in the Reference Offer.
- 5.145 We have also considered our duties under the Act, including our general duties under section 3, and all the Community requirements set out in section 4, of the Act. We note, in particular, that the condition is aimed at promoting competition and securing efficient and sustainable competition for the maximum benefit of consumers by ensuring that telecoms providers have the necessary information about changes to terms, conditions and charges sufficiently in advance to allow them to make informed decisions about competing in downstream markets.
- 5.146 Section 47(2) of the Act requires SMP conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. The SMP condition is:
- objectively justifiable, in that there are clear benefits from the notification of changes in terms of ensuring that providers are able to make informed decisions within an appropriate timeframe about competing in downstream markets;
 - not unduly discriminatory, in that it applies to BT which is the only telecoms provider that we propose to have found has SMP in the WLA market in the UK excluding the Hull Area;
 - proportionate, in that only information that other telecoms providers would need to know (in order to adjust for any changes) would have to be notified. Proposed notification periods are the minimum required to allow changes to be reflected in downstream offers which are appropriate to the competitive conditions we find in the WLA market; and
 - transparent, in that the condition is clear in its intention and implementation.

¹⁵⁰ We further consider that a 28 day notice period should apply to any increase in prices that may occur at the end of a special offer (where the price immediately following the end of the special offer is no higher than the price immediately before the start of the special offer).

¹⁵¹ Examples of new products or services would be Single Order GEA, or a new speed for VULA. If the price of a new product is increased after it was first introduced, then the 90 day notification period would apply.

5.147 For the reasons set out above, we consider that the proposed condition is appropriate to address the competition concerns identified, in line with section 87(1) of the Act.

Requirement to notify technical information

Current remedies

5.148 BT is currently subject to a requirement to publish, in advance, changes to technical information.

5.149 The existing condition requires the notification of technical information within a reasonable period of time but not less than 90 days in advance of providing new wholesale services or amending existing technical terms and conditions.

Aim and effect of regulation

5.150 The aim of this regulation is to provide advanced notification of technical characteristics to ensure that competing providers have sufficient time to respond to changes that may affect them. For example, a competing provider may need to introduce new equipment or modify existing equipment or systems to support a new or changed technical interface. Similarly, a competing provider may need to make changes to its network in order to support changes in the points of network access or configuration.

5.151 We consider this remedy is important in the WLA market in the UK excluding the Hull Area to ensure that providers who compete in downstream markets are able to make effective use of existing or, where applicable, new wholesale services provided by BT. Technical information therefore includes:

- new or amended technical characteristics, including information on network configuration (e.g. information about the function and connectivity of points of access, such as the connectivity of exchanges to customers and other exchanges), locations of the points of network access, and technical standards (including any usage restrictions and other security issues);
- the information provided currently in the Network Information Publication Principles (NIPP) and Access Network Facilities (ANF) agreement; and
- any other additional information necessary to make use of the WLA services provided.

Proposals

5.152 We propose to re-impose a condition on BT requiring it to notify technical information in advance of providing new wholesale services or amending existing technical terms and conditions. We consider that it is appropriate to re-impose this requirement on BT because it enables telecoms providers who compete in downstream markets to make effective use of BT's wholesale services. This requirement complements our proposal to require BT to publish an RO.

5.153 We continue to believe that 90 days is the minimum time that competing providers would need to make modifications to their network to support changes in the WLA market in the UK excluding the Hull Area.

5.154 The one exception to this is in relation to amendments to technical specifications that are developed and agreed through NICC Standards Limited.¹⁵² NICC is a technical forum for the UK communications sector that develops interoperability standards for public communications networks and services in the UK. NICC specifications are developed by subject matter experts from BT and other telecoms providers and are adopted only by approval of NICC members. In view of these arrangements, we do not consider it necessary to impose a 90-day notice period where BT proposes to adopt an amended NICC specification, as telecoms providers are likely to already be aware of NICC specifications due to their participation in the forum. We do, however, consider that BT should provide notification of changes based on the NICC standard. This is to ensure that published technical information is up to date, as without an obligation to notify changes based on NICC standards, service descriptions for various wholesale products could be out of date or incomplete. Our proposed SMP condition reflects this position.

Legal tests

- 5.155 For the reasons set out below, we are satisfied that the proposed conditions for BT in the WLA market in the UK excluding the Hull Area meet the various tests set out in the Act.
- 5.156 Section 87(6)(b) of the Act authorises the setting of SMP services conditions which require a dominant provider to publish, in such manner as Ofcom may direct, all such information for the purpose of securing transparency. Section 87(6)(d) also permits the setting of SMP services conditions requiring the dominant provider to include specified terms and conditions in the RO.
- 5.157 We have also considered our statutory obligations and the Community requirements under sections 3 and 4 of the Act.
- 5.158 We consider that, by ensuring that other telecoms providers are given sufficient time to make any changes to technical specifications that might affect their businesses, the proposed condition in particular furthers the interests of customers in relevant markets by the promotion of competition in line with section 3 of the Act. Further, we consider that, in line with section 4 of the Act, the proposed condition in particular promotes competition in relation to the provision of electronic communications networks and encourages the provision of network access and service interoperability for the purposes of securing efficiency and sustainable competition in downstream markets for electronic communications networks and services, resulting in the maximum benefit for retail consumers.
- 5.159 We consider that the proposed condition meets the criteria set out in section 47(2) of the Act. It is:
- objectively justifiable, in that it enables competing telecoms providers to make full and effective use of network access. The period allows telecoms providers time to react to proposed changes without imposing an unnecessarily long notification period on BT that may restrict its ability to develop and deploy new features or products;

¹⁵²<http://www.niccstandards.org.uk/>.

- not unduly discriminatory, in that it is only imposed on BT, which is the only telecoms provider that we propose to find holds SMP in the WLA market in the UK excluding the Hull Area;
- proportionate, in that 90 days is considered the minimum period necessary to allow competing telecoms providers to modify their networks; and
- transparent, in that it is clear in its intention that BT notify technical information.

5.160 For the reasons set out above, we consider that the proposed condition is appropriate to address the competition concerns identified, in line with section 87(1) of the Act.

Facilitating Regulatory Financial Reporting

5.161 In the following sub-sections, we propose to re-impose accounting separation and cost accounting obligations on BT in the WLA market in the UK excluding the Hull Area. We propose to implement these obligations by way of a single SMP Condition (SMP Condition 12).

5.162 Our proposed accounting separation and cost accounting obligations are underpinned by detailed requirements for regulatory financial reporting which specify what information we require BT to prepare and provide in the WLA market in the UK excluding the Hull Area.

5.163 In the 2014 Regulatory Financial Reporting Statement¹⁵³ we set out our conclusions on the regulatory financial reporting policy that should be applied to BT across all regulated markets and the changes to the framework for BT's regulatory financial reporting. In Annex 2 to the 2014 Regulatory Reporting Statement we set out pro-forma SMP conditions which would implement the policy decisions made in that statement. We explained that in order to preserve the integrity and consistency of BT's Regulatory Financial Reporting, we considered that our starting point should be that the changes we proposed should be implemented across all regulated markets, subject to this being appropriate in the light of the market analysis in each review. We noted that there were significant advantages to BT and stakeholders of BT applying one set of accounting rules across all markets and we also noted that BT was broadly supportive of the principle of applying a consistent approach across all markets.¹⁵⁴

5.164 Consistent with this approach, we have therefore considered whether regulatory financial reporting obligations are appropriate in the WLA market in the UK excluding the Hull Area and, to the extent that they are, whether the pro-forma SMP conditions are appropriate in the light of our market analysis.

5.165 For the reasons explained below and noting the benefits of applying a consistent approach across all markets, our provisional view is that it is appropriate to impose regulatory financial reporting obligations in the WLA market in the UK excluding the Hull Area.

¹⁵³ Ofcom, May 2014. *Regulatory Financial Reporting Statement*, (2014 Regulatory Financial Reporting Statement), https://www.ofcom.org.uk/data/assets/pdf_file/0025/78460/financial-reporting-statement-may14.pdf.

¹⁵⁴ 2014 Regulatory Financial Reporting Statement, paragraphs 7.15-7.19.

5.166 We note that in the 2015 Directions Statement, we set out the necessary directions to give effect to decisions made in the 2014 Regulatory Reporting Statement about changes to BT's reporting requirements.¹⁵⁵ We discuss these further in Section 10.

Accounting separation

Current remedies

5.167 BT is currently subject to an accounting separation obligation in the WLA market in the UK excluding the Hull Area.

Aim and effect of proposed regulation

5.168 Paragraph 3 of Point 1 of the 2005 Recommendation states that:

“The purpose of imposing an obligation regarding accounting separation is to provide a higher level of detail of information than that derived from the statutory financial statements of the notified operator, to reflect as closely as possible the performance of parts of the notified operator's business as if they had operated as separate businesses, and in the case of vertically integrated undertakings, to prevent discrimination in favour of their own activities and to prevent unfair cross-subsidy”.

5.169 In the 2014 Regulatory Reporting Statement we considered the purposes of regulatory reporting, which is supported by the imposition of an accounting separation obligation. In that statement we said that regulatory reporting “should provide us with the information necessary to make informed regulatory decisions, monitor compliance with SMP conditions, ensure that those SMP conditions continue to address the underlying competition issues and investigate potential breaches of SMP conditions and anti-competitive practices”.¹⁵⁶ In addition, we said that it “should provide reasonable confidence to stakeholders that the SMP provider has complied with its SMP conditions and add credibility to the Regulatory Financial Reporting Regime”.¹⁵⁷ We consider that our proposal to impose an accounting separation obligation, together with a cost accounting obligation (see below), will help to ensure that these regulatory reporting objectives are met.

5.170 In order to carry out our duties it is important that financial information is available on the services and markets that we regulate. The availability of this information helps us understand the volumes, revenues, costs and returns of services and markets, which allows us to monitor the impact and effectiveness of, and (for certain remedies) compliance with, the remedies imposed as part of a market review.

5.171 The accounting separation obligation also requires BT to account separately for internal and external sales which allows Ofcom and stakeholders to monitor the activities of BT to ensure that, where relevant, in the WLA market in the UK excluding the Hull Area it does not discriminate unduly in favour of its own downstream business and to monitor BT's activities in respect of the EOI obligation. In practice this obligation requires BT to produce a financial statement that reflects the

¹⁵⁵ Ofcom, March 2015. Directions for Regulatory Financial Reporting, pages 82-93.

¹⁵⁶ 2014 Regulatory Financial Reporting Statement, paragraph 2.28.

¹⁵⁷ 2014 Regulatory Financial Reporting Statement, paragraph 2.41.

performance of the WLA market in the UK excluding the Hull Area as though it was a separate business.

- 5.172 Requiring BT to produce a financial statement for the WLA market in the UK excluding the Hull Area, combined with an obligation to attribute costs in a fair, objective and transparent way (via the cost accounting obligation) will help us to ensure that costs are not inappropriately loaded onto one set of regulated products to the benefit of another set of regulated products or unregulated products.

Proposals

- 5.173 Under sections 87(7) and 87(8) the dominant provider may be required to maintain a separation for accounting purposes between such different matters relating to network access or the availability of relevant facilities.
- 5.174 We propose an accounting separation obligation on BT in the WLA market in the UK excluding the Hull Area. We consider that this obligation is necessary to monitor the overall impact and effectiveness of the remedies proposed in this section and, in particular, to monitor BT's activities with regard to its non-discrimination and EOI obligations. The proposed obligation is also necessary to support transparency by providing a greater detail of information on the relevant market than that derived from BT's statutory financial statements and give visibility, and thus reassurance, to stakeholders that BT has complied with its SMP conditions and allow them to contribute to the regulatory regime.
- 5.175 In respect of the specific form of the accounting separation requirements we are proposing for BT in these markets, we propose the form of condition set out in the 2014 Regulatory Financial Reporting Statement but modified to remove the reference to the Regulatory Accounting Guidelines.¹⁵⁸ This form of condition implements our policy decisions on regulatory financial reporting set out in that statement.¹⁵⁹ The purpose of the condition is to: give Ofcom a greater role in the way that BT prepares its regulatory financial statements¹⁶⁰; improve the presentation of the published regulatory financial statements and supporting documentation¹⁶¹; and ensure that Ofcom and other stakeholders have the information they need.

¹⁵⁸ As explained in the 2016 BCMR Statement (paragraph 8.175 and Annex 28), we no longer consider that it would be useful to establish high-level guidelines and accounting rules in the Regulatory Accounting Guidelines by way of direction. Where we find concerns about BT's detailed application of cost attribution rules, in line with what we have done in the 2016 BCMR, we will direct BT as to the specific reporting requirements consistent with the Regulatory Accounting Principles arising from each regulatory decision. The wording of our proposed condition reflects our decision not to issue the Regulatory Accounting Guidelines. Each proposed condition therefore requires BT to prepare the RFS in accordance with the SMP conditions, the Regulatory Accounting Principles and the Accounting Methodology Documents.

¹⁵⁹ 2014 Regulatory Financial Reporting Statement, page 1.

¹⁶⁰ This included establishing new Regulatory Accounting Principles (including a requirement for consistency with regulatory decisions) and a change control process whereby BT is required to notify us about proposed changes to its regulatory accounting methodology.

¹⁶¹ This included a requirement on BT to publish annual reconciliation reports that show the impact of material changes and errors.

Legal tests

- 5.176 For the reasons set out below, we are satisfied that our proposal to impose an accounting separation requirement on BT in the WLA market in the UK excluding the Hull Area meets the various tests set out in the Act.
- 5.177 As explained above, sections 87(7) and (8) authorise the SMP condition we propose to make. We consider that this proposal meets our duties under sections 3 and 4 of the Act.
- 5.178 We have considered our duties under section 3 of the Act. The imposition of an accounting separation obligation would protect competition in relation to the provision of electronic communications networks and services, ensuring the provision of network access and service interoperability for the purposes of securing efficient and sustainable competition and the maximum benefit for the persons who are customers of telecoms providers. This is because the imposition of the obligation would ensure that other obligations designed to curb potentially damaging leverage of market power, in particular the fair and reasonable charging obligation (where it applies) and the requirement not to unduly discriminate, can be effectively monitored.
- 5.179 With regard to the Community requirements set out in section 4 of the Act, we believe that the proposed condition meets the requirements. Specifically, we believe section 4(8) is met, where the obligation has the purpose of securing efficient and sustainable competition in the markets for electronic communications networks and services, by helping to ensure that dominant providers comply with other obligations in particular non-discrimination requirements.
- 5.180 We also consider that this proposal meets Section 47(2) of the Act which requires conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. We consider the proposed condition is:
- objectively justifiable, given it relates to the need to ensure competition develops fairly to the benefit of consumers;
 - not unduly discriminatory, as we have only imposed the obligation on BT, as the only telecoms provider that we propose to find has SMP in the WLA market in the UK excluding the Hull Area;
 - proportionate, in that it is the least onerous obligation we could apply as a mechanism which enables us and third parties to monitor the effectiveness of pricing remedies; and
 - transparent, in that it is clear the intention is to monitor the impact and effectiveness of the remedies proposed.
- 5.181 For the reasons set out above, we consider that the proposed condition is appropriate to address the competition concerns identified, in line with section 87(1) of the Act.

Cost accounting

Current remedies

- 5.182 BT is currently subject to a cost accounting obligation in the WLA market in the UK excluding the Hull Area.

Aim and effect of regulation

5.183 Recital 2 of the 2005 Recommendation states that the purpose of imposing the accounting separation and cost accounting obligations is “to make transactions between operators more transparent and/or to determine the actual costs of services provided”. Also, paragraph 2 of Point 1 of the 2005 Recommendation states that:

“The purpose of imposing an obligation to implement a cost accounting system is to ensure that fair, objective and transparent criteria are followed by notified operators in allocating their costs to services in situations where they are subject to obligations for price controls or cost-oriented prices.”

5.184 The imposition of a cost accounting obligation ensures that BT has in place a system of rules that support the attribution of revenues and costs to individual markets and services. It therefore supports the accounting separation obligation, which requires BT to prepare and report financial information relating to individual markets and services, by ensuring that the rules attributing revenues and costs to individual markets and services are fair, objective and transparent. The cost accounting obligation is an important means of ensuring that:

- Ofcom and stakeholders can have confidence in the financial information prepared and provided by BT since the attribution processes and rules supporting that financial information are fair, objective and transparent. Where we do not consider that the attribution process and rules are fair and objective, transparency (via publication of the processes and rules followed by BT) allows us to effectively challenge them.
- Revenues and costs are attributed to individual markets and services in a consistent manner. This mitigates the risk of double recovery of costs or that costs might be unfairly loaded onto particular products or markets.
- BT records all information necessary for the purposes listed above at the time that relevant transactions occur, on an ongoing basis. Absent such a requirement, there is a strong possibility that the necessary information would not be available when it is required, and in the necessary form and manner.

Proposals

5.185 Section 87(9) to (11) (subject to section 88) of the Act authorises Ofcom to impose appropriate cost accounting obligations on BT.

5.186 We propose to impose cost accounting requirements on BT in the WLA market in the UK excluding the Hull Area. We consider that this proposed obligation is necessary to ensure that the processes and rules used by BT to attribute revenues and costs to individual markets and services are fair, objective and transparent.

5.187 In respect of the specific form of the cost accounting requirements we are proposing for BT in these markets, we propose imposing the form of condition set out in the 2014 Regulatory Financial Reporting Statement but modified to remove the reference to the Regulatory Accounting Guidelines. This form of condition implements our policy decisions on regulatory financial reporting set out in that statement. The purpose of the condition is to: give Ofcom a greater role in the way that BT prepares its regulatory financial statements; improve the presentation of the published

regulatory financial statements and supporting documentation; and ensure that Ofcom and other stakeholders have the information they need.

Legal tests

- 5.188 For the reasons set out below, we are satisfied that the proposed cost accounting requirements for BT in respect of the WLA market in the UK excluding the Hull Area meet the various tests set out in the Act. As explained below, sections 87(9), (10) and (11) authorise the SMP condition we propose to make.
- 5.189 Section 87(9)(c) authorises conditions imposing such rules as we may make for the purposes of matters connected with the provision of network access to the relevant network, or with the availability of relevant facilities about the use of cost accounting systems. Such conditions include requiring the application of presumptions in the fixing and determination of costs and charges for the purposes of the price controls, rules and obligations imposed by virtue of that subsection (section 87(10)). Where such conditions are imposed, section 87(11) imposes a duty on us to also set an SMP condition which imposes an obligation:
- to make arrangements for a description to be made available to the public of the cost accounting system used in pursuance of that condition; and
 - to include in that description details of (i) the main categories under which costs are brought into account for the purposes of that system and (ii) the rules applied for the purposes of that system with respect to the allocation of costs.
- 5.190 We consider that the proposed condition fulfils our duty under section 87(11) in that the cost accounting conditions require the publication of a description of the cost accounting system used and the main categories of cost and the cost allocation rules applied.
- 5.191 In setting such conditions, we must also ensure that the network access pricing conditions set out in section 88 are also satisfied.
- 5.192 We consider that imposing a cost accounting obligation is consistent with section 88 and does not undermine the proposals set out in Section 10. We also consider that imposing a cost accounting obligation is necessary for our price regulation obligations to be effective.
- 5.193 We consider that the proposed condition fulfils our duty under section 87(11) in that the cost accounting obligation requires the publication of a description of the cost accounting system used and the main categories of cost and the cost allocation rules applied.
- 5.194 We have considered our statutory obligations and the Community requirements set out in sections 3 and 4 of the Act. In particular, we consider that imposing the proposed cost accounting obligation is justifiable and proportionate to promote competition in relation to the provision of electronic communications networks and services, and to ensure the provision of network access (including supporting ancillary services) and service interoperability for the purpose of securing efficient and sustainable competition and the maximum benefit for the persons who are customers of telecoms providers. This is because imposing the obligation ensures that other obligations designed to curb the potentially damaging leverage of market power – including the setting of prices at excessive levels – can be effectively monitored and enforced.

5.195 We consider that the proposed condition meets the criteria set out in section 47(2) of the Act because it is:

- objectively justifiable, in that it is necessary to ensure the appropriate maintenance and provision of accounts in order to monitor BT's activities with regard to the pricing remedies we propose. It also relates to the need to ensure competition develops fairly, to the benefit of consumers, by providing transparency of BT's compliance with rules set to address the risk of exploitative or anti-competitive pricing;
- non-discriminatory, in that BT is the only telecoms provider on which we propose to impose specific pricing remedies, and is the only telecoms provider which we propose to find holds SMP in the WLA market in the UK excluding the Hull Area;
- proportionate, in that we propose to require only the minimum information necessary to monitor BT's pricing activities; and
- transparent, in that it is clear in its intention to ensure the appropriate maintenance and provision of accounts for the purposes set out above and the particular accounting separation requirements of BT are clearly documented.

5.196 For the reasons set out above, we consider that the proposed condition is appropriate to address the competition concerns identified, in line with section 87(1) of the Act.

Consultation question

Question 5.1: Do you agree with our proposed general remedies? Please provide reasons and evidence in support of your views.

Section 6

Specific access remedies

Introduction

- 6.1 The proposed general remedies set out in Section 5 apply to all forms of network access. Nevertheless, because of the particular competition concerns associated with BT's SMP in the WLA market, we also propose certain specific remedies which we set out in this section. These proposed remedies are designed to ensure that BT provides certain specific forms of network access to its copper and fibre network. They have a role in introducing and maintaining competition, and are designed to benefit consumers through increased choice of providers and ultimately by reducing prices and improving services for consumers.
- 6.2 In summary, we propose:
- to continue to impose specific access remedies on BT in the form of requirements to offer MPF and VULA services, including the relevant ancillary services necessary to enable and support the provision of MPF and VULA;
 - not to impose a specific access remedy on BT in the form of a requirement to offer SMPF. Instead, SMPF will fall within the scope of the general network access remedy and be subject to fair and reasonable terms, conditions and charges;
 - to develop a framework for considering whether to exempt BT from its LLU obligations in relevant geographic areas where it seeks to deploy new technologies that are not compatible with LLU but which bring benefits to consumers; and
 - to continue to impose an obligation on BT to offer SLU on fair and reasonable terms.
- 6.3 Our proposals in relation to a specific access remedy requiring BT to offer Physical Infrastructure Access (PIA) will be set out in a separate consultation document.

Local Loop Unbundling (LLU)

Importance of LLU for broadband competition

- 6.4 LLU is a process by which the incumbent operator provides access to its local network (the copper lines that run from customers' premises to the telephone exchange) to other telecoms providers. The LLU access remedy enables a third party telecoms provider to deploy its own equipment in the incumbent's local exchange and to establish a backhaul connection between this equipment and its core network.
- 6.5 Since its introduction in 2000, LLU has been imposed as a remedy in successive market reviews to require BT to allow telecoms providers to partly or wholly rent a customer's local 'copper' access connection so that they can provide services directly to end-users. LLU can be in the form of either Metallic Path Facility (MPF) or Shared Metallic Path Facility (SMPF). This enables a telecoms provider to choose to provide

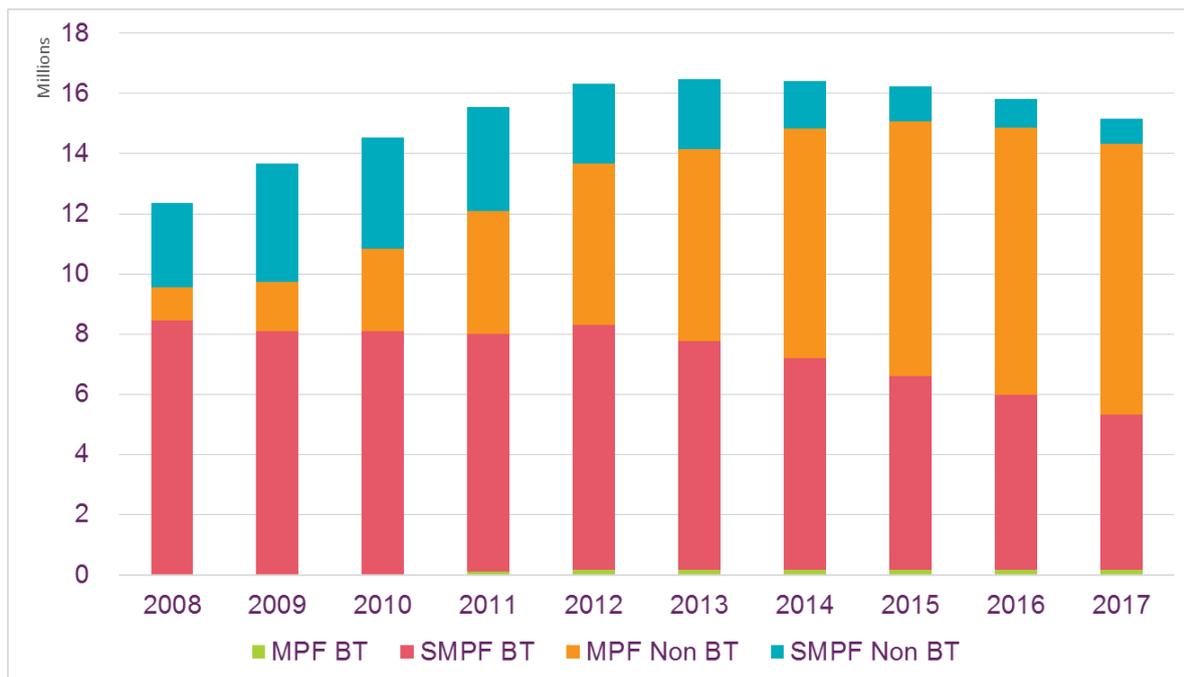
either voice and broadband (MPF) or just broadband services (SMPF) to customers. LLU only supports the provision of standard broadband.

- 6.6 LLU provides telecoms providers with greater control of their communication services (compared to a downstream service such as wholesale broadband access), which gives them the ability to innovate and to differentiate some aspects of their services from those provided by BT. LLU has played an important role in promoting and sustaining competition in the provision of standard broadband services.
- 6.7 As of the end of 2016, 95% of UK premises were served from an exchange where LLU was being used and about 30% of all broadband lines were provided by third party telecoms providers using LLU.¹⁶² In the areas where LLU is used there are now at least two telecoms providers which are competing to provide fixed telecoms services. This has brought benefits to consumers in the form of increased choice of telecoms provider and lower prices.
- 6.8 As noted in Section 3, in recent years, we have observed a strong take-up of superfast broadband supported by an expansion of BT's FTTC network in the WLA market. Despite the growing importance of higher speed services, we expect LLU to remain important in this review period, because a significant proportion of customers will still wish to purchase standard broadband. In particular, we forecast standard broadband to decrease from over half of all retail broadband services in 2016/17 to around one quarter in 2020/21.

Volume trends for MPF and SMPF

- 6.9 In the early years of LLU, the SMPF service was important in promoting competition in the broadband market. It offered telecoms providers an opportunity to build a customer base by at first providing broadband-only services, and then later upsell a voice service to their customers. The requirement to offer SMPF also helped to reduce the risk of BT leveraging its SMP in downstream voice markets to the (then emerging) broadband market, by allowing other telecoms providers to compete in providing broadband services to BT's voice customers.
- 6.10 The relative importance of SMPF and MPF has changed with MPF services becoming much more important. MPF now represents 92% of LLU lines used by BT's competitors. We have set out the historical volume movements of MPF and SMPF in Figure 6.1 below.

¹⁶² Ofcom estimates.

Figure 6.1: Historical volume movements of MPF and SMPF

Source: Openreach reports to Ofcom, 299 Ofcom Supplement, January 2008 to January 2017.¹⁶³

- 6.11 Today the decline in SMPF is continuing as investment in LLU has matured (where only a small proportion of exchanges are being newly unbundled) and provision of broadband is shifting to fibre services (mainly GEA). This suggests that further new LLU entry at any scale is unlikely.
- 6.12 In Section 5 we propose general remedies on BT, including a requirement to provide network access on reasonable request subject to fair and reasonable terms, conditions and charges, no undue discrimination and EOI. Taking into account the change in the relative importance of these services, we set out below why we consider the proposed general remedies are sufficient to support SMPF for the purposes of protecting broadband competition, and that specific MPF access remedies are needed.

Proposal for regulation of MPF

- 6.13 Figure 6.1 above shows that MPF is widely used and, as such, plays an important role in promoting and maintaining competition in downstream markets. MPF is vital to third party telecoms providers in providing bundled voice and broadband services to their customers. It is also an important input to the provision of superfast broadband by BT's competitors that use the Openreach network because FTTC services require a supporting copper line.¹⁶⁴

¹⁶³ Information for year 2013 is based on Openreach's report, 299 Ofcom Supplement, December 2012.

¹⁶⁴ In future, telecoms providers may also start providing superfast broadband with Single Order GEA (SOGEA). SOGEA enables the provision of wholesale superfast broadband without the need for WLR or MPF to support it. SOGEA is currently set to launch in spring 2018 (email to Ofcom, 20 Oct 2016).

- 6.14 However, BT does not make significant use of MPF to support its retail customer base. Instead, BT's voice services are based predominantly on the use of Wholesale Line Rental (WLR) and it provides its broadband services as an overlay to this (relying on SMPF for standard broadband and, increasingly, GEA-FTTC for the provision of superfast broadband services).
- 6.15 In the absence of a specific access obligation on MPF, BT would have a strategic incentive to put its competitors at a disadvantage by not offering MPF services that telecoms providers need, or by doing so only on unfavourable or discriminatory terms and/or quality of service. This would likely result in consumer harm in the form of degradation of service, choice of provider, and higher prices.
- 6.16 We therefore propose to retain the specific access obligation on BT in relation to MPF to protect the ability of telecoms providers using the Openreach network to continue to be able to compete with BT in the provision of voice and broadband services. In addition to this core access service, a number of ancillary services are necessary to enable and support the provision of MPF, including tie cables, site access, space and power. Our proposed specific access remedy requires BT to provide these ancillary services.
- 6.17 The proposed condition is set out in full in Annex 23.

Proposal for deregulation of SMPF

- 6.18 We consider that there is no longer a compelling need for SMPF to promote downstream competition as the large majority of non-BT lines are provided using MPF and the role of SMPF in supporting LLU based entry is now less important to downstream competition. By the end of this review period we forecast that there will be only around 450,000¹⁶⁵ SMPF lines in use by third party telecoms providers. We therefore consider that telecoms providers have, to a considerable degree, already taken advantage of the ladder of investment opportunity provided by SMPF.
- 6.19 Under the general remedies proposed in Section 5 BT will be subject to non-discrimination and Equivalence of Input (EOI) requirements. This means that, for as long as Openreach continues to provide SMPF to downstream divisions of BT, it will be required to continue supplying SMPF externally on an EOI basis. Currently, the vast majority of SMPF lines are consumed by BT's downstream divisions (over 5.4m lines) and we forecast this to continue to be the case in 2020/21 (over 2.6m lines).¹⁶⁶ Thus, we expect that during the review period SMPF would remain available to all telecoms providers as a general access remedy on fair and reasonable terms, conditions and charges and on an EOI basis.
- 6.20 We therefore propose to remove the obligation for BT to provide network access to LLU in the specific form of SMPF. Instead, we will rely on the application of the general SMP obligations (see Section 5). We believe that this lighter form of regulation is proportionate in the circumstances, particularly given the decline in usage of SMPF expected over the review period. The aim of our proposals is to reflect the fact that, looking forward, a specific SMPF remedy is no longer fundamental to promoting broadband competition.

¹⁶⁵ Ofcom forecast.

¹⁶⁶ Ofcom forecast.

Allowing for potential changes to LLU¹⁶⁷ obligations

- 6.21 With ADSL technology, customers who live furthest from their local exchange may be unable to receive an acceptable minimum standard of broadband service at home. In the Initial Conclusions of our Strategic Review of Digital Communications, we said that new technologies may allow improved availability of broadband services for the hardest to reach consumers, and that we would do what we could to support deployment of such technologies.¹⁶⁸
- 6.22 One such technology is Long Reach VDSL (LR-VDSL).¹⁶⁹ BT is currently trialling LR-VDSL in several regions of the UK.¹⁷⁰ However, LR-VDSL could also have disadvantages. In particular, it may prevent the provision of ADSL services, such as broadband using LLU, by other providers on adjacent lines.¹⁷¹ This could mean that telecoms providers currently using LLU might be unable to serve their customers and, in the absence of an alternative access service to LLU, these customers could be forced to change provider and may face reduced choice.
- 6.23 Alternatively, BT's obligations to provide LLU could impact its ability to deploy a new technology, such as LR-VDSL. Therefore, we propose a framework under which we will consider whether BT should be exempted from its LLU obligations.

Proposed framework for allowing changes to BT's LLU obligations

- 6.24 We set out below the proposed process to allow BT to request, and Ofcom to consent to, a change in BT's LLU obligations. In reaching a view on whether the requirements below are met, we will take into account any commercial agreements between BT and the affected telecoms providers in the relevant geographic areas.
- 6.25 We propose that BT may request our approval that it is no longer required to provide LLU in those specific areas where it intends to deploy a new technology, such as LR-VDSL. Such a request should include information on:
- the affected cabinets;
 - the affected telecoms providers;
 - the number of affected MPF and/or SMPF circuits for each affected telecoms provider;
 - the replacement wholesale service(s) to be offered at the affected cabinets;

¹⁶⁷ All references to LLU in this section include Openreach's provision of MPF and SMPF.

¹⁶⁸ 2016 Strategic Review, paragraphs 3.40-3.45.

¹⁶⁹ LR-VDSL uses the frequency ranges of both ADSL and VDSL and utilises higher signal power. LR-VDSL also uses vectoring to minimise the impact of cross-talk and interference, which would otherwise reduce the speed available to customers.

¹⁷⁰ ISP News, September 2016. *BT reveal massive UK G.fast pilot and LR-VDSL broadband trials areas*, <http://www.ispreview.co.uk/index.php/2016/09/bt-reveal-massive-uk-g-fast-pilot-lr-vdsl-broadband-trial-areas.html> [accessed 6 March 2017].

¹⁷¹ This is because the interference caused by the higher power signal of LR-VDSL impacts the LLU signal at that cabinet. Given that LR-VDSL is still in a trial phase, we leave open the possibility for LR-VDSL to be compatible with LLU until we see conclusive results on the effects from its use.

- the general approach to migration to the replacement wholesale service(s);
- the timescales and advanced notification BT expects to provide; and
- the expected benefit from the deployment for consumers and citizens.

6.26 Our decision on whether to consent to a change in BT's LLU obligations will be taken on the facts at the relevant time. In the interests of certainty and clarity, in deciding whether to approve such a request, we propose to consider whether the following requirements are met:

- The change of the LLU obligations results in a net benefit for consumers and citizens.
- BT must offer telecoms providers a suitable replacement service(s) for their affected LLU service(s) which has similar quality of service and which comes at no additional charge to the current service(s) provided in the relevant geographic areas at the time of the deployment. In designing the specific characteristics of this service, we would expect BT to take into account the current broadband speeds achieved for individual customers compared to the proposed replacement service. We would expect BT to engage with industry in designing the replacement service(s).
- Voice services must continue to be available to end users. Where telecoms providers have provided voice services using MPF, these services should continue to be available or BT should agree a replacement service for voice supply with the relevant telecoms providers.
- BT must not charge telecoms providers for any costs related solely to the migration of customers affected by the deployment to the replacement service(s), including new customer equipment if necessary. Telecoms providers should be able to provide their own customer equipment.
- Migration to the replacement service(s) should be carried out with minimum disruption for the customers currently using LLU-based broadband.

6.27 Subject to the facts of the specific case and to the provision of satisfactory information, if our view is that the above requirements are met, we would then consult on a proposal to agree to BT's request. We would take any decision based on the outcome of the public consultation.

Cost recovery

6.28 New technologies, such as LR-VDSL, that can provide customers with an improved quality of broadband service also raise the question of if and how BT should be allowed to recover the costs related with their deployment.

6.29 In general, we seek to allow BT the opportunity to recover the costs of network deployment, to the extent such costs are efficiently incurred. We consider that costs incurred in network expansion that provide customers with an improved quality of broadband service should be recoverable and, where we have imposed charge controls, the relevant costs should be taken into account in setting those controls.

6.30 We do not currently have sufficient data on which to assess whether BT will undertake such a rollout or what costs may be incurred. However, should relevant

information on a committed rollout become available we will consider any implications for the charge controls we propose in this review.

- 6.31 LR-VDSL is also one of the technology options which could be used to deliver broadband to more difficult to reach areas whether that is through commercial deployment by BT or through a formal Universal Service Obligation (USO) that would give everyone a right to a decent broadband line on reasonable request.¹⁷² In the latter case, we would expect the approach to recovering costs to be considered within the formal USO process.

Legal tests

- 6.32 We consider that the proposed obligation for BT to provide network access to LLU in the specific form of MPF services, together with such ancillary services as may be reasonably necessary for the use of those services, is appropriate and satisfies the other legal tests set out in the Act.
- 6.33 Section 87(3) of the Act authorises Ofcom to set SMP services conditions requiring the dominant provider to provide such network access as Ofcom may from time to time direct. These conditions may, pursuant to section 87(5), include provision for securing fairness and reasonableness in the way in which requests for network access are made and responded to and for securing that the obligations in the conditions are complied with within periods and at times required by or under the conditions.
- 6.34 In proposing this condition, we have also taken into account the factors set out in section 87(4) of the Act. In particular, the feasibility of BT providing MPF services (demonstrated by their very widespread existing provision). We consider that this condition will ensure effective competition in the long term.
- 6.35 We have also considered our duties under section 3 and the Community requirements set out in section 4 of the Act. In particular, the condition is aimed at encouraging network access, and thereby promoting and securing efficient and sustainable competition, and the maximum benefit of customers of telecoms providers. It will continue to enable telecoms providers to compete effectively with BT in downstream broadband and narrowband markets.
- 6.36 We consider that the performance of our general duties in section 3 of the Act will also be secured or furthered by this proposed MPF remedy; namely to further the interests of consumers by promoting competition in markets downstream of WLA.
- 6.37 We consider that the proposed condition satisfies the criteria set out in section 47(2) of the Act because it is:
- objectively justifiable, in that it relates to the need to ensure that competition is maintained ultimately to the benefit of consumers. MPF services are aimed at stimulating competition in the provision of broadband and telephony services. BT does not use MPF to support its downstream customer base, while third party telecoms providers use MPF as a key service in providing their customers with broadband and voice services. Therefore, removing the condition could result in

¹⁷² Ofcom, December 2016. *Achieving decent broadband connectivity for everyone: Technical advice to UK Government on broadband universal service*, https://www.ofcom.org.uk/data/assets/pdf_file/0028/95581/final-report.pdf.

BT withdrawing the service or otherwise changing it to the detriment of the existing level of downstream competition (limiting the extent to which regulatory intervention addresses BT's SMP);

- not unduly discriminatory, as the condition aims to address BT's market power in the market of the UK excluding the Hull Area, in which we provisionally consider that only BT has SMP;
- proportionate, in that the requirement is necessary, but no greater than necessary, to promote efficient and sustainable competition for the maximum benefit of customers of telecoms providers, also taking account of the fact that BT already supplies this service; and
- transparent, as it is clear in its intention to require BT to provide MPF services to telecoms providers and its intended operation should also be aided by our explanations in this consultation.

Consistency with EC Recommendations and the BEREC Common Position

- 6.38 We consider that our decision to require MPF is consistent with the BEREC Common Position, in particular BP7a which states “NRAs should impose unbundled access to the copper loops at the MDF”. In terms of BP9-10 concerning the provision of products telecoms providers can use to reach the point at which LLU is made available (i.e. the exchange), we note that BT is already required to supply leased line products under the provisions of the BCMR which can be used for such purposes.
- 6.39 We consider that the requirement to make available the specified ancillary services is consistent with BP16 which states that “NRAs should impose obligations with regard to the provision of co-location and other associated facilities on a cost-oriented basis under clear rules and terms approved by the regulator to support viability of the access products mentioned above”.

Requirement for BT to provide SLU

- 6.40 Sub-loop unbundling (SLU) is a service offered by BT that allows telecoms providers to deploy their own equipment at a network distribution point (usually the location of the cabinet) and to use BT's lines from the cabinet to the customer. Telecoms providers can either rent the entire sub-loop (the connection between the cabinet and the customer) or share it with BT.
- 6.41 An obligation to provide SLU was introduced by European regulation in January 2001 and BT issued its Reference Offer at that time.¹⁷³ An SLU SMP obligation was introduced by Ofcom in the 2004 WLA Statement, and was re-imposed in subsequent reviews of the WLA market. In the 2014 FAMR we set out our ‘interim position’ on vectoring, and outlined how the use of vectoring technology can disrupt SLU. We discuss vectoring, and how it relates to SLU, in more detail below.

¹⁷³ EC, 18 December 2000. *Regulation (EC) No 2887/2000 of the European Parliament and of the Council of 18 December 2000 on unbundled access to the local loop*, <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32000R2887&rid=3>.

Vectoring

- 6.42 Vectoring uses noise cancellation technology to mitigate the effect of the electromagnetic interference that occurs on copper-based networks, also known as cross-talk. Cross-talk can have a significant detrimental effect on VDSL speeds.
- 6.43 In order to work optimally, current vectoring technology requires all the copper lines in the cabinet to be controlled and vectored by the same system. Otherwise the presence of non-controlled or ‘alien’ lines can degrade the benefits of the vectoring. To maximise the effectiveness of vectoring, a telecoms provider implementing vectoring would typically seek to control all relevant lines. This may be complicated in an SLU environment where there are two telecoms providers controlling the lines in a single cable.
- 6.44 In the 2014 FAMR we stated that our interim position on vectoring was that where BT has activated vectoring, it would be reasonable for BT to deny a request for SLU if BT could demonstrate that it had taken all reasonable steps to co-ordinate SLU with the vectoring; and, where a telecoms provider is already buying SLU at a cabinet where BT wishes to deploy vectoring, it would be unlikely to be reasonable for BT to withdraw SLU.

Analysis and proposals

- 6.45 We now consider whether we should re-impose an obligation on BT to provide SLU for the forward look of this review.
- 6.46 Use of SLU remains relatively low: as of January 2014 SLU had been deployed in a very small number of cabinets ([X]), and the vast majority of these ([X]) were accounted for by DRL, which closed in 2014; between 1 January 2014 and 1 September 2015 BT received a small number of requests [X] (between 50 and 100) for SLU with 70% being accepted and agreed. BT stated that as of 11 September 2015, there were less than 200 cabinets where SLU had been implemented.¹⁷⁴
- 6.47 SLU is being used successfully by a small number of telecoms providers that are providing services in those areas where BT has not rolled out its superfast broadband. These telecoms providers are offering customers (particularly businesses) services which may meet some customers’ needs better than those (such as standard broadband and leased lines) that BT provides in the area.
- 6.48 Also, as we noted in the 2014 FAMR statement, while the SLU service has been developed using significant BT, industry, and Ofcom resources, there is likely to be limited additional resource required to support its continuation.
- 6.49 Some telecoms providers may argue that, due to the fact that generally only a single telecoms provider can manage vectoring per cabinet, SLU should not be considered an appropriate remedy going forward. For example, where two telecoms providers are providing a service from an unbundled cabinet, vectoring cannot be applied unless the two telecoms providers coordinate; this may have the impact of reducing incentives for providers to enter a cabinet where a telecoms provider (BT or another provider) has already deployed.

¹⁷⁴ BT response to joint 1st WBA and WLA s.135 request dated 8 October 2015.

- 6.50 We do not consider that vectoring makes SLU unworkable as a remedy. While current vectoring technology is limited to generally only being available to one telecoms provider per cabinet, this may not be the case as vectoring technology develops.
- 6.51 As we have set out above, SLU has been deployed to a small number of cabinets, but may be bringing significant benefits to the customers that are served by an unbundled cabinet where BT has not rolled out fibre broadband.
- 6.52 We have considered whether the general remedies (the obligation to provide network access on fair and reasonable terms, conditions and charges) would be sufficient to ensure telecoms providers are able to continue to use SLU. However, BT does not use SLU and is exempted from using SLU on an EOI basis as an input to its GEA-FTTC services. As noted above, in areas where BT has not rolled out fibre, services provided by other telecoms providers over SLU compete with BT's standard broadband services and may be seen by some users as an alternative to a BT leased line. BT may therefore have an incentive to put its competitors at a disadvantage by not offering the SLU services that telecoms providers need, or by doing so only on unfavourable or discriminatory terms.
- 6.53 For these reasons, we propose to re-impose the obligation on BT to offer an SLU service to all telecoms providers who reasonably request such services. We propose that BT also be required to provide such ancillary services as may be reasonably necessary for the use of SLU (including backhaul to the cabinet). This provides telecoms providers with a complementary alternative to VULA to offer superfast services over FTTC networks or to deploy to areas where BT has not deployed its own fibre network.
- 6.54 However, we are proposing not to require EOI for SLU on the grounds that to do so would be too costly considering the likely benefits that would be realised from the use of SLU in the long term. This would likely require BT to re-engineer existing services and processes, which would be costly. We consider that this would be disproportionate given the current and projected low level of use of SLU. We agreed a variation to the Undertakings in 2009 allowing BT to rollout its superfast broadband service using FTTC without using SLU on an EOI basis given the likely cost of implementing EOI. We do not consider a change from this approach is appropriate or proportionate.¹⁷⁵
- 6.55 We set out our proposals in relation to price regulation of SLU in Section 9.
- 6.56 In addition, as in the case of LLU, BT's deployment of new technologies, such as LR-VDSL, may prevent the provision of broadband services using SLU. Therefore, we propose that the same framework as we propose for LLU will apply to SLU.

Legal tests

Obligation to supply SLU

- 6.57 Section 87(3) of the Act authorises Ofcom to set SMP services conditions requiring the dominant provider to provide network access as Ofcom may from time to time direct. These conditions may, pursuant to section 87(5) of the Act, include provision

¹⁷⁵ Ofcom, 11 June 2009. *Variation to BT's Undertakings under the Enterprise Act 2002 related to Fibre-to-the-Cabinet*, https://www.ofcom.org.uk/_data/assets/pdf_file/0025/36970/statement.pdf.

for securing fairness and reasonableness in the way in which requests for network access are made and responded to and for securing that the obligations in the conditions are complied with within periods and at times required by or under the conditions.

- 6.58 In setting this condition, we have also taken account of the factors set out in section 87(4) of the Act; in particular, the barriers that third party telecoms providers face in building alternative access networks in the absence of regulatory intervention. We consider that while significant levels of network competition may come about in the future, we expect this to take time to come to fruition. SLU has allowed some telecoms providers to provide broadband services in focused scenarios, particularly to serve businesses which could otherwise have been underserved. We are proposing to re-impose this obligation on the basis that these telecoms providers will continue SLU deployment. We have also taken account of the feasibility of BT providing SLU services, noting that it already does so.
- 6.59 We have considered our duties under section 3 and the Community requirements set out in section 4 of the Act. In particular, the obligation to provide network access in the form of SLU promotes and secures efficiency and sustainable competition and the maximum benefit for customers because it enables third party telecoms providers to compete with BT downstream with respect to FTTC-based services. The limitations of our intervention, in terms of not requiring any significant changes to the existing remedy, are consistent with both securing those ends and securing (and appropriately reflecting) efficient investment.
- 6.60 We consider that the performance of our principal duty in section 3 of the Act (to further the interests of citizens in relation to communications matters and to further the interests of consumers in relevant markets, where appropriate by promoting competition) would also be secured or furthered by the SLU obligation through promoting competition in this upstream access market.
- 6.61 We consider that the proposed obligation satisfies the criteria set out in section 47(2) of the Act because it is:
- objectively justifiable, in that the proposed obligation relates to the need to ensure that competition develops ultimately to the benefit of consumers. SLU services are aimed at stimulating competition in the provision of broadband and telephony services and enhancing competition in areas of limited local access competition. Removing the obligation could result in BT withdrawing the service or otherwise changing it to the detriment of the existing level of downstream competition;
 - not unduly discriminatory, in that the proposed obligation aims to address BT's market power in WLA in the UK excluding the Hull Area, in which it is the only telecoms provider in respect of which we have made a finding of SMP;
 - proportionate, in that the proposed obligation is necessary, but no more than necessary, to promote efficiency and sustainable competition and the maximum benefit for customers of telecoms providers, taking into account the fact that BT already supplies this service; and
 - transparent, in that the proposed obligation is clear in its intention to require BT to provide an SLU service and ancillary services to other telecoms providers.

Consistency with the EC recommendations and the BEREC Common Position

- 6.62 We consider that the application of an SLU remedy along with those ancillary services as may reasonably be necessary for the use of SLU is consistent with Recommendation 29 of the NGA Recommendation which states that NRAs should impose an obligation of unbundled access to the copper sub-loop. The same recommendation states that an SLU remedy should be supplemented by backhaul measures “including fibre and Ethernet backhaul where appropriate”. In this regard, BT is required to provide the necessary ancillary services and in relation to backhaul specifically, it is already required to supply leased lines (in certain areas) which can be used for SLU backhaul under the provisions of the BCMR. Telecoms providers can, in certain cases, also build their own backhaul.
- 6.63 The Costing and Non-discrimination Recommendation sets out that NRAs should consider, if they believe that a non-discrimination obligation is appropriate, whether it would also be proportionate to impose EOI (Recommendation 7). We note that the considerations an NRA should take into account include the costs (especially whether the competition benefits outweigh the costs of system redesign) and the potentially positive effects on innovation and competition. As set out above, we do not consider it proportionate to require BT to provide SLU on an EOI basis. We consider that the no undue discrimination obligation is consistent with EOO (as set out in Section 5), which Recommendation 9 sets out should be applied in the absence of EOI. Further, given the requirement for EOO, which includes requirements around comparability of functionality, we do not consider it necessary to put in place further obligations to ensure technical replicability (Recommendations 11-18).
- 6.64 In terms of the BEREC Common Position, we consider that the decision to require SLU is consistent with BP7 and that the requirements to make available the specified ancillary services with associated pricing obligations fulfils BP16.

Requirement for BT to provide VULA

Background and our position in previous statements

- 6.65 Virtual Unbundled Local Access (VULA) provides a virtual connection over fibre lines (either FTTC or FTTP) that gives telecoms providers flexibility over how this link is integrated into their own core network and over service offerings.
- 6.66 We introduced VULA in the 2010 WLA as the remedy by which BT would provide access to its fibre network (FTTC and FTTP). We set out that the underlying objective was to support competition and investment in the supply of fibre access-based services in downstream markets. In the 2014 FAMR we re-imposed the requirement for BT to supply a VULA service.
- 6.67 Since the remedy was first imposed, VULA has had a positive impact for consumers; the number of VULA connections has risen significantly since VULA was introduced,¹⁷⁶ with BT reporting more than 7.2 million VULA connections as of

¹⁷⁶ We note that BT already had in place a product similar to VULA, called Generic Ethernet Access ('GEA'), prior to the conclusion of the 2010 WLA Review. For simplicity, we use the term VULA in this consultation with some limited exceptions where appropriate.

December 2016 with 498,000 added in Q3 2016/17.¹⁷⁷ 238,000 of these new connections were added by third party telecoms providers. VULA has introduced competition in superfast broadband, therefore benefiting consumers through increased choice of provider and ultimately facilitating lower costs and improved services for consumers.

- 6.68 In the absence of such a requirement we considered that BT would have had the incentive and ability to refuse access to its fibre network at the wholesale level, or offer access on less favourable terms. In doing so BT would be favouring its own retail operations with the effect of hindering sustainable competition in the corresponding downstream markets, ultimately against the interests of customers. VULA enables telecoms providers to provide fibre access services in competition with BT, which supports competition and investment in the supply of fibre access-based services in downstream markets.

VULA key characteristics

- 6.69 In the 2010 WLA Statement we set out our view that the most effective way to support the development of downstream competition in the provision of superfast broadband services would be to provide significant scope for alternative providers to innovate and differentiate in how they package and deliver services. We therefore considered that the benefits of VULA would be greater if it was provided as a ‘raw’ service which provided telecoms providers with significant flexibility over their own networks and the services that they could deliver to customers, as is the case with LLU.

- 6.70 With this in mind, we set out five high-level characteristics that we considered VULA would need to have in order to meet the above objectives and be consistent with the 2010 WLA market definition. These were:

- **Local access:** interconnection by the access seeker should occur locally, i.e. at the first feasible aggregation point. In practice we considered this was likely to be in the local serving exchange where the first Ethernet switch was located (‘fibre exchange’).¹⁷⁸
- **Service agnostic access:** VULA, like LLU, should be a generic access service. That is, it should provide service agnostic connectivity, replicating one of the key features of LLU. This means the service should not be confined to supporting particular downstream services.
- **Uncontended access:** the connection, or capacity, between the consumers’ premises and the local serving exchange where interconnection takes place should be dedicated to the customer, i.e. the connection should be uncontended.¹⁷⁹

¹⁷⁷ BT, 6 February 2017. *Results for the third quarter to 31 December 2016*, <http://www.btplc.com/Sharesandperformance/Quarterlyresults/2016-2017/Q3/Downloads/Newsrelease/q317-release.pdf>.

¹⁷⁸ Note that the local serving exchanges for fibre access (FTTC and FTTP) are not necessarily the same local serving exchanges as for copper access as fibre does not have the same distance limitations as copper and therefore a higher level of aggregation is possible.

¹⁷⁹ An uncontended service is one in which the bandwidth to each user is dedicated. In other words, the bandwidth is not shared by other users.

- **Control of access:** telecoms providers should be given flexibility to allow them to offer differentiated services to consumers. We said this freedom of control, in order to provide different types of services, could potentially involve varying quality of service parameters.
- **Control of customer premises equipment (CPE):** similar to the control of access characteristic described above, allowing competing telecoms providers the ability to control customer premises equipment, and therefore differentiate how they deliver services to their customers, was crucial in ensuring that the potential benefits of VULA were realised.

Proposals

- 6.71 We propose that BT be required to supply a VULA service providing access to its fibre network. We consider that, in the absence of such a requirement, BT would have the incentive and ability to favour its own retail operations with the effect of hindering sustainable competition in the corresponding downstream markets, ultimately against the interests of customers. VULA enables telecoms providers to provide fibre access services in competition with BT in downstream markets. We expect VULA to be applicable to services such as G.fast in the future.
- 6.72 Additionally, we propose that the current VULA characteristics set out above remain appropriate. Considering the limitations of non-physical layer access, the existing characteristics allow reasonable control and flexibility such as to enable telecoms providers to provide differentiated services in competition with BT over its fibre access network. We do not propose to alter the existing VULA characteristics, add new characteristics or include the characteristics in the SMP condition itself. Telecoms providers can always request new VULA features via BT's SoR process.
- 6.73 The proposed condition is set out in full in Annex 23.
- 6.74 The proposed requirement to offer VULA is in addition to the proposed general remedies explained in Section 5.

Legal tests

- 6.75 We consider that the proposed obligation to provide network access by means of VULA, together with such ancillary services as may be reasonably necessary for its use, is appropriate and satisfies the legal tests set out in the Act.
- 6.76 Section 87(3) of the Act authorises Ofcom to set SMP services conditions requiring the dominant provider to provide such network access as Ofcom may from time to time direct. These conditions may, pursuant to section 87(5), include provision for securing fairness and reasonableness in the way in which requests for network access are made and responded to, and for securing that the obligations in the conditions are complied with within periods and at times required by or under the conditions.
- 6.77 In proposing this condition, we have also taken into account the factors set out in section 87(4) of the Act. We have taken account of the feasibility of BT providing VULA services, which it does through its GEA service. We consider that the condition should help secure effective competition in the long term.
- 6.78 We have considered our duties under section 3 and the Community requirements set out in section 4 of the Act. In particular, the condition is aimed at encouraging

network access and thereby promoting and securing efficient and sustainable competition for the maximum benefit of retail customers. VULA will enable other telecoms providers to compete with BT in downstream markets in those areas where BT rolls out a fibre access network. We consider that services provided over fibre are likely to be an important element of downstream competition over the forward looking period of this review.

6.79 In that way, we consider that the performance of our principal duty in section 3 of the Act will also be fulfilled, namely to further the interests of citizens in relation to communications matters and to further the interests of consumers in relevant markets, by promoting competition in downstream markets.

6.80 The proposed condition satisfies the criteria set out in section 47(2) of the Act because it is:

- objectively justifiable, in that it relates to the need to ensure that competition develops ultimately to the benefit of consumers. VULA services are aimed at stimulating competition in the provision of broadband and telephony services and enhancing competition in areas of limited local access competition. We consider that VULA is currently the primary basis of competition for fibre-based high speed services and will continue to be an important service for the duration of this review;
- not unduly discriminatory, in that the proposed condition aims to address BT’s market power in the relevant market and we propose that only it has such power in the UK excluding the Hull Area;
- proportionate, in that the requirement is necessary, but no greater than necessary, to promote efficient and sustainable competition for the maximum benefit of retail customers with the rollout of fibre access networks; and
- transparent, as it is clear in its intention to require BT to provide VULA services to other telecoms providers and its intended operation should also be aided by our explanations in this consultation.

6.81 For the reasons set out above, we consider that the proposed condition is appropriate to address the competition concerns identified, in line with section 87(1) of the Act.

Consistency with EC Recommendations and the BEREC Common Position

6.82 We consider that the proposal to apply a VULA remedy is consistent with both the NGA Recommendations and the BEREC Common Position of which we are required to take utmost account.

6.83 While not covered by the Articles, Recital 21 of the NGA Recommendation states:

“NRAs should be able to adopt measures for a transitional period mandating alternative access services which offer the nearest equivalent constituting a substitute to physical unbundling, provided that these are accompanied by the most appropriate safeguards to ensure equivalence of access and effective competition. In any event, NRAs should in such cases mandate physical unbundling as soon as technically and commercially feasible.”

- 6.84 The BEREC Common Position similarly provides that in the case of FTTC, “NRAs may consider imposing an active remedy providing access at the MPoP replicating as much as possible physical unbundling,” (BP7c) and in the case of FTTP “Until any alternative technologies allowing physical unbundling at the MPoP become available the NRAs should consider imposing an active remedy providing access at the MPoP replicating as much as possible physical unbundling” (BP6).”
- 6.85 We consider that VULA offers the nearest equivalent to physical unbundling over both FTTC and FTTP.
- 6.86 We consider that is consistent with BP25 which states that “NRAs should consider which information on the SMP-operator’s ‘newly’ rolled-out NGA network is essential to competitors and should be available well in advance on a non-discriminatory basis”. The proposed SMP condition in Annex 23 requires BT to provide VULA to third parties with the same commercial information as BT provides VULA to its downstream divisions, as a result of its EOI obligations.

Minimum contract period

Position in the 2014 FAMR

- 6.87 In the 2014 FAMR, we considered BT’s minimum contract periods for VULA services. Where BT has a minimum contract period, if the service is cancelled before this period has expired, the telecoms provider is likely to face a charge (a held to term charge). In the 2014 FAMR, we said we would be concerned if BT imposed minimum contract periods where this was not justified by reference to objective factors such as the need to recover upfront costs, and we noted that the effect of such minimum contract periods would be to reduce levels of switching, leading to less retail competition than would otherwise be the case.
- 6.88 We considered two types of services provided by BT: VULA migrations and VULA connections. In relation to VULA migrations, our view was that the up-front costs were not substantial and so there was no need to allow BT flexibility in the structure of pricing, including minimum contract periods. We therefore decided to limit BT’s flexibility in setting a minimum contract period for VULA following a VULA migration. We imposed a direction that limited the minimum contract period BT could set for VULA migrations to one month.
- 6.89 We did not set a similar minimum contract period for connections. This was because:
- we did not take a view on whether the up-front connection charge was sufficient to recover initial service set-up costs;
 - having a longer minimum term may allow BT to recover any wholesale connection costs over a longer period (rather than via an up-front charge); and
 - flexibility on the minimum term provided BT with the potential to vary the balance between connection charges, minimum terms and rental charges in order to determine which is most beneficial to increase take-up of VULA services.

Proposals

- 6.90 As set out above, a minimum contract period imposed on a wholesale service by BT may adversely impact on switching as the costs of switching from this wholesale service during the minimum contract period (arising from the held to term charge)

may be passed on to customers, and this is likely to reduce their incentives to switch. Even where any wholesale charge is not passed on, a higher migration charge raises the costs of customer acquisition which could soften competition between telecoms providers for superfast broadband customers. Reducing minimum contract periods may therefore have benefits for competition by reducing switching costs. Therefore, we consider that contract periods should be minimised where possible.

- 6.91 However, we also accept that in providing wholesale services, BT incurs costs and it should be offered the opportunity to recover these costs. Further, where there are high upfront costs for providing a service, recovering some of these costs over a longer period, rather than as a single initial connection charge, may be beneficial, for example in incentivising take-up of a new service.
- 6.92 We continue to believe that setting the minimum contract period for VULA migrations to one month is appropriate. This is because of the benefits to competition of increased switching that could arise. In addition, as set out in the 2014 FAMR, we do not consider the upfront costs are significant for VULA migration so that the benefits of allowing flexibility in recovering these costs, including via the use of minimum contract periods are likely to be small. As such, we see no basis for a long minimum contract period for VULA migrations.
- 6.93 We have also considered the recovery of upfront VULA connection costs. These costs can be recovered in two ways: (1) via a connection charge equal to the full cost; or (2) spread over time, included in the monthly rental. In the first case, there is no need for a minimum contract term. However, a high connection cost may deter some customers from signing up to the service if passed through to retail prices, thus reducing take-up. Alternatively, higher connection charges increase the risk borne by the retail telecoms provider.
- 6.94 In the second case, take-up may be higher due to the lower connection charge but a minimum contract period may be imposed so that BT's up-front connection costs that have been spread over the monthly rental can be recovered if the service is cancelled early.
- 6.95 In the 2014 FAMR we allowed BT pricing flexibility and considered that, on balance, allowing BT to set longer minimum contract periods would allow it to set lower connection charges to encourage take-up of the service, without bearing the risk of not being able to recover up-front costs. Restricting minimum contract periods could have impacted BT's ability to recover up-front costs over a period of time. In this case it would either have needed to set a higher connection charge, which could have reduced take-up, or taken the risk that for some customers that cancelled service early it would not recover the full costs of providing the service. This could have compromised BT's opportunity to recover efficiently incurred costs and its incentives to invest during an important period in the deployment of superfast broadband services.
- 6.96 However, given the analysis set out in Section 3, we consider that take-up of SFBB is more certain now, so that the benefits from allowing BT to vary the balance between connection and rental charges may be reduced.
- 6.97 We have also considered whether BT will incur costs in changing its contract terms and/or systems if we change the minimum contract periods for connections. Given that BT already supports shorter minimum contract periods for migrations, we do not consider it would be problematic to take that same approach with connection services.

- 6.98 Therefore, for VULA services provided on BT's FTTC deployment, we consider that restricting the minimum contract period is likely to facilitate switching and promote retail competition for what is increasingly a mature service with significant take-up. As such, we propose to set the minimum contract period for connection to FTTC-based VULA services to a maximum of one month, as is the case for VULA migrations.
- 6.99 However, we recognise that for other services, principally FTTP-based deployments, there may be higher costs associated with each customer connection and with roll-out and take-up at a nascent stage, there are likely to be benefits in recovering connection costs over an extended period. Therefore, we do not propose to restrict minimum contract periods for these services at this time.

The form of intervention

6.100 SMP Condition 1 of the legal instrument (Annex 23) includes a power for Ofcom to direct the terms of network access provided in accordance with that condition. For the reasons set out above, we propose to use this power to issue a Direction (see Annex 23) limiting the length of the minimum contract period following VULA migrations and VULA FTTC connections to no longer than one month, which BT would need to implement from the final working day of the month following the month in which the Statement is published. The proposed Direction is drafted so as to apply specifically to the following services:

- GEA migrations for all BT provided GEA services;
- PCP only install for services provided using BT's FTTC deployment;¹⁸⁰
- Start of a Stopped Line for services provided using BT's FTTC deployment; and
- Managed Install for services provided using BT's FTTC deployment.

Legal tests

- 6.101 We consider that the proposed Direction to require BT to impose a contract length of no more than one month on the above services meets the tests set out in the Act.
- 6.102 Section 87(3) of the Act authorises Ofcom to set SMP services conditions requiring the dominant provider to provide network access as Ofcom may from time to time direct. These conditions may, pursuant to section 87(5), include provision for securing fairness and reasonableness in the way in which requests for network access are made and responded to and for securing that the obligations in the conditions are complied with within periods and at times required by or under the conditions. As noted above, we are proposing to include a power for Ofcom to direct the terms of access as part of the SMP condition requiring BT to provide VULA on fair and reasonable terms, conditions and charges. We are proposing to make this Direction pursuant to that power.
- 6.103 We consider that this would be consistent with our duties under section 3 and all the Community requirements set out in section 4 of the Act. In particular, on the basis of the arguments set out above, the Direction is aimed at promoting competition and securing efficiency and sustainable competition for the maximum benefit of

¹⁸⁰ BT's FTTC deployment includes those cabinets where BT has installed VDSL2 technology.

consumers by facilitating switching and so promoting retail competition, again while being consistent with the purpose of securing efficient investment and innovation.

6.104 We consider that the proposed Direction meets the criteria set out in section 49(2) of the Act as the requirement relating to minimum contract periods is objectively justifiable, non-discriminatory, proportionate and transparent, as follows:

- objectively justifiable, in that it will facilitate switching and promote retail competition for VULA services;
- not unduly discriminatory, in that BT is the only operator to have SMP in the relevant market of the UK excluding the Hull Area;
- proportionate, in that, while it will facilitate switching and promote retail competition, the overall impact on BT's incentives to invest, and more generally on take-up of fibre, is likely to be limited and the measure is, therefore, no more intrusive than necessary to achieve its intended goals; and
- transparent, in that it is clear in its requirements and intention, as explained in this consultation.

Consultation question

Question 6.1: Do you agree with our proposals for access regulation in respect of LLU, SLU and VULA? Please provide reasons and evidence in support of your views.

Section 7

Quality of service remedies

Introduction

- 7.1 In Section 5 we set out our proposals for general remedies on BT in the WLA market, including a requirement on BT to provide network access to third party telecoms providers on reasonable request and on fair and reasonable terms, conditions and charges. In this section we propose SMP conditions that will allow us to set quality of service (QoS) standards for WLA and reporting requirements in relation to Openreach's QoS performance.
- 7.2 In the 2016 NMR Consultation, we proposed a similar SMP condition requiring BT to comply with conditions relating to QoS for WLR, that will allow us to set QoS standards and reporting requirements for WLR services.
- 7.3 We published alongside the 2016 NMR Consultation our proposals for the imposition, amendment or withdrawal of QoS standards and KPI reporting requirements in relation to WLR, MPF and GEA as part of a wider review of BT's quality of service in fixed networks.
- 7.4 In summary, we propose to set an SMP condition in the WLA market requiring BT to comply with such conditions relating to QoS and KPI reporting requirements as Ofcom directs from time to time.

Current remedies and regulation

2008 SLG Statement

- 7.5 On 20 March 2008 we published the statement *Service level guarantees: incentivising performance* (the 2008 SLG Statement). The main provisions in relation to MPF¹⁸¹ were to:
- require Openreach to repair all MPF faults within 40 hours (standard care) or 20 hours (enhanced care), failing which compensation is payable;
 - introduce equivalence management platform (EMP) service credits for MPF;
 - require compensation for the provision by BT of MPF lines in a non-operational state; and
 - require BT to pay compensation proactively.

2014 FAMR

- 7.6 In the 2014 FAMR, Ofcom undertook a review of matters relating to QoS delivered by BT (through Openreach) in the supply of regulated wholesale fixed access services

¹⁸¹ The 2008 SLG Statement does not apply to GEA.

(which included the WLA market).¹⁸² We determined that over several years (from 2009) there had been a gradual decline in Openreach's performance, in particular in relation to fault repairs and provisioning of WLR and MPF services. We also concluded that the prevailing regulatory and contractual framework had not been sufficient to prevent material detriment to downstream competition in the fixed access markets, arising out of BT's SMP.

QoS standards for WLR and MPF

- 7.7 As a result of the observed decline in performance, we took a number of steps to incentivise better service quality outcomes. In particular, we imposed a number of new SMP obligations on BT setting service quality standards covering provisioning and repair.
- 7.8 In doing so, we were mindful of the potential for unintended consequences and of the need to be cautious in introducing such SMP regulation for the first time. Our analysis highlighted particular areas of concern with the provisioning of new lines and fault repair of the copper-based access services, specifically for WLR and MPF. These were the highest volume services and, therefore, we considered that they had the greatest impact on competition and on the engineering resource levels maintained by Openreach.
- 7.9 We set QoS standards on how quickly Openreach offered an appointment for engineering visits for provisions, and the proportion of installations completed by the agreed date, with a fixed 1% allowance for 'matters beyond reasonable control' (MBORC). We also set a QoS standard on the proportion of repairs completed within the timeframe agreed with the telecoms provider (the service maintenance levels, or SMLs, covered by the regulation are either SML1 or SML2¹⁸³), with a fixed 3% allowance for MBORC. The provision and repair standards increased to the levels below over the three-year, forward-look period of the 2014 FAMR, and are summarised in Table 7.1.

¹⁸² <https://www.ofcom.org.uk/phones-telecoms-and-internet/information-for-industry/telecoms-competition-regulation/narrowband-broadband-fixed/fixed-access-market-reviews-2014>.

¹⁸³ The vast majority of access lines (for WLR, MPF and GEA-FTTC) are currently provided with a 'one day' or a 'two day' repair target. SML1 may also be referred to as 'two day' repair. Openreach aims to repair faults within two working days. SML2 may also be referred to as 'one day' repairs. Openreach will aim to fix a fault within one working day, including Saturdays.

Table 7.1: Openreach service quality standards for WLR and MPF services¹⁸⁴

Minimum standard	First Year (2014/15)	Second year (2015/16)	Third Year (2016/17)
12 day provision appointment availability	54%	67%	79%
Provision completion by Committed Date	89%	89%	89%
Repair completion within SLA timescales	67%	72%	77%

Source: Ofcom

QoS for GEA

7.10 We did not introduce QoS standards on BT for GEA services. At the time, the deployment and uptake of GEA services was relatively small; in August 2014 there were 3.2m FTTC lines and 21,000 GEA-FTTP lines compared to 8.3m and 16.5m MPF and WLR lines, respectively.¹⁸⁵

KPI reporting requirements

7.11 In addition to QoS standards for WLR and MPF, in the 2014 FAMR Statement we directed BT to report a set of KPIs for WLR, LLU (MPF and SMPF), GEA (FTTC and FTTP), ISDN30 and ISDN2. This decision increased the range and granularity of the KPIs that BT is required to report to Ofcom and to industry allowing us to monitor Openreach's performance more closely and if necessary respond to any trends. The reporting requirements included an obligation for BT to publish a sub-set of those KPIs on a publicly accessible website, to aid transparency.¹⁸⁶

2016 Directions and Consents relating to the WLR and MPF minimum standards and KPIs

7.12 In our October and November 2016 Statements, Directions and Consents relating to the minimum standards and KPIs imposed in the 2014 FAMR,¹⁸⁷ we implemented new repair standards based on the contracted care level ('SMLs'). At the time of the 2014 FAMR, the majority of WLR lines provided by Openreach were associated with SML1, while the majority of MPF lines were provided with SML2.¹⁸⁸ In 2016 a number of telecoms providers made the decision to change care level, which would have

¹⁸⁴ Net of allowances for Matters Beyond Our (BT's) Reasonable Control (MBORC) events. MBORC means a *force majeure* event that releases Openreach from the liability to make any payment under the corresponding SLG. We imposed these annual standards in each of Openreach's 10 geographic regions but allowed BT to make use of what are referred to as 'High Level MBORC' declarations within the performance calculations for up to two of those 10 regions for the repair standard.

¹⁸⁵ Data from Openreach mandatory non-discrimination KPIs.

¹⁸⁶ See "Homes and smaller businesses":

<https://www.homeandwork.openreach.co.uk/OurResponsibilities/our-performance.aspx>

¹⁸⁷ https://www.ofcom.org.uk/data/assets/pdf_file/0032/92678/20161017-QoS-Statement-Non-confidential.pdf and https://www.ofcom.org.uk/data/assets/pdf_file/0016/94300/Further-QoS-Statement.pdf.

¹⁸⁸ Telecoms providers may purchase different repair packages for their wholesale inputs (WLR, LLU, VULA, and ISDN) ranging from a 'two-day' repair to a 'six-hour' repair).

resulted in a significant proportion of total WLR and MPF lines falling outside the repair standards. In order to ensure that appropriate standards continue to apply in these markets, we therefore introduced a single standard per care level that covers both MPF and WLR.

- 7.13 In addition, we removed the expiry dates for all WLR and MPF standard obligations and replaced these with an ongoing obligation to ensure that the standards remain in force until the WLA market review decision is published or until they are revoked, whichever is first. The 2016 Directions also amended some of the applicable KPI requirements.

Strategic Review of Digital Communications

- 7.14 In our Strategic Review of Digital Communications we set out our strategy for delivering a step change in quality of service in the light of the rising expectations of customers and businesses. With regard to Openreach's service quality, we noted that we have had to intervene more actively over time because Openreach is subject to limited competitive pressure at the wholesale level.
- 7.15 We stated that we intend to take the following steps in relation to Openreach, as part of a step change in quality of service across industry:
- first, we intend to set standards at a level designed to ensure effective competition – so that they meet the needs of customers and businesses – rather than at a level intended only to return performance to historical levels. Over time we expect to apply standards that rise significantly;
 - second, we anticipate specifying standards that protect customers from being left without service for extended periods (i.e. standards that control long tails of incomplete orders); and
 - third, we intend to apply standards to cover new aspects of service where we have concerns.
- 7.16 We explain our proposals for implementing the strategy in relation to service quality for wholesale local access in our 2017 QoS Consultation published alongside this document.¹⁸⁹

QoS performance since 2014

- 7.17 The following sub-sections use data obtained from BT for the period before the 2014 FAMR and then from the KPIs mandated by the FAMR to provide an overview of BT's QoS performance in relation to the provision and repair of MPF and GEA in recent years (which are services we are proposing to require specific network access remedies, see Section 6).

MPF performance against the standards

- 7.18 With respect to MPF, the KPIs provided by Openreach show that it has met the three standards for the first two years of the 2014 FAMR review period, and that service delivered to the end of January 2017 also met the standards.

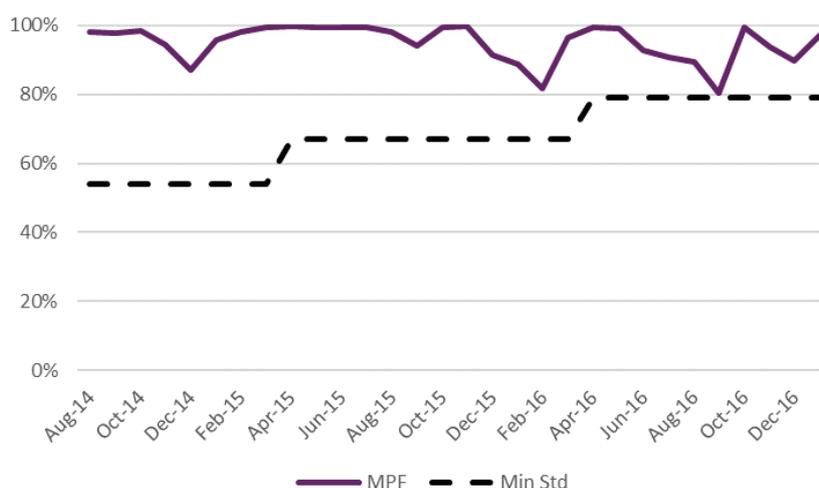
¹⁸⁹ Ofcom, March 2017. *Quality of Service for WLR, MPF and GEA Consultation*.

- 7.19 When interpreting performance against the standards, it is important to recognise that resources are shared to a large extent between Openreach’s repair and provisioning tasks. This means that Openreach is able to record stronger performance against the provision standards during periods when the repair intake is relatively low, for example during favourable weather conditions, but that provision performance can decline when additional resources are needed to complete repair tasks (for example, see late 2015 to early 2016 in Figure 7.2).
- 7.20 Openreach has reported to Ofcom that it has been able to outperform the standards relating to provisions, while its repair performance has met the standard by a much narrower margin (see Figures 7.2, 7.4 and 7.6).
- 7.21 The evidence provided by Openreach indicates that the standards have resulted in an overall stabilisation and improvement of performance since 2014. We consider the evidence of performance against the three standards in more detail below.

Provisions: Appointment availability

7.22 The 2014 FAMR requires Openreach to offer an engineer appointment, where one is required, for a new installation within 12 working days of the order being registered by a third party. Historical data against this metric is limited as a service level agreement for appointment availability was not introduced until 2012; however, as stated in the 2014 FAMR, Openreach’s delivery against the SLA was just 42% in 2012/13.¹⁹⁰ Over the reporting period the KPIs indicate that Openreach has achieved the standard at the UK level in every month.

Figure 7.2: UK 12-day appointment availability for MPF services (%)



Source: Openreach mandatory non-discrimination KPIs

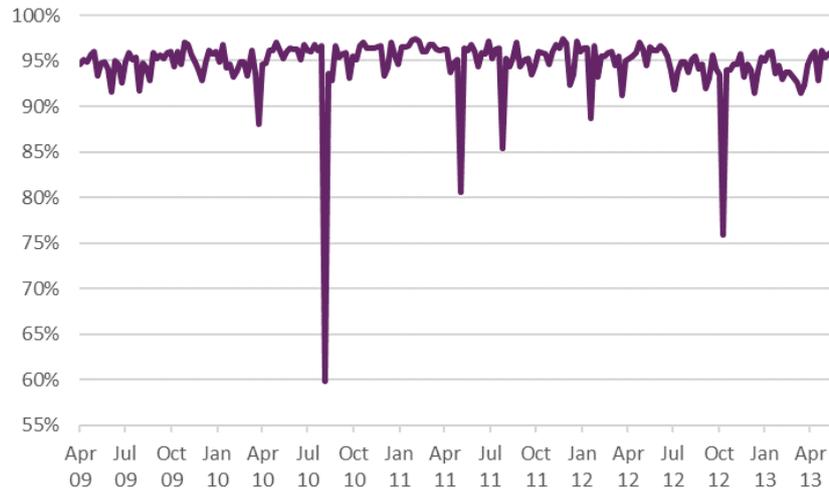
Provisions: On time completion

7.23 The 2014 FAMR requires Openreach to complete MPF provisions on the date agreed between Openreach and the customer – i.e. the Committed Date. This is also known in industry as the Contract Delivery Date, or CDD.

¹⁹⁰ See Table A17.3, page 269: <http://stakeholders.ofcom.org.uk/binaries/telecoms/ga/fixed-access-market-reviews-2014/statement-june-2014/annexes.pdf>.

7.24 In the 2014 FAMR, we found that, with the exception of isolated months, between April 2009 and April 2013 provision completion rates by CDD were fairly stable, ranging between 90% and 96% (Figure 7.3).¹⁹¹ Since August 2014, KPI performance at the UK level against the on time provision standard has been consistently above the 89% standard (Figure 7.4).

Figure 7.3: UK MPF installation order completion by CDD, Right First Time measure (%)



Source: Ofcom analysis of BT data submitted to the OTA and received by Ofcom on 14 June 2013. Data considered supplementary to BT’s updated response dated 23 May 2013 to question 1.12 of the First QoS BT Information Request. Includes all provision order types

Figure 7.4: UK MPF orders provisioned on time, all orders (%)



Source: Openreach mandatory non-discrimination KPIs

¹⁹¹ Our analysis in the 2014 FAMR used ‘Right First Time’ measures that Openreach reports to the OTA as a proxy for the service level agreement (care level) measure of “installation orders completed by CDD”. Both are measures of orders completed by the CDD, but the Right First Time measure additionally classifies orders that develop a fault within eight days of completion as failures.

Repair performance against contractual timescales

- 7.25 As described above, Openreach’s compliance with the repair standard is now assessed by considering the combined performance of WLR and MPF against each care level. However, for the purposes of assessing the Openreach performance against the repair standard for MPF during the last review period we have focused on Openreach’s MPF SML2 performance over the period 2014-16 as this represents a consistent dataset.
- 7.26 The 2014 FAMR required Openreach to complete SML2 for MPF faults by the end of the next working day after such faults have been registered with Openreach.
- 7.27 In the 2014 FAMR, we identified two periods in which performance was of particular concern to telecoms providers: July 2010 to February 2011 and the second half of 2012 (Figure 7.5 below).¹⁹²
- 7.28 The KPIs provided by Openreach indicate that it has met the annual repair standards in the first two years of the control and there has been a significant reduction in volatility in performance that the FAMR identified during the period April 2009 to April 2013. Figure 7.6, which is derived from the KPIs reported by Openreach, shows that UK performance for SML2 has not fallen below 71% in any given month since August 2014. However, performance has not returned to 2009/10 levels.

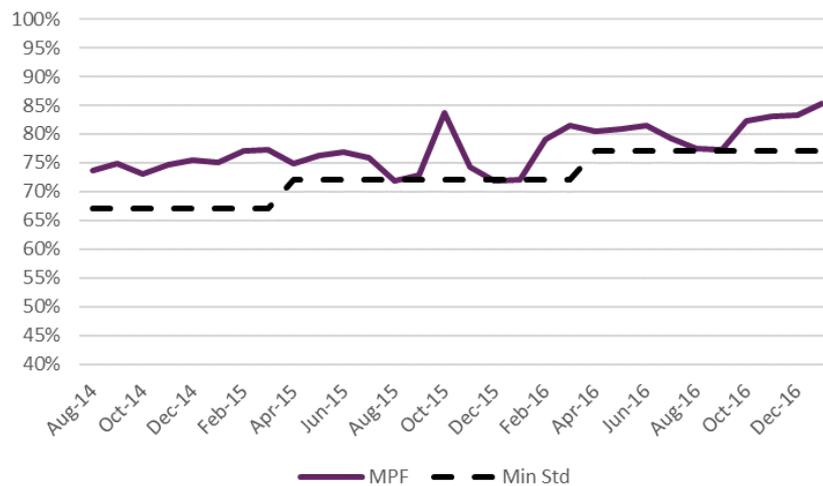
Figure 7.5: UK on-time repair of MPF SML2, First Touch, Last Touch measure (%)



Source: Ofcom analysis of BT data submitted to the OTA and received by Ofcom on 14 June 2013. Data considered supplementary to BT’s updated response dated 23 May 2013 to question 1.12 of the First QoS BT Information Request

¹⁹² The 2014 FAMR used the ‘First Touch, Last Touch’ repair measures that Openreach reported to the Office of the Telecoms Adjudicator (OTA) as a proxy for the service level agreement (care level) measures of repairs against contractual timescales over a four-year time period. ‘First Touch, Last Touch’ is a measures of faults completed within contractual timescales. It is comparable to the ‘on time repair performance’ reported in Figure 9.4, but includes additional faults that lead to repeat faults within eight days.

Figure 7.6: UK on-time repair of SML2 MPFs (%)



Source: Openreach mandatory non-discrimination KPIs

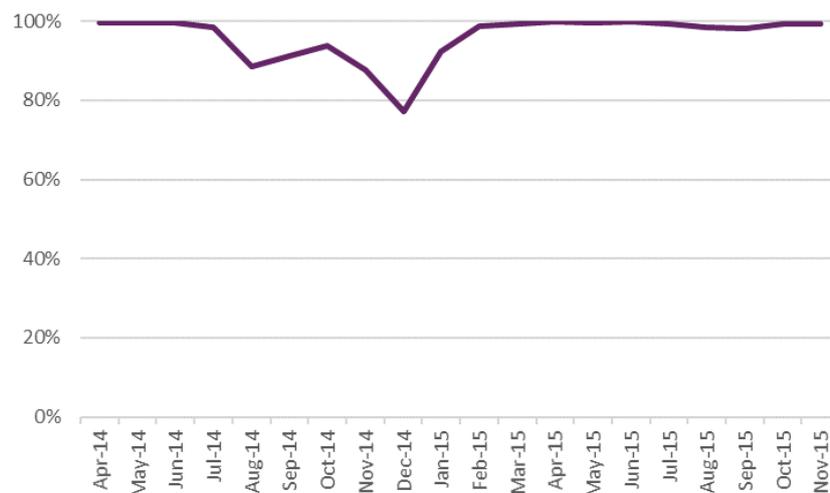
GEA performance

7.29 Openreach’s performance in providing and repairing GEA services over the market review period is considered below, and shows that Openreach’s recent performance is consistent with MPF performance.

Provisions: Appointment availability

7.30 Openreach is not currently required to report KPIs for the percentage of appointments available within the 12 day care level for GEA-FTTC services. However, data gathered under our formal powers shows that GEA-FTTC performance has often been above 99%, except for in the second half of 2014.

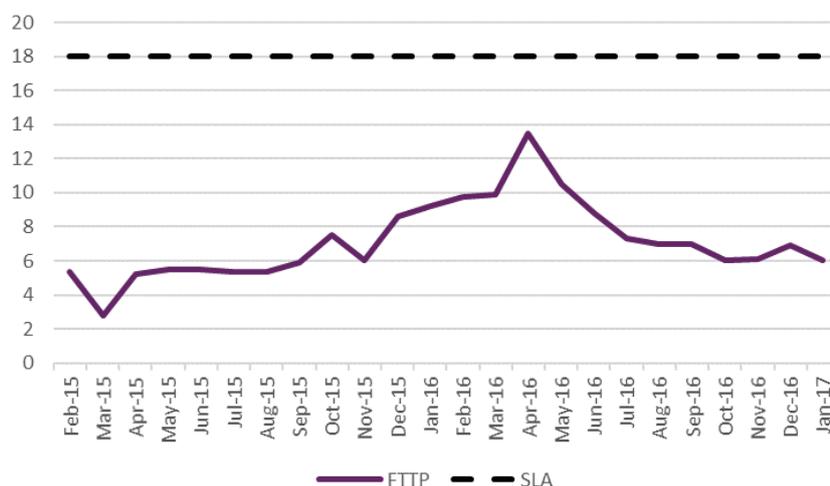
Figure 7.7: UK 12-day appointment availability for GEA-FTTC services (%)



Source: Ofcom analysis of BT data submitted in response to the 1st QoS information request to BT of 4 January 2016

7.31 We do not currently hold data for the percentage of appointments available within the GEA-FTTP 18 day SLA. This is a contractual commitment that requires BT to offer a telecoms provider an available appointment within 18 working days of application.¹⁹³ However, as Figure 7.8 shows, average UK first available appointment dates for GEA-FTTP provisions across the reporting period have not exceeded the SLA (of 18 working days) in any month.

Figure 7.8: UK appointment availability for GEA-FTTP (working days)



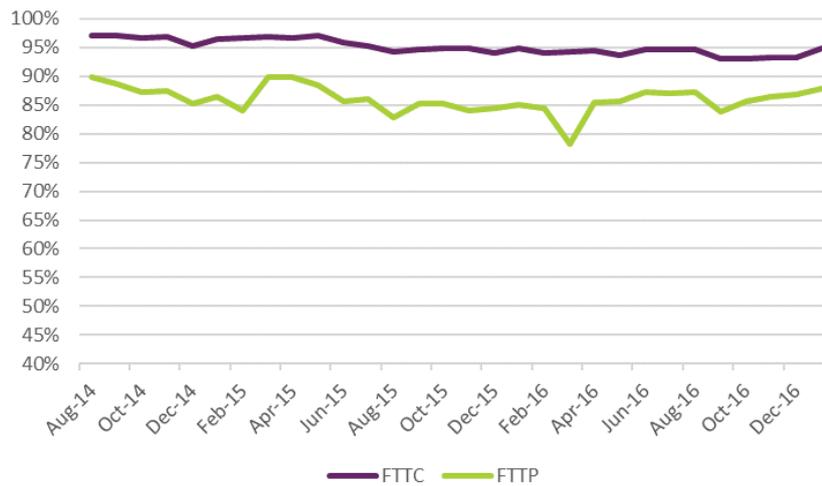
Source: Openreach mandatory non-discrimination KPIs

Provisions: On time completion

7.32 As shown in Figure 7.9, GEA-FTTC performance has trended very slightly downwards since August 2014 and is currently just below 95%. GEA-FTTP has been relatively more variable, ranging between 78% and 90% over the review period. Performance currently sits in the middle of that range.

¹⁹³ BT, *Conditions for Generic Ethernet Access Service Schedule 4 – Service Level Agreement*. https://www.openreach.co.uk/orpg/home/products/super-fastfibreaccess/downloads/150302_gea_schedule4_issue_4_1.pdf [accessed 24 March 2017].

Figure 7.9: UK GEA orders provisioned on time, all orders (%)

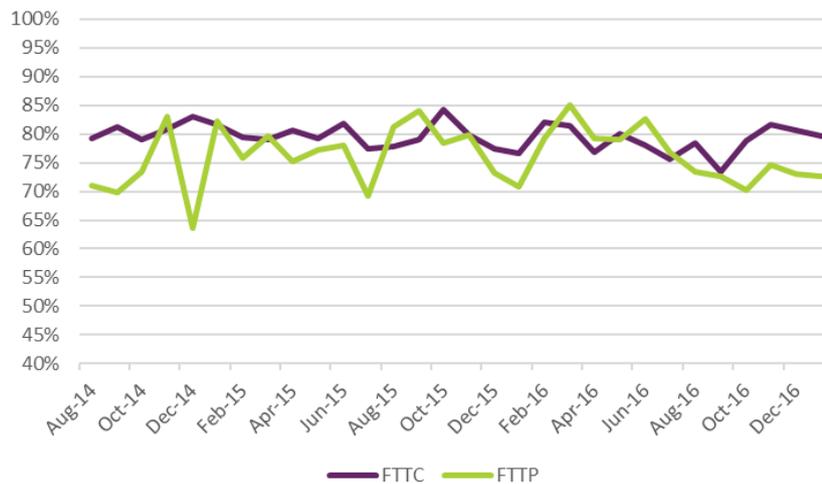


Source: Openreach mandatory non-discrimination KPIs

Repair performance against contractual timescales

7.33 GEA-FTTP performance over the FAMR period has typically been more variable than GEA-FTTC, although we consider that this is largely due to the low volume of lines compared to other services. We note that had we imposed the same repair standards for GEA-FTTC as we did for MPF, GEA-FTTC performance would have met the 2014/15 and 2015/16 repair standards in every month (see Figure 7.10).

Figure 7.10: UK on time repair of SML2 GEA services (%)



Source: Openreach mandatory non-discrimination KPIs

Proposed SMP condition for regulating QoS

Aim and effect of regulation

7.34 In Section 5, we explained our proposal to maintain the requirement on BT to provide network access to third party telecoms providers on reasonable request and on fair and reasonable terms, conditions and charges. Our proposed regulation requires BT

to provide network access in the WLA market in the UK excluding the Hull Area, including to MPF and GEA, on the terms, conditions and charges of the relevant Reference Offer, which must include care levels (SLAs) and SLGs.

- 7.35 In the 2014 FAMR we identified a concern that absent regulation BT does not have sufficient incentives to deliver an adequate level of service quality in relation to network access on a consistent basis. In this review, we have considered whether this remains the case such that regulation of service quality levels is still required.
- 7.36 One of the consequences of Openreach's SMP in the WLA market is that BT may not have the incentives to provide the quality of service that telecoms providers and customers require. Inadequate QoS delivered by BT has the potential to undermine the effective functioning of the network access remedy to the detriment of both customers and downstream competition. Negative effects on customers include slow resolution to a loss of service and frustration resulting from long delays in service provisioning. QoS issues also have the potential to adversely affect telecoms providers and the intensity of competition in retail services for example, long or uncertain waiting times may discourage switching.
- 7.37 We consider our approach to regulating Openreach QoS for MPF, GEA-FTTC and GEA-FDTP in turn below.

MPF

- 7.38 The introduction of QoS standards in the 2014 FAMR appears to have stabilised and improved quality of service during this review period for MPF services. This highlights the importance of our intervention imposing QoS standards to support an effective MPF access remedy. However, based on our review of performance from 2009, we remain concerned that Openreach is not sufficiently incentivised (absent regulation) to maintain, or outperform, current performance levels in the absence of regulatory standards.
- 7.39 Given these concerns, and the potential for adverse effects for competition and consumers (described above), which would result from allowing this regulation to fall away, we consider it appropriate to continue to impose QoS remedies for MPF services over the coming review period and to provide for flexibility to adapt to changing market circumstances during this time.

GEA

- 7.40 In the 2014 FAMR, we focused on what we considered to be the key access services purchased at that time (MPR and WLR).¹⁹⁴ We did not introduce QoS standards for GEA services. At the time, the uptake of GEA was lower than today and these services were relatively new to the market. However, we did impose an SMP condition requiring BT to publish such information relating to quality of service of GEA network access as Ofcom directs and made directions to this effect.
- 7.41 The QoS performance of GEA above shows that repair times for GEA are generally similar to repair times for MPF services. However, our concern is that, as for MPF, Openreach is not sufficiently incentivised to maintain, or substantially exceed current performance levels, in the absence of regulation, which (as described above) has the potential to adversely affect competition and consumers. The uptake of GEA services

¹⁹⁴ See paragraphs 11.55-11.59 in the 2014 FAMR.

has increased since the last review, such that 7.25 million lines now provide GEA services. In addition, our forecast is for superfast services (provided using Openreach GEA and Virgin’s network) to grow substantially over the review period (see Section 3).

- 7.42 Given our concerns, and the increasing importance of these services, we consider that inadequate quality of service of GEA by BT may lead to material risks for competition and consumers. There is also a risk that QoS standards applied to WLR and MPF might result in those services being given a higher priority at the expense of GEA services.
- 7.43 In our consultation on Quality of service for WLR, MPF and GEA, we consider our approach to FTTP and FTTC, taking into account that FTTC represents the majority of GEA lines (about 1% of GEA lines were using GEA-FTTP at the end of 2016).¹⁹⁵

Proposed conditions

- 7.44 For the reasons set out above we therefore propose to set an SMP condition requiring BT to comply with all such quality of service requirements as Ofcom may from time to time direct.¹⁹⁶ This condition includes a power for Ofcom to direct BT to comply with appropriate quality of service standards and publish necessary KPIs that will allow us to monitor BT’s performance (subject to satisfaction of the relevant legal requirements in the Act).

QoS standards

- 7.45 As set out above, we published alongside this consultation our proposals in relation to the imposition, amendment or withdrawal of QoS standards for MPF, GEA-FTTC and WLR.

KPI reporting requirements

- 7.46 We currently require BT to publish to industry and Ofcom KPIs relating to its quality of service performance for MPF, SMPF and GEA (FTTC and FTTP).
- 7.47 As explained above, we published alongside this document a consultation document setting out our review of quality of service for WLR, MPF and GEA, which will include reporting requirements for these services.

Legal tests

- 7.48 For the reasons set out below, we are satisfied that the conditions proposed for BT in respect of the WLA market in the UK excluding the Hull Area meet the various tests set out in the Act.
- 7.49 Section 87(3) of the Act authorises the setting of SMP services conditions in relation to the provision of network access. Section 87(5) of the Act provides that such conditions may include provision for securing fairness and reasonableness in the way

¹⁹⁵ Data from Openreach mandatory non-discrimination KPIs. Correct to January 2016.

¹⁹⁶ This is the approach that we have recently adopted in the BCMR markets: Business Connectivity Market Review (BCMR), 28 April 2016, Annex 35, Condition 7 – Quality of Service: <http://stakeholders.ofcom.org.uk/binaries/consultations/bcmr-2015/statement/final-annex-35.pdf>.

in which requests for network access are made and responded to and for securing that the obligations contained in the conditions are complied with within the periods and at the times required by or under the conditions. In this regard we note Article 12(1) of the Access Directive, which provides that national regulatory authorities may attach to conditions relating to network access obligations covering fairness, reasonableness and timeliness. Section 87(6)(b) of the Act also specifically authorises the setting of SMP services conditions which require a dominant provider to publish, in such a manner as Ofcom may direct, all such information for the purposes of securing transparency.

- 7.50 We consider that the regulation that we are proposing in relation to quality of service will enable Ofcom to secure that network access is provided within a reasonable period of time and on a fair and reasonable basis.
- 7.51 In making these proposals, we have taken into account the factors set out in section 87(4) of the Act. In particular, we consider that the imposition of the condition enabling Ofcom to set QoS standards is necessary to ensure an appropriate level of quality of service so as to secure effective competition, including economically efficient infrastructure based competition, in the long term. Our proposed conditions will also ensure that there can be an appropriate level of transparency in relation to quality of service, in conjunction with the condition requiring BT to publish information as to the quality of its services, as Ofcom may from time to time direct.
- 7.52 We have considered our duties under section 3 of the Act. We consider that, by ensuring that BT adheres to prescribed QoS standards and transparency requirements in relation to the provisioning and the repair of faults, these regulations will further the interests of citizens in relation to communications matters and further the interests of consumers in relevant markets by promoting competition.
- 7.53 We have considered the Community requirements set out in section 4 of the Act. We consider that these proposals will promote competition in relation to the provision of electronic communications networks and encourage the provision of network access for the purposes of securing efficient and sustainable competition in the markets for electronic communications networks and services.

Proposed SMP Condition in relation to QoS standards

- 7.54 We consider that the proposed SMP condition in relation to QoS standards meets the criteria in section 47(2) of the Act. In particular, it is:
- objectively justifiable, in that the purpose of the regulation is to ensure mandatory QoS standards in relation to some key services supporting network access. The evidence available to us indicates that, in the absence of other effective incentive mechanisms, regulation is necessary to secure an appropriate level of service by BT and our proposed regulation addresses this issue;
 - not unduly discriminatory, in that it will only apply to BT, which we have identified as the only telecoms provider having SMP in the relevant market in the UK excluding the Hull Area;
 - proportionate, in that we have identified the need for regulation of BT's quality of service. We consider that our proposals are the least onerous means of achieving the desired objective, in that it only requires BT to comply with QoS standards as directed by Ofcom; and

- transparent, in that, its clear intention is to ensure that BT maintains a level of quality of service in relation to a number of key factors of importance to telecoms providers that buy these wholesale inputs.

Proposed SMP Condition in relation to KPI reporting requirements

7.55 We consider that the proposed SMP condition meets the criteria in section 47(2) of the Act, in particular, it is:

- objectively justifiable, in that the purpose of the regulation is to secure an appropriate level of service by BT and to prevent undue discrimination by allowing Ofcom and the industry to monitor BT's performance, particularly the quality of the access services it is providing for various services;
- not unduly discriminatory, in that it will only apply to BT, which we have identified as the only telecoms provider having SMP in the relevant market in the UK excluding the Hull Area;
- proportionate, in that it only requires BT to provide and publish information as directed by Ofcom in the event we consider such information is necessary to monitor BT's performance, which is the minimum condition to ensure the desired objective; and
- transparent, in that, its clear intention is to secure that BT offers an appropriate level of service and to prevent undue discrimination by BT in the provision of services to telecoms providers.

7.56 For these reasons, we consider that the proposed regulation is appropriate to address the competition concerns, in line with section 87(1) of the Act. As set out above, we published alongside this document a consultation setting out our proposals on the specific QoS standards and transparency requirements that should be imposed on BT. As part of that consultation, we will set out our reasoning as to why our proposals meet the applicable legal tests.

Consultation question

Question 7.1: Do you agree with our proposal to impose a quality of service SMP condition? Please provide reasons and evidence in support of your views.

Section 8

Price regulation of virtual unbundled local access

Summary

- 8.1 In this section, we set out our proposals for price regulation remedies in respect of VULA.
- 8.2 Our proposals are designed to address our concern that BT's SMP could lead to higher prices for VULA services, with a knock-on impact on the price of retail superfast broadband (SFBB) services. We are also concerned that BT's SMP could enable it to use VULA services to distort competition in the provision of SFBB. In summary, we propose to:
- introduce a charge control for BT's 40/10 GEA service and relevant ancillaries; and
 - continue to allow BT pricing flexibility on the other bandwidth VULA services, including those that support ultrafast services, subject to the requirement that the charges be fair and reasonable.
- 8.3 In the light of the above, we also propose to remove the current portfolio VULA margin squeeze test.
- 8.4 We set out the details of the design of our proposed charge control on BT's 40/10 service in Volume 2 of this consultation.

Approach to price regulation of VULA

- 8.5 An important component of our strategy that we are considering in the context of this review is regulating access to superfast and ultrafast services to give both BT and its competitors incentives to invest in new networks while balancing the need to protect competition and ultimately consumers. In particular, given the potential for significant consumer benefits, we want to incentivise operators to build new networks rather than rely on buying access from BT. At the same time, the remedies that we propose need to provide sufficient protection for competition and consumers in the short term.
- 8.6 In developing our approach to pricing remedies we are seeking to promote competition by reference to four key objectives:¹⁹⁷
- **Preserving the investment incentives faced by competitors to BT**, incentivising BT's competitors to build their own networks where viable.
 - **Preserving the investment incentives faced by BT**, by applying the 'fair bet' principle. This recognises that the investing firm needs to benefit from sufficient upside potential from any investment to offset the downside risk of failure.

¹⁹⁷ 2016 Strategic Review, paragraph 4.47.

- **Protecting customers against the risk of high prices.** Interventions to encourage investment in new infrastructure must take account of the risk that they could result in higher prices for consumers. However, the risk of short term price rises may be outweighed by the harm caused by a lack of investment altogether.
 - **Protecting retail competition where necessary, based on access to BT's network.** Where we do not expect network competition to emerge and during the transitional period before it emerges, the prices charged for access to BT's network must allow rivals to compete.
- 8.7 BT announced plans to invest in a fibre-based superfast broadband network in July 2008, and since then we have allowed BT flexibility in setting its prices. In 2010 we imposed an obligation on BT to offer VULA services (i.e. to provide access to its network), and more recently in 2014, we added detailed compliance obligations to guard against the increased risk of margin squeeze. In our Strategic Review, we said we may be coming toward the end of the period of pricing flexibility required to grant BT a fair bet, which could result in a transition to some form of charge control.¹⁹⁸
- 8.8 In principle, and subject to the market analysis, there is a range of regulatory outcomes between continuing the existing approach of pricing flexibility, which allows BT to set wholesale prices, subject to the need to ensure that its competitors have sufficient margin to compete at the retail level, and setting some form of cost-based charge control which our current analysis indicates would be below today's wholesale prices.
- 8.9 We want to provide strong incentives for telecoms providers to invest in new ultrafast networks. As we set out in Section 4, in general, the tighter we regulate VULA, the more likely it is that we undermine the incentive for telecoms providers to build new networks as opposed to relying predominantly on buying access from BT. In principle, allowing BT continued pricing flexibility would support our objective of preserving incentives to invest.
- 8.10 We also want to ensure that BT continues to have a positive incentive to invest in new infrastructure. Our assessment at this stage is that BT has had a fair opportunity to make a return on its original risky investment and that a charge control would be consistent with the 'fair bet' principle.
- 8.11 However, we believe the availability of standard broadband services is unlikely to sufficiently constrain BT's superfast broadband prices over the period of this market review. Moreover, this shift to network competition will take some time to happen, given the time it takes to deploy new networks. Our market analysis indicates that there will not be competitive fibre investment across a significant proportion of the country in the period of this review. Therefore, we consider that there is a significant risk that retail competition would be weaker and consumers would face considerably higher prices if there was no control on VULA pricing given the risk of excessive pricing by BT.
- 8.12 In the light of the competition concerns that arise from BT's SMP and our objective to promote investment in network competition, which seeks to further the interests of consumers, the challenge we face is to address the risk of excessive pricing by BT in

¹⁹⁸ 2016 Strategic Review, paragraph 4.55.

a way that encourages network investment and protects consumers and competition in the short term (given that investment in new ultrafast networks will take time).

- 8.13 Having undertaken our assessment, we propose to impose a charge control on BT's 40/10 GEA rentals, connections and relevant ancillaries, while allowing BT continued pricing flexibility on other bandwidth variants. We believe this is the most appropriate approach in the light of our duties and overall has the best prospects for delivering the benefits of competition to consumers. The following paragraphs set out our reasons why we consider this approach best meets our objectives.

Preserving the investment incentives faced by competitors to BT

- 8.14 When considering the appropriate and proportionate form of pricing remedies for VULA, we have had regard to our objective of promoting investment in competitive network build. As we explain in Section 4, we consider that there are significant benefits to consumers from competition based on rivals investing in their own networks, compared to competition based on regulated access to BT's network and services.
- 8.15 In particular, network competition provides much greater scope for product differentiation and is a more effective spur for innovation. For example, investing in their own networks gives providers full control over the quality of service provided. Competing telecoms providers can strive to win customers and generate higher margins by offering a better service than their competitors, in terms of both speed and reliability. Network competition is therefore a powerful driver of continued investment in high quality networks, delivering long term benefits to consumers. By exposing more of the value chain to competition, network competition also provides strong incentives for firms to innovate to become more efficient and reduce costs. Without network competition, even vigorous competition between service providers will not prevent customers being disadvantaged by inefficient, poor quality or otherwise sub-optimal choices concerning the underlying network.
- 8.16 As such, the absence of competitive network investment causes harm that cannot be completely addressed through downstream regulation. In general, the tighter we regulate VULA, the more likely it is that we undermine the incentive for telecoms providers to build new networks as opposed to relying predominantly on buying from BT. Accordingly, we have considered whether we should continue with an approach of pricing flexibility for VULA in some form to preserve the investment incentives of BT's competitors.

Preserving the investment incentives faced by BT

- 8.17 Another important consideration is preserving the investment incentives of BT. We are required when setting charge controls to consider the extent of investment by the dominant provider in the matters to which the pricing remedy relates. We have considered this issue by reference to the 'fair bet' principle. If we continue to adhere to the regulatory assumptions that would have been necessary at the time of BT's past investment to make that investment viable, BT is more likely to invest in the future.
- 8.18 In making a judgement as to whether the fair bet has been met, we have considered whether, at the time it took the decision to invest in SFBB, BT would have gone ahead with the investment if it had understood the approach to regulation we are proposing now. We recognise that an assessment of whether the fair bet has been met is not straightforward, and we cannot precisely understand now what investors

perceived about the risks they faced at the time the investment was made. We also recognise that the effects of regulatory error are likely to be asymmetric in this case: in that if we intervene too early the harm caused by deterring future investment in UFBB may be greater than the harm caused by intervening too late.

- 8.19 An assessment of the impact on BT's investment incentives as a result of a transition to some form of charge control entails a significant degree of judgement. In making our assessment we have considered:
- how much time has elapsed compared to the expected payback period at the time the investment was committed;
 - the perceived riskiness of the initial investment;
 - the performance of the investment against initial expectations; and
 - the level of returns.
- 8.20 We have allowed BT flexibility in setting VULA prices since it announced plans to invest in a fibre-based superfast broadband network in July 2008. We have reviewed the evidence of BT's expectations when it committed investment to FTTC and on the basis of this evidence, we believe that BT would have expected payback on the first tranche of its FTTC investment to occur within the period spanned by this review (2018/19 to 2020/21). Setting a cost-based charge control at, or after, the original expected payback period for an investment should be sufficient to ensure a fair bet, and to the extent that the charge control subsequently allows a return on undepreciated assets, setting a charge control at the point of payback would be generous to BT.
- 8.21 We recognise that BT has invested substantial amounts in its FTTC network and that at the time the initial investment was committed, uncertainty surrounding the costs and demand for superfast services meant that there was a risk that the project may have failed to recover its cost of capital. It is important to take this risk into account when deciding whether and how to regulate VULA charges. However, the evidence we have reviewed indicates that BT's fibre investments were planned and implemented in stages, and it had the ability to stagger each investment tranche, and assess if conditions were favourable. Successive investments would have faced less risk as demand and technology uncertainty reduced.
- 8.22 BT's FTTC has outperformed its initial assumptions in several important areas: capex was less than expected; and both take-up and FTTC rental charges are higher than expected. Were we to continue to allow pricing flexibility across VULA services and then impose a cost based charge control in 2020/21, we estimate the IRR of BT's commercial investment would exceed 15%. As we discuss in Volume 2, our proposals will bring this down to under 12%.¹⁹⁹

¹⁹⁹ Ofcom estimate of 20-year IRR at the Openreach level on BT's commercial investment (including the period subject to a cost based charge control) assuming BT were to maintain its current prices for VULA throughout the review period and we only then imposed a cost based charge control from 2020/21. We believe this represents a conservative estimate of the performance of BT's investment because the analysis assumes no impact on the volume of lines or profits from services other than VULA whereas the decision to invest may have likely considered the impact of the investment on the volume of lines as well as profits of services other than VULA. The IRR analysis also covers a 20-year

- 8.23 Having regard to the above, our judgement at this stage is that BT has had a fair opportunity to make a return on its original risky investment and a charge control would be consistent with the 'fair bet'. We therefore believe this is no longer relevant to our price regulation of superfast broadband (in contrast to ultrafast broadband). Annex 8 provides further details of our analysis that inform this judgement.

Protecting SFBB customers against the risk of high prices

- 8.24 Absent regulation, we have provisionally identified a risk that BT would have the incentive and ability to maintain the price of VULA access at an excessive level, leading to higher prices for SFBB customers. This risk has historically been mitigated by the constraint from copper-based broadband services, with competition from Virgin Media in certain parts of the country providing some further protection. However, as explained below, the constraint that SBB services exert on SFBB services (via competing telecoms providers using cost-based copper access to offer retail SBB services) has weakened and is likely to weaken further over this review period as demand for higher bandwidths increases.

Weakening copper constraint

- 8.25 As set out in Section 9, we propose to continue to set a cost-based charge control for certain MPF services that support SBB. We have considered the extent to which the constraint from SBB services and from services offered on Virgin Media's cable network are likely to be strong enough to keep SFBB prices at the competitive level over the course of the next review period.
- 8.26 Section 3 describes why we believe SBB is likely to exert a diminishing constraint on SFBB during the review period. It noted that:
- **SFBB speeds are becoming increasingly necessary for many households.** This is particularly true for households which have several people using the internet for high bandwidth activities at the same time. Our residential broadband research found around 70% of households conducted simultaneous use of high bandwidth services either 'a lot' or 'sometimes'. SFBB is also required for some individual services to function well, such as streaming UHD TV, and may provide a better quality experience for other common services, for example by reducing buffering on SD TV. Demand for higher bandwidth is likely to continue to increase substantially as new high bandwidth services develop, multi-usage continues to grow, and consumer expectations around quality increases.
 - **The greater demand for SFBB is reflected in trends for take-up and the limited downgrading.** We forecast that SFBB will account for around half of broadband services in 2017/18, and grow further to around three-quarters in 2020/21. Moreover, customers that use SFBB have a limited propensity to downgrade, as evidenced by switching data from telecoms providers and our market research which shows that fewer than 1 in 10 SFBB customers would consider a cheaper but slower service. This large number of SFBB customers with a low propensity to downgrade may give providers strong incentives to raise SFBB prices.

period. Returns during the period subject to a cost based charge control are constrained to WACC and thus have a dilutive impact on the 20 returns relative to the returns over the period before charge controls are applied.

- **Pricing data also suggests that the premium for SFBB has been increasing.** BT, which has historically supplied most fibre services, has been increasing the differential between SFBB and SBB prices. We think this may reflect the greater demand for fibre and its reduced substitutability with copper.

Insufficient constraint from Virgin Media

- 8.27 We have also considered the constraint from SFBB services offered by Virgin Media. Virgin Media's cable network covers around 45% of UK homes, and it is expected to expand its coverage to 60-65% of premises by 2020. Nevertheless, its coverage is likely to remain significantly less than that of BT's SFBB network, which is expected to cover up to 95% of premises by the end of the review period.
- 8.28 We believe that Virgin Media's services are likely to continue to constrain retail prices to some extent. However, we do not believe that competition from a single, smaller competitor is enough to constrain BT's VULA prices to a competitive level. This is reflected in our forecasts in which BT's market share of wholesale SFBB services increases from around half of lines in 2016/17 to around three-quarters of lines in 2020/21 (see Figure 3.17).

BT is making high returns that, absent regulation, we project will grow further

- 8.29 The strength of the constraints on BT's SFBB services is also reflected in the returns BT is earning on those services. As set out in Section 3, according to information provided to Ofcom alongside BT's regulatory financial statements, the return on capital employed (ROCE) – a common measure of profitability – for 2014/15 was [X]% and rose to [X]% in 2015/16.²⁰⁰ The 2015/16 returns are significantly above the benchmark cost of capital.²⁰¹
- 8.30 Given that the constraint from copper appears to be weakening and considering the fact that the proportion of SFBB customers is set to grow significantly over the next few years, it is likely that the ROCE would continue to rise in the absence of a price cap.
- 8.31 High returns on capital are not necessarily an indication of prices being above the competitive level – a pattern of early accounting losses offset by later profits might be appropriate where a new product is introduced and volumes are initially low. Furthermore, as we discuss in more detail in Annex 8,²⁰² ensuring that the fair bet is satisfied may entail BT earning returns above the cost of capital to compensate for the additional downside risks that were faced when the investment was made.
- 8.32 A further indication of the outturn performance of BT's investment is a calculation of the internal rate of return (IRR). As we set out above, if we did not impose a charge control during this review period, we estimate BT's IRR on its commercial FTTC investment would exceed 15%. As we discuss in Volume 2, our proposals will bring this down to under 13%.

²⁰⁰ Based on Additional Financial Information for 2014/15 and 2015/16 provided privately by BT to Ofcom.

²⁰¹ 2016 BCMR Annex 30, Table A30.2.

Pricing flexibility on all VULA services could have a significant impact on consumer bills

- 8.33 We believe retail competition means any reduction in VULA charges would, in general, be passed through to lower prices to consumers for both fibre and cable SFBB services. Therefore, maintaining pricing flexibility across all VULA services could have a significant impact on consumer bills given the high volume of SFBB sales predicted in the review period and the likelihood that BT would continue to price substantially above cost.
- 8.34 Our estimate of cost, which would indicate the extent of any price reduction from imposing a charge control, is discussed in Volume 2. This estimate indicates costs to be well below current VULA prices. As an illustration of the potential impact on consumer bills, based on our forecast of SFBB volumes averaging around 15 million lines over the review period, if VULA charges were reduced by £1 per line per month because of a charge control and this fed through to an equivalent reduction in all retail SFBB prices across the market, the benefit to consumers would be around £540m over the review period.

Our provisional conclusions on constraints on VULA prices

- 8.35 Based on the evidence presented above, we provisionally conclude that the availability of copper loop-based services and competition from Virgin Media is unlikely to constrain VULA prices to the competitive level during the upcoming review period. Our judgement at this stage is that continued pricing flexibility is therefore likely to risk excessive pricing by BT, and so have a significant impact on consumer bills, suggesting it may be necessary to impose a charge control to protect customers from the risk of higher prices.

Proposal for pricing flexibility on higher bandwidths and a charge control on 40/10 VULA service

- 8.36 We have also considered the potential for continued pricing flexibility for all VULA products to support our objective of preserving investment incentives for competitors. Our provisional judgement is that BT has had a fair opportunity to make a return on its original risky investment, and so that consideration does not support continuing with a policy of pricing flexibility. Moreover, our analysis of the risk of consumers of SFBB facing high prices suggests that continuing with complete pricing flexibility would be insufficient to address the pricing risk we have identified and would not provide consumers with sufficient protection, given that new network build will take time and may not be viable in all geographic areas. On balance, therefore, we consider that a charge control on VULA is appropriate.
- 8.37 We have considered how we might target our pricing approach to identify the best way to make the key trade-off between preserving investment incentives and providing sufficient protection to consumers and competition in the short term.
- 8.38 One way could be to vary our pricing approach on a geographic basis. Accordingly, we have considered whether it would be appropriate in this review to adopt a different approach in different geographic areas, such as providing broader protection on prices in those geographic areas where there is no scope for network based investment or competition. However, at this stage the boundary is not clearly identifiable between areas susceptible to competitive network build and areas where it is unlikely. Considering this uncertainty, we believe that adopting a different approach in different geographies at this stage would risk harm to consumers from

regulatory error that stifles competitive investment. We therefore propose to adopt the same approach across BT's network.

- 8.39 We therefore propose to target a price control to the minimum intervention necessary to address our identified competition concerns by varying our approach by bandwidth. We propose to set a charge control to one bandwidth of VULA, the 40/10 service, as we believe this is likely to provide competition and consumers with sufficient protection given BT's SMP, while at the same time promoting competition by preserving investment incentives for competing providers to invest in new networks. As we set out in Section 3, we believe there will be fairly strong substitutability between different SFBB services, so the charges for the 40/10 service will constrain charges for services at other bandwidths.
- 8.40 The exact details of the approach to designing the proposed charge control will be set out in Volume 2 of this consultation. The details of the design will pay due attention to investment incentives.

The role of a charge control on 40/10 VULA service in constraining prices for all VULA services

- 8.41 Although the constraint on VULA prices from copper appears to be weakening, as we set out in Section 3, we believe that in the period of this review there will be fairly strong substitutability between different SFBB services that are currently being delivered by fibre.
- 8.42 Over the review period, as illustrated by our forecasts set out in Table 8.1, we anticipate that most external telecoms providers expect to compete based on the 40/10 VULA service or services that are very similar to it. Our forecast volumes for the review period show that the large majority (approximately 80%) of lines purchased from Openreach by retail providers other than BT Consumer will be for the 40/10 service or below.
- 8.43 A charge control on the 40/10 service may allow somewhat increased prices for higher speed wholesale services than would be likely if a charge control across all the VULA services was imposed. However, the risk of harm to retail competition and consumers from excessive prices for higher bandwidth services is mitigated by the strength of the 40/10 as an anchor and our fair and reasonable condition. Moreover, as higher bandwidth services become more important, the business case for competitive ultrafast investment is likely to strengthen, and with that the prospect of greater network competition delivering benefits to consumers, and most likely in particular those consumers who are among the early customers of higher bandwidth services.

Table 8.1: Ofcom forecasts of internal and external GEA lines by bandwidth

Million lines	Internal			External		
	18/19	19/20	20/21	18/19	19/20	20/21
18/2	[X]	[X]	[X]	[X]	[X]	[X]
40/2	[X]	[X]	[X]	[X]	[X]	[X]
40/10	[X]	[X]	[X]	[X]	[X]	[X]
55/10	[X]	[X]	[X]	[X]	[X]	[X]
80/20	[X]	[X]	[X]	[X]	[X]	[X]

Source: Ofcom forecasts

Protecting retail competition where necessary

8.44 Absent regulation, there is a risk that BT would refuse to provide access to VULA services or do so on terms and conditions that did not allow downstream competitors to compete effectively at the retail level. It is important that we protect competition during the period of transition as competing telecoms providers build their own networks, and in areas where it is not viable for competing telecoms providers to build. We address the risk of harm from BT refusing access in Section 6 above where we propose specific access obligations in relation to VULA. Here we consider whether the proposed charge control of 40/10 is sufficient to protect competition at the retail level, or what other measures may be necessary. In the longer term, in many areas, we expect that BT's ability to distort competition through VULA prices will be reduced by network competition, including competition making use of passive access.

Our approach to the risk of margin squeeze

8.45 Prices charged for access to BT's network must allow other telecoms providers to compete in the provision of retail services. Our primary source of concern about competition in retail services is that BT would increase wholesale prices to such an extent that telecoms providers could not compete, which we discuss above. BT could also margin squeeze by reducing retail prices, but this would likely be more expensive for BT.

8.46 Our proposed control on Openreach's 40/10 service means that telecoms providers will have access to a cost-based wholesale SFBB service, and in respect of these services the risks of margin squeeze are likely to be low.

8.47 Moreover, the protection provided by the charge control of the important 40/10 service reduces competition concerns in respect of SFBB services overall. As set out in Section 3, we believe the 40/10 service to be a fairly strong substitute for other fibre-based services, and, as noted above, BT's downstream competitors' primarily rely on the 40/10 and lower bandwidth products. This significantly mitigates concerns about margin squeeze.

8.48 In our judgement, given the importance of the 40/10 VULA service and the substitutability of SFBB services, the imposition of a charge control on the 40/10 service for the period starting in 2018/19 would provide considerable protection against the distortion of competition and would be sufficient to protect retail competition.

8.49 We therefore consider that the detailed compliance arrangements that we introduced in the 2014 FAMR to guard against a margin squeeze on VULA services are no longer appropriate and we propose to discontinue these arrangements. Indeed, when we introduced the guidance we explained that "The risks here are greater than in the case of standard broadband because we are proposing not to set a cost based charge control for the wholesale price of VULA in this review period, meaning BT has control over both the relevant wholesale price and its retail superfast broadband prices".²⁰³

²⁰³ Ofcom, 2015. *Fixed Access Market Reviews: Approach to the VULA margin (2015 VULA margin statement)*. paragraph 3.62.

https://www.ofcom.org.uk/_data/assets/pdf_file/0015/72420/vula_margin_final_statement.pdf.

- 8.50 In the 2014 FAMR, we also provided detailed guidance on how we would assess margin squeeze, explaining that we would use an equally efficient operator (EEO) test, with adjustments, and that we would assess margin squeeze across the portfolio of BT's fibre services use a 'LRIC+' cost standard (i.e. long run incremental costs plus a share of common costs, where common costs are allocated in proportion to the LRIC of the services those common costs support).²⁰⁴ BT's competitors are not dependent on cost effective access to the higher bandwidth GEA services to the same degree that they were dependent on the VULA services overall at the time of the 2014 FAMR.²⁰⁵ We therefore believe this SMP condition is no longer proportionate and that a LRIC+ cost standard is no longer appropriate.
- 8.51 While we do not consider that meeting our objective of protecting and promoting competition requires continuation of the VULA Margin Condition on higher bandwidth services, we would be concerned if the margin on these services was below LRIC such that retail telecoms providers would be unable to offer these services profitably at all.
- 8.52 We consider that our proposed general remedies are appropriate to address a residual risk of BT imposing a price squeeze for higher bandwidth variants of VULA. We therefore propose to rely on a fair and reasonable charges obligation on all fibre-based VULA services, other than the charge controlled 40/10 services. While we would assess any dispute on the relevant facts, our starting point for evaluating cost and markets in this context would be to allow a LRIC retail margin on each service, assessed by reference to an EEO standard.

Provision of VULA on a standalone basis

- 8.53 The WLA market is to a large extent service agnostic, in that it focuses on the underlying connectivity rather than specific retail services such as voice and broadband. Given this, we consider that telecoms providers should be able to purchase VULA without being required to also purchase other services, such as analogue voice, or other features, such as call servers and backhaul. In other words, VULA should be made available on a stand-alone basis.²⁰⁶
- 8.54 However, the VULA services currently provided by Openreach over its FTTC deployment require a copper bearer from the local exchange to the customer. Openreach has achieved this by supplying VULA as an overlay to the existing copper services it has developed (i.e. WLR and MPF). Openreach is in the process of developing a VULA variant known as 'single order GEA' (SOGEA), where the copper bearer will be included within the VULA service so that it can be purchased without also purchasing WLR or MPF.²⁰⁷ This would be in line with our view that VULA should be available on a stand-alone basis.

²⁰⁴ 2015 VULA margin statement, paragraph 1.9.

²⁰⁵ 2015 VULA margin statement, footnote 263.

²⁰⁶ This follows our approach first set out in the 2010 Wholesale Local Access Market Review when the VULA obligation was imposed. Ofcom, 7 October 2010. *Review of the wholesale local access market*, paragraphs 8.90-97,

https://www.ofcom.org.uk/data/assets/pdf_file/0027/37935/wla_statement.pdf.

²⁰⁷ The SOGEA service currently being trialled by Openreach is based on using the test capability in the local exchange. As such, the copper bearer is required from the local exchange to the customer premises.

- 8.55 In the meantime, the effectiveness of our proposal to charge control the 40/10 VULA service could be undermined if Openreach were able to require telecoms providers to purchase VULA with another service to provide the copper bearer, and to set charges for this copper bearer above the costs of provision. In Section 9, we propose a cost based charge control on MPF so that for the case of MPF+VULA (40/10), both the copper bearer and the VULA service would be provided at the projected cost of those services.
- 8.56 However, it may not be economic to use MPF in all situations. Existing telecoms providers using MPF have largely built their networks based on providing voice and standard broadband services and are unlikely to undertake further rollout. New entrant telecoms providers are unlikely to invest in MPF equipment as they are likely to focus on providing superfast broadband services, whereas the advantage of MPF deployment was in the economies of scope (and greater network control) from providing mass-market SBB and voice services over shared equipment. Vodafone, for example, which is expecting to expand its broadband sales significantly from its currently small share, does not use MPF and instead relies exclusively on WLR as its copper support to FTTC.²⁰⁸
- 8.57 In cases where the copper bearer is not provided via MPF (e.g. it is provided via WLR or a new approach such as SOGEA), we propose that any charges related to the copper bearer should be fair and reasonable and reflect the costs of providing that bearer. Whilst we would consider Openreach's approach to pricing on a case-by-case basis, it is our view that the charge controlled MPF product provides a reasonable starting point for considering the cost-based charges for the copper bearer.
- 8.58 In our 2016 NMR Consultation we proposed to allow Openreach pricing flexibility on WLR, when used to provide voice services.²⁰⁹ However, as WLR is currently the only alternative to MPF for providing the copper bearer, where WLR is used to provide the copper bearer to support the 40/10 VULA service, we would expect that the WLR service would be charged to reflect the costs of providing a copper bearer.
- 8.59 For Openreach to be able to use the pricing flexibility proposed in the 2016 NMR Consultation for WLR, it would need to provide the ability for telecoms providers to use the 40/10 VULA service without needing to also purchase WLR in its present form (or MPF). This may be when SOGEA is launched, but will depend on the effectiveness of SOGEA in allowing telecoms providers to provide services without relying on WLR.

Regulating ancillary services

- 8.60 To make our price regulation work for competing telecoms providers and to promote effective competition there is a need to regulate the relevant ancillary services. Details of our charge control proposals in relation to ancillary services will be set out in Volume 2 of this consultation.

Approach to ultrafast broadband

- 8.61 We propose not to control the price for BT's wholesale access services designed to support ultrafast broadband, but to allow BT flexibility in setting its wholesale prices

²⁰⁸ Response dated 25 August 2016 to question 2 of the second Vodafone s.135 [3].

²⁰⁹ 2016 NMR Consultation.

for these services. This reflects our objective to encourage competitors to invest in building new networks. It is also consistent with the risky nature of BT's investments (e.g. due to uncertainty over customer demand for higher speed services). The significant uncertainty over both the cost and usage associated with ultrafast also makes determining a charge control difficult. For the period of this review, we anticipate that the retail pricing of ultrafast services is likely to be constrained by the pricing of superfast broadband services.

- 8.62 We expect that in future reviews where we find it inappropriate to charge control higher speed VULA services, we would also retain pricing flexibility on ultrafast. However, if we did find it appropriate to charge control higher speed superfast VULA services, for example in areas where we did not think there was the potential for competition to emerge, we may nevertheless continue to grant pricing flexibility on ultrafast services if we thought a charge control on ultrafast would undermine the fair bet on BT's investments in ultrafast broadband. We anticipate that is likely to be the case in the next review period for ultrafast investments that are both significant in scale and risky.

Legal Tests

- 8.63 For the reasons set out in Section 5 of Volume 2, we are satisfied that our proposals in relation to a charge control for VULA satisfy the relevant legal tests in the Act.

Consistency with the EC Recommendations and the BEREC Common Position

- 8.64 In the following paragraphs, we set out how we have taken utmost account of the documents described in making our decisions on VULA pricing.

The NGA Recommendation

- 8.65 The aim of the NGA Recommendation²¹⁰ is “to foster the development of the single market by enhancing legal certainty and promoting investment, competition and innovation in the market for broadband services in particular in the transition to next generation access networks (NGAs)” (Recommendation 1). In relation to the regulation of virtual unbundled access services (which it describes as “alternative access products which offer the nearest equivalent constituting a substitute to physical unbundling”) these should be “accompanied by the most appropriate safeguards to ensure equivalence of access and effective competition” (Recital 21).
- 8.66 We consider that our conclusions (which include imposing a specific cost-based charge control on the wholesale price of the 40/10 VULA service, while allowing pricing freedom on other bandwidths) are consistent with the aims of the NGA Recommendation, including promoting investment, competition and innovation in the market for broadband services, in particular in the transition to NGA as we consider they are met in the UK context particularly with respect to our focus on balancing the promotion of competition in NGA-based services and NGA investment. We provide further reasoning in relation to our conclusions and these objectives in the following paragraphs.

²¹⁰ EC, Commission recommendation on regulated access to Next Generation Access Networks (NGA), 20 September 2010, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:251:0035:0048:EN:PDF>.

The Costing and Non-discrimination Recommendation

- 8.67 The Costing and Non-discrimination Recommendation provides further guidance on the regulatory principles established by the NGA Recommendation, in particular the conditions under which regulation of wholesale access prices should, or should not be applied, as set out in paragraph 49.²¹¹
- 8.68 Paragraph 49 provides that, “the NRA should decide not to impose or maintain regulated wholesale access prices ...”, under the condition that the NRA can show, “... a copper anchor ... or ... alternative infrastructures that are not controlled by the SMP operator can exercise a demonstrable retail price constraint.”
- 8.69 We have considered the extent to which the competitive constraint from regulated copper services and from services offered by Virgin Media’s cable network are likely to be strong enough to keep NGA prices at the competitive level over the course of the review period. As set out above, evidence suggests that the availability of SBB services is unlikely to constrain VULA prices, and while services offered by Virgin Media should continue to act as an indirect constraint on VULA prices, we do not believe this is sufficient to mitigate the weakening copper constraint.
- 8.70 We note recital 56 does not envisage that an, “NGA based anchor will be required in the immediate future or before 2020”, but for the reasons set out above we consider that the copper anchor is no longer sufficient given the specific circumstances of the UK.

The BEREC Common Position

- 8.71 The BEREC Common Position sets out that “Application of this Common Position will assist NRAs to design effective remedies in line with the objectives of the regulatory framework”. These objectives include, among other things, safeguarding competition and promoting efficient investment and innovation.²¹²
- 8.72 Under the objective “Fair and coherent access pricing” the BEREC Common Position describes a “Competition issue which arises frequently” as “SMP operators offer pricing schemes / prices not allowing alternative operators to compete on a level playing field and/or enabling a viable business case.” It then sets out several best practices under this objective that are relevant to NGA pricing:
- BP42 says “When determining their price regulation NRAs need to consider that it should incentivise both efficient investment and sustainable competition”; and
 - BP43 states “Where appropriate and proportionate, NRAs should require SMP operators to provide regulated products based on an explicit pricing

²¹¹ EC, Commission recommendation on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment - C(2013) 5761, 11 September 2013, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:251:0013:0032:En:PDF>.

²¹² Article 8, The Common Regulatory Framework comprises the Framework Directive (Directive 2002/21/EC), the Authorisation Directive (Directive 2002/20/EC), the Access Directive (Directive 2002/19/EC), the Universal Service Directive (Directive 2002/22/EC) and the Directive on privacy and electronic communications (Directive 2002/58/EC), as amended by the Better Regulation Directive (Directive 2009/140/EC), www.ec.europa.eu/information_society/policy/ecomms/doc/140framework.pdf.

obligation...ranging from a requirement for prices to be cost-orientated and subject to rate approval through to specific charge controls...”

- 8.73 We consider our decision to regulate the price of 40/10, while allowing BT flexibility over the level of VULA charges on bandwidths other than 40/10, is consistent with BP42 and BP43.
- 8.74 Our price regulation of BT’s 40/10 VULA service should promote competition, while pricing flexibility on other, and particularly higher bandwidths, should incentivise investment.
- 8.75 Together, we consider that our conclusions are consistent with the aims of the BEREK Common Position including with respect to safeguarding competition and promoting efficient investment and innovation.

Consultation question

*Question 8.1: Do you agree with our proposals for the price regulation of VULA?
Please provide reasons and evidence in support of your views.*

Section 9

Price regulation of local loop and sub-loop unbundling

Introduction

- 9.1 In this section we set out our proposals for price regulation remedies on BT with respect to rental and connection charges for LLU and SLU. These proposed remedies are intended to address the competition concerns resulting from BT's SMP in the WLA market in the UK excluding the Hull Area.
- 9.2 In summary, we propose to:
- set a charge control on MPF rentals, connections and relevant ancillaries.²¹³ This follows our proposal in Section 6 to retain the requirement on BT to provide network access to LLU in the form of MPF;
 - no longer impose a charge control on SMPF rentals and connections. Instead, these services will be subject to the General Remedies;
 - impose a basis of charges obligation on SLU services; and
 - impose a basis of charges obligation on electricity services.
- 9.3 The exact details of the approach to designing the proposed charge control on MPF rentals, connections and ancillaries (including the level of proposed charges) are set out in Volume 2 of this consultation.

Position in 2014

- 9.4 In our 2014 FAMR Statement we imposed a charge control on LLU rentals and connections as well as on certain other ancillary services including migration and new provides.
- 9.5 We imposed separate charge controls on MPF and SMPF rentals. We applied a glidepath to charges such that by the end of the control period the difference between the combined WLR+SMPF charge and the MPF charge would be equal to the incremental cost differential between these services.
- 9.6 We imposed a basis of charges condition for SLU requiring charges to be reasonably derived from the costs of provision. As, to a large extent, SLU uses the same network components and processes as LLU, we required SLU charges to be based on the relevant LLU charges with any differences reflecting differences in forward looking incremental costs.
- 9.7 We imposed a basis of charges obligation on BT that required it to set electricity charges which are derived from its relevant electricity purchase costs plus a small

²¹³ We discuss our proposed approach to regulation of LLU ancillary products in our upcoming 2017 WLA charge control consultation.

mark-up to reflect its own internal costs related to electricity purchasing and electricity charge setting. The obligation uses a FAC-based approach.

Proposal to impose a charge control on MPF

- 9.8 In Section 3 we identify BT as having SMP in WLA in the UK excluding the Hull Area. In Section 6, we proposed an obligation on BT to provide network access in the specific form of MPF and relevant ancillaries. In this section, we consider whether it is appropriate to continue to impose a control on MPF charges for the period of the market review.
- 9.9 In the absence of a charge control on any MPF services, BT would have the ability and incentive to exploit its SMP by pricing at an excessive level. This could cause harm to consumers by inhibiting downstream competition as well as leading to excessive prices for retail services that rely on WLA (including standard and superfast broadband)²¹⁴.
- 9.10 We propose to address this concern by imposing a charge control on MPF, which is the service most commonly used by telecoms providers other than BT to provide broadband services on the Openreach network. In January 2017, MPF represented 92% of all LLU lines used by BT's competitors.²¹⁵ We consider that a charge control is both necessary and proportionate to prevent BT pricing excessively, and to provide certainty and transparency with regard to charges over the course of the charge control period.
- 9.11 As in previous control periods, we consider that imposing a charge control on MPF is likely to significantly reduce the risk of a margin squeeze on MPF-based standard broadband retail services. This is because, where BT no longer has flexibility over the wholesale price, it is only able to impose a margin squeeze by reducing the retail price, which would lead to a reduction in its profits as a vertically integrated provider. We therefore do not propose that an additional fair and reasonable obligation is required *ex ante* to address the risk of a margin squeeze for as long as the charge control is in place.

Proposal to rely on general remedies and not to impose a charge control on SMPF services

- 9.12 In Section 6 we set out our proposal not to impose a specific access remedy on BT in the form of a requirement to offer SMPF, and that instead, SMPF will fall within the scope of the general network access remedy and be subject to fair and reasonable terms and conditions (including charges) obligation, as well as a non-discrimination obligation. In this section, we consider whether, in the light of this, it is appropriate to continue to impose a control on SMPF charges for the period of the market review or whether instead the general network access remedies are sufficient to address the competition concerns resulting from BT's SMP.
- 9.13 SMPF is most commonly used in conjunction with WLR to provide dual-play retail broadband services to consumers. In our recent 2016 NMR consultation, we proposed to remove charge controls in the WFAEL market (which includes WLR

²¹⁴ See Section 3.

²¹⁵ *Openreach report to Ofcom, 299 Ofcom Supplement, January 2017.*

rental and connection charges)²¹⁶ and replace these with a fair and reasonable charges obligation

- 9.14 In the absence of a charge control on SMPF, BT is likely to raise SMPF charges above their current level (i.e. above Long-Run Incremental Costs – which was the level of the cap determined in the 2014 FAMR for the end of that review period, i.e. 2016/17). This would lead to an increase in the combined cost to telecoms providers of WLR+SMPF. However, given the proposed lack of a charge control on WLR, an SMPF charge control would not constrain wholesale prices of WLR+SMPF, as BT could simply raise WLR prices instead.
- 9.15 We believe that, at the retail level, prices of dual-play packages supplied using WLR+SMPF are likely to be constrained by the prices of similar packages based on MPF. As most consumers now take a dual-play package and as telecoms providers can (and with the exception of BT, typically do) offer dual-play services using MPF as the wholesale input, we consider that there are unlikely to be any significant benefits from promoting competition in retail broadband markets based on SMPF. Where telecoms providers continue to use WLR+SMPF to supply dual-play services, in most cases they could respond to any significant rise in the combined WLR+SMPF charge by using MPF as their wholesale input instead. We also expect the trend of migration from SBB to SFBB to reduce further the demand for SMPF. Hence, the risk of harm arising from above-cost pricing of SMPF is now much reduced, and we consider that a charge control is not justified in relation to dual-play packages.
- 9.16 However, we are aware that some telecoms providers expect to rely on SMPF to supply at least some of their retail customers over this review period, and could face additional costs if forced to migrate earlier than planned. In addition, SMPF is also used by some telecoms providers to provide broadband-only services to consumers who purchase their retail line rental and voice services from another provider (typically BT). We are also aware that at least one telecoms provider provides a competing WBA service using SMPF. While providers of dual-play services could switch to MPF, broadband-only providers would not have this option.
- 9.17 Therefore, while we acknowledge that the availability of alternative wholesale services that are subject to charge controls may provide some constraint on BT's SMPF charges, we are not confident that this constraint is sufficient and thus some further safeguard is needed. However, our regulatory objective in relation to SMPF is primarily around the protection, rather than the promotion, of competition. In particular, as BT is vertically-integrated and competes in downstream markets with other telecoms providers who purchase SMPF, our primary *ex ante* concern is the risk of adverse effects arising from BT fixing and maintaining its SMPF charges at a level that creates a margin squeeze. A margin squeeze would mean that telecoms providers who were as efficient as BT in providing downstream broadband services would not be able to compete with BT effectively. This could undermine existing competition based on SMPF in downstream markets.

Provisional conclusion

- 9.18 In the WLA market in the UK excluding the Hull Area, there are unlikely to be any significant dynamic benefits to be gained by promoting competition based on SMPF. Instead, in the case of SMPF, our regulatory objective is the protection, rather than the promotion, of competition. Our primary *ex ante* concern is the risk of adverse

²¹⁶ 2016 NMR Consultation, paragraph 7.6.

effects arising from BT fixing and maintaining its SMPF charges at a level that creates a margin squeeze.

- 9.19 In the light of the above, and given our proposal to no longer impose the specific network access obligation on BT to provide SMPF, we consider it appropriate to permit BT some flexibility in wholesale pricing of SMPF. On that basis we are proposing to remove SMPF from the services that are subject to a charge control.
- 9.20 Given the remaining concerns we have identified above, however, we believe it is appropriate to maintain some *ex ante* constraint on the level of SMPF charges. We do not propose specific regulation to address these concerns because they are addressed by the proposal for SMPF rental, connection and ancillary charges to be subject to the fair and reasonable obligation associated with the general network access obligation.
- 9.21 The fair and reasonable obligation, combined with the non-discrimination obligation (including EOI), should provide protection for existing SMPF wholesale customers in that, if Openreach continues to provide SMPF to other parts of BT, then it will be obliged to make SMPF available on the same charges to other telecoms providers. We believe that these remedies are a proportionate way of addressing our remaining concerns around SMPF charges.
- 9.22 In this case, we consider that the fair and reasonable obligation includes the obligation not to impose a margin squeeze. In terms of margin squeeze, while we would assess any dispute on the relevant facts, our starting point for evaluating costs and margins would be to take an approach consistent with that which would be adopted under *ex post* competition law.²¹⁷ Typically, this would require the margin between the upstream and downstream price to be sufficient to cover the Long-Run Incremental Costs of an Equally Efficient Operator– i.e. a telecoms provider as efficient as BT in the relevant downstream market.

Legal tests

- 9.23 In relation to SMPF, we have explained in Section 5 why we consider that the fair and reasonable charges obligation satisfies the relevant legal tests in the Act.
- 2.53 In relation to MPF, as our specific proposals in relation to the charge controls are contained in Volume 2 of this consultation. For the reasons set out in Section 5 of Volume 2, we are satisfied that our proposals satisfy the relevant legal tests.

Consistency with the EC recommendations and BEREC common position

- 9.24 We consider that our proposal to impose charge controls on MPF services is consistent with the BEREC common position, particularly BP16 which states that “NRAs should impose obligations with regard to the provision of co-location and other associated facilities on a cost-oriented basis under clear rules and terms approved by the regulator to support viability of the access services mentioned above.”
- 9.25 In the case of MPF, we consider that a cost-based charge control reduces the risk of margin squeeze so do not consider it necessary to put in place additional *ex ante* obligations to address this form of conduct. As BP49e explains, “where cost-based

²¹⁷ It may also be appropriate for such issues to be resolved through enforcement action, either as a result of a complaint or an own-initiative investigation.

access is imposed, this should help address concerns about downstream margin squeeze.”

- 9.26 We note that key elements of the EC recommendation presuppose the application of charge controls for LLU e.g. its recommendations on the appropriate costing methodology for LLU. These are addressed in more detail in our charge control consultation document

Proposal to impose a basis of charges condition on SLU

- 9.27 We consider, as set out in Section 6, that telecoms providers are using SLU to benefit customers by providing services which might not otherwise have been available, in areas where BT has not rolled out SFBB. In the absence of regulation of SLU charges, BT would have the ability and incentive to exploit its SMP by raising prices to levels which could harm downstream competition and ultimately consumers. Therefore, in order to limit the price that BT can charge for SLU, we propose to re-impose a basis of charges condition. We consider (as we did in the 2014 FAMR) that where parts of the SLU service or process are the same as services or processes within other services, then we would also expect the costs to be the same. The costs recovered from SLU should only differ from the costs BT recovers from other services that use equivalent components where there is an objective justification for the difference.
- 9.28 Given the low current and expected take-up of SLU, any charge control would likely be onerous to set and would be dependent on forecasts (e.g. of costs and take-up) which may not be reliable. A reasonable degree of certainty about prices can still be achieved under a basis of charges condition for SLU and this will also mean that charges may reflect actual costs during the period covered by this market review more closely than under a charge control.²¹⁸ We consider that the proposed charge control on MPF will provide sufficient incentive for BT to reduce the costs of the network components used for SLU. Hence, in our view, a charge control is likely to be disproportionate to the efficiency and competition benefits that a basis of charges obligation would secure in this case.
- 9.29 We therefore propose (as in the 2014 FAMR) to impose a basis of charges condition to require SLU charges to be reasonably derived from the costs of provision by reference to relevant LLU charges. Specifically, SLU charges must be based on equivalent LLU charges, with any differences between the two reflecting differences in incremental cost, including an appropriate return on capital employed. Where there are charges for which there is no LLU equivalent, these are to be set on a forward looking (CCA) FAC basis on an annual basis such that prices should reflect average costs in any year. The basis of charges condition also requires the amount of common costs recovered to be reasonable.

Legal tests

- 9.30 Section 87(9)(a) of the Act authorises the setting of SMP services conditions imposing on the dominant provider such price regulation as Ofcom may direct in relation to matters connected with the provision of network access to the relevant network, or with the availability of relevant facilities. Section 87(9)(b) further

²¹⁸ We note in this regard Ofcom, 5 June 2013. *Cost orientation review*, ‘Consistency between price differences and cost differences’, paragraph 3.107, <https://www.ofcom.org.uk/consultations-and-statements/category-2/cost-orientation>.

authorises SMP services conditions imposing such rules as Ofcom makes for the purposes of matters connected with the provision of network access to the relevant network, or with the availability of relevant facilities about the recovery of costs and cost orientation. In each case, in setting such conditions we must be satisfied that the conditions about network access pricing set out in section 88 of the Act are also satisfied.

- 9.31 We consider that the proposed condition satisfies the requirements of section 88(1) of the Act as our analysis indicates that there is a risk of adverse effects arising from price distortion. Moreover, the proposed condition promotes efficiency and sustainable competition and provides the greatest possible benefits to customers by enabling competing providers to buy network access and supporting ancillary services at levels that might be expected in a competitive market. The extent of investment of the dominant operator has been taken into account as set out in section 88(2), as the obligation provides for an appropriate return on the capital employed to be included in the charges.
- 9.32 We have also considered our duties under section 3 and all the Community requirements set out in section 4 of the Act. In particular, the proposed condition is aimed at promoting competition and securing efficiency and sustainable competition for the maximum benefit of consumers by ensuring that charges for wholesale services are set at a level that enable telecoms providers to compete downstream. For those reasons, we also consider that the proposed condition is appropriate in order to promote efficiency and sustainable competition and to provide the greatest possible benefits to customers by enabling competing providers to buy network access at levels that might be expected in a competitive market.
- 9.33 Section 47 requires conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. We are satisfied that the proposed condition is:
- objectively justifiable, in that the condition would ensure that competing telecoms providers could buy services at charges that would enable them to develop competing services to those of BT in downstream markets to the benefit of consumers;
 - not unduly discriminatory, in that no other operator has SMP in the relevant market of the UK excluding the Hull Area;
 - proportionate, in that the condition ensures, but does no more than ensure, that BT is unable to exploit its market power, while at the same time allowing BT a fair rate of return that it would expect in competitive markets; and
 - transparent, in that it is clear in its intention, in particular to ensure charges that are reasonably derived from the costs of provision by reference to relevant LLU charges.

Consistency with the EC recommendations

- 9.34 We note the Costing and Non-discrimination Recommendation recommends not imposing pricing obligations, including cost orientation, where certain conditions are met (Recommendations 48). These conditions include requirements such as EOI, which could act to constrain prices in a way that makes additional pricing obligations unnecessary. Since, for the reasons set out in Section 6 we do not consider it appropriate to impose an EOI requirement for SLU, our decision to impose a basis of

charges obligation is consistent with the Costing and Non-discrimination Recommendation.

- 9.35 The basis of charges condition is also consistent with the provision in Recommendation 30, which says:

“When NRAs impose copper sub-loop unbundling, the SMP operator should be required to complement the existing LLU reference offer with all necessary items. The price of access to all items should be cost-oriented in accordance with Annex I”.

Proposal to impose a basis of charges condition on electricity services

- 9.36 Telecoms providers buy electricity from BT to provide power to the equipment used for MPF, SMPF and GEA. The price which BT charges telecoms providers for electricity is to a large extent based on the wholesale price that BT itself is charged for electricity. The remainder of the price is an allocation of common BT network costs.
- 9.37 BT’s charges for electricity have fluctuated, reflecting variations in the prices at which it buys electricity. Table 9.1 illustrates these fluctuations since April 2014.

Table 9.1: Charges for electricity usage per kWh

Operative date	Charge £ Excl. VAT
01/04/2014	0.1237
21/08/2014	0.1182
01/04/2015	0.1288
20/07/2015	0.1227
01/01/2016	0.1145
01/04/2016	0.1215
04/05/2016	0.1174
01/04/2017	0.1229

Source: BT price list

Pricing approach

- 9.38 The access remedies that we propose enable telecoms providers to locate equipment in BT’s exchanges. However, providers have no option but to buy electricity services from BT and the provision of electricity services in BT’s exchanges is not open to competition. This means that BT could have both the incentive and ability to charge excessively high prices for electricity services consumed in BT exchanges. We therefore consider that some form of pricing regulation wherever electricity is used to provide WLA services is required in order to

protect downstream competition. Our objective remains that the prices for these services should reflect an appropriate level of cost.

- 9.39 In our 2014 FAMR statement we decided that a basis of charges obligation would be the most effective way to protect consumers from the risk of excessive pricing. We considered whether it would be appropriate to impose a cost-based charge control instead, but concluded that a such an approach would not be appropriate because of the volatile nature of the wholesale price that BT pays and a charge control on the very low allocation of common costs in BT's electricity charge would be over-prescriptive and disproportionate.
- 9.40 We continue to consider that a charge control on electricity charges would be inappropriate. The principal reason for this view is the nature of the electricity purchase costs which make up the bulk of BT's electricity charge and which are largely outside BT's control. Whilst a charge control would give BT a stronger incentive to reduce electricity costs, in practice it has little ability to do so. In these circumstances, the efficiency benefits from setting prices to reflect actual costs – signalling the actual costs of electricity to the telecoms providers who use it – are likely to outweigh any benefits from stronger cost-reduction incentives under a charge control. Moreover, a charge control on the small proportion of the charge which represents a contribution to the recovery of BT's common costs would be disproportionate.
- 9.41 Therefore, our view continues to be that it is appropriate to apply a basis of charges condition that requires BT to set electricity charges that are derived from its relevant electricity purchase costs plus a small mark-up to reflect its own internal costs related to electricity purchasing and electricity charge setting.²¹⁹
- 9.42 We understand that BT buys electricity under fixed price contracts, that it does not make spot market purchases and that it reviews the level of electricity revenues and costs on a quarterly basis. Given this, our approach ensures that over the course of a year BT's revenues from electricity sales are in line with its costs.

Legal tests

- 9.43 We consider that the proposed basis of charges condition for electricity meets the tests set out in the Act.
- 9.44 Section 87(9)(a) of the Act authorises the setting of SMP services conditions imposing on the dominant provider such price controls as Ofcom may direct in relation to matters connected with the provision of network access to the relevant network, or with the availability of relevant facilities. Section 87(9)(b) further authorises SMP services conditions imposing such rules as they make for the purposes of matters connected with the provision of network access to the relevant network, or with the availability of relevant facilities about the recovery of costs and cost orientation. In each case, in setting such conditions, we must be satisfied that the conditions about network access pricing set out in section 88 are also satisfied.
- 9.45 We consider that the condition satisfies the requirements of section 88(1) as our market analysis indicates that there is a risk of adverse effects arising from price distortion in the absence of a control on BT's electricity charges. Moreover, the condition promotes efficiency and sustainable competition and provides the greatest

²¹⁹ Including a return on the (likely small) amount of capital employed.

possible benefits to customers by ensuring that competing providers are able to buy network access and supporting ancillary services with associated electricity charges at levels that might be expected in a competitive market. The extent of investment of BT has been taken into account as set out in section 88(2), as the obligation provides for a mark-up for an appropriate return on capital employed.

9.46 We have also considered our duties under section 3 and all the Community requirements set out in section 4 of the Act. In particular, the condition is aimed at promoting competition and securing efficiency and sustainable competition for the maximum benefit of consumers by ensuring that BT's charges for electricity provided to support network access in the WLA market are set at an appropriate level. For those reasons, we also consider that the condition would be appropriate in order to promote efficiency and sustainable competition and provide the greatest possible benefits to end-users. At the same time, permitting BT to include an allowance for common costs enables BT to make a fair return. As such, we consider that the proposed condition is also consistent with the purpose of securing efficient investment.

9.47 Section 47 requires conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. In our view, the proposed condition is:

- objectively justifiable, in that the condition is required to address the risk that electricity charges are likely to be priced above the competitive level in the absence of such a condition;
- not unduly discriminatory, in that we have found that BT is the only operator with SMP in the relevant market of the UK excluding the Hull Area;
- proportionate, in that it will ensure, but do no more than ensure, that BT is unable to exploit its market power, while allowing a fair rate of return that it would expect in competitive markets; and
- transparent, in that it is clear in its intention, in particular to ensure that BT should set charges for electricity services as set out in this consultation.

Consultation question

Question 9.1: Do you agree with our proposals for the price regulation of LLU and SLU? Please provide reasons and evidence in support of your views.

Section 10

Regulatory financial reporting

Introduction

- 10.1 BT is subject to regulatory financial reporting requirements designed to provide us with the information necessary to make informed regulatory decisions, monitor compliance with SMP conditions, ensure that those SMP conditions continue to address the underlying competition issues and investigate potential breaches of SMP conditions and anti-competitive practices.
- 10.2 As part of these requirements, each year BT prepares Regulatory Financial Statements (RFS). The RFS are prepared according to a defined framework and methodology and include published statements as well as information that is not published but submitted to us privately.
- 10.3 In this section, we set out our proposals on what specific regulatory financial reporting requirements are appropriate to support our proposed remedies. We set out our proposals in Section 5 to impose cost accounting and accounting separation SMP obligations on BT in the Wholesale Local Access (WLA) market.
- 10.4 In summary, we propose:
- To set out the regulatory financial reporting requirements, by way of directions, on BT in the WLA market covered by this review. We explain why we need this information and what needs to be provided publicly and privately.
 - To set out our proposals on directions specifying the detailed reporting requirements for the RFS which we consider are appropriate in respect of the WLA market. These proposals are consistent with the policy decisions made in the June 2014 FAMR Statement. We also set out the need for compliance information and other requirements.
- 10.5 The directions we propose to impose on BT in relation to our proposed regulatory financial reporting requirements are included in Annex 23.
- 10.6 As explained below, the main changes we propose to make to the information contained in BT's published RFS are the changes to the lists of services reported, with the removal of SMPF services and the inclusion of key GEA services.

Directions to implement regulatory accounting requirements as set out in the 2014 Regulatory Financial Reporting Statement

- 10.7 As we explain in Section 5, we propose to impose accounting separation and cost accounting obligations on BT in relation to the WLA market. We propose to impose SMP conditions capturing the specific form of BT's accounting separation and cost accounting requirements that flowed from our policy conclusions in the 2014 Regulatory Financial Reporting Statement. In that statement, we also set out our reasoning and policy decisions about the more detailed requirements which we

considered were appropriate for the RFS in all regulated markets and which we would implement by way of directions.²²⁰

10.8 We previously gave directions for markets including WLA in the 2015 Directions Statement.²²¹ These reporting directions specified requirements in relation to:

- the Regulatory Accounting Principles;
- preparing the RFS on a Regulatory Asset Value (RAV) basis;
- consistency with regulatory decisions,
- BT's adjusted financial performance;
- transparency;
- audit of the RFS;
- the reconciliation report;
- electricity charges;
- network components; and
- the preparation, delivery, publication, form and content of the RFS.

Application of previous decisions to WLA

10.9 While we consider that some of the directions from the 2015 Directions Statement require amendment (consistency with regulatory decisions, BT's adjusted financial performance, network components and the preparation, delivery, publications, form and content of the RFS), the other directions remain appropriate in the context of the WLA market we are reviewing. Therefore, we propose to make these directions as part of this review. By re-imposing these directions, we will continue to align the WLA market with the regulatory financial reporting directions imposed in all other recent market reviews. This will ensure that regulatory financial reporting is prepared on a consistent basis. We describe each of these directions below and explain why we propose them on the WLA market.

Application of the Regulatory Accounting Principles (including Consistency Principle)

10.10 We introduced the Regulatory Accounting Principles²²² in the 2014 Regulatory Financial Reporting Statement.²²³ The Regulatory Accounting Principles are a set of

²²⁰ The conditions were amended in the 2016 BCMR Statement to remove the reference to Regulatory Accounting Guidelines. The proposed conditions therefore do not reference the Regulatory Accounting Guidelines.

²²¹ 2015 Directions Statement (which applied to the WFAEL, WLA, ISDN2, ISDN30 and WBA markets). Further, these directions were imposed on the business connectivity markets in Annex 35 of the 2016 BCMR Statement.

²²² The Regulatory Accounting Principles are: 1. Completeness; 2. Accuracy; 3. Objectivity; 4. Consistency with regulatory decisions; 5. Causality; 6. Compliance with the statutory accounting standards; 7. Consistency of the RFS as a whole and from one period to another.

²²³ 2014 Regulatory Financial Reporting Statement, paragraph 1.12 and section 3.

guiding principles with which BT's Regulatory Financial Reporting must comply to preserve the integrity and consistency of the RFS. We therefore impose the Regulatory Accounting Principles across all regulated markets (to the extent that each market review considers this to be appropriate) as there are significant advantages to BT and other stakeholders of BT applying one set of principles across all markets. As such, we propose to re-implement the Regulatory Accounting Principles by giving a direction to BT in the form set out in the 2015 Directions Statement in respect of the WLA market.

10.11 We consider that giving the proposed direction specifying the Regulatory Accounting Principles in relation to the WLA market would fulfil our general duties under section 3 of the Act and meet the Community requirements set out in section 4 of the Act because:

- our proposal is designed to give Ofcom a greater role in determining how BT should prepare its RFS, thereby ensuring the RFS are aligned with Ofcom's regulatory decisions and giving confidence to stakeholders about the absence of bias in the preparation of the RFS. It also ensures that the presentation and usability of the RFS is improved and that the obligations that are imposed on BT are proportionate; and
- the above proposal therefore seeks to ensure the RFS remain relevant, thereby increasing transparency. Ultimately, this promotes competition.

10.12 In continuing this requirement that we originally imposed on the WLA market through the 2015 Directions Statement, we have taken due account of all applicable recommendations issued by the European Commission under Article 19(1) of the Framework Directive, in particular, the 2005 EC Recommendation.

10.13 We also consider that the proposed direction meets the tests set out in section 49(2) of the Act in that it is:

- objectively justifiable because by specifying the Regulatory Accounting Principles we will establish the attributes for BT's regulatory financial reporting;
- not unduly discriminatory because it reflects BT's market position in the UK excluding the Hull Area;
- proportionate because our proposal is no more than is required to ensure an absence of bias and consistency with regulatory decisions. While we have established the Regulatory Accounting Principles, BT retains an important role in determining the basis of preparation of the RFS, and can continue to put through methodology changes where this is in line with the RAP and such changes have been notified to Ofcom; and
- transparent because the intention of our proposal is to ensure we take a greater role in the basis of preparation of the RFS to ensure an absence of bias and consistency with regulatory decisions.

Preparation on a RAV (Regulatory Asset Value) basis

- 10.14 For the purposes of some price controls (including those we propose in the WLA market) we use the RAV of access duct.²²⁴ Prior to the 2014 Regulatory Financial Reporting Statement, BT valued duct on a current cost (CCA) basis. This meant that we had to make an adjustment for each charge control and investigation that included access duct to revalue it on a RAV basis. This made it difficult for stakeholders to see in the RFS the revised returns for markets where we apply the RAV adjustment. Therefore, in the 2014 Regulatory Financial Reporting Statement, we decided that BT must prepare the RFS on a RAV basis.²²⁵ We imposed this requirement in the WLA market through the 2015 Directions Statement.
- 10.15 We consider it remains appropriate to implement this requirement in this review and we therefore propose to re-implement these requirements by giving a direction to BT in relation to the WLA market. We consider that it is appropriate to propose the form of direction from the 2015 Directions statement.
- 10.16 We consider that giving the proposed direction specifying the RAV methodology for each market would fulfil our general duties under section 3 of the Act and meet the Community requirements set out in section 4 of the Act. In proposing this change, we have taken due account of applicable recommendations issued by the European Commission under Article 19(1) of the Framework Directive, in particular the 2005 EC Recommendation.
- 10.17 We also consider that the proposed direction meets the tests set out in section 49(2) of the Act in that it is:
- objectively justifiable because the requirements specifying the RAV methodology will establish further detail and will also provide BT with clarity as to the requirements which it will need to follow to ensure that the RFS are prepared on the RAV basis;
 - not unduly discriminatory because it reflects BT's market position in the UK excluding the Hull Area;
 - proportionate because our proposals are no more than is required to ensure that BT is provided with clarity as to the requirements which it will need to follow to ensure that the RFS are prepared on the RAV basis; and
 - transparent because our proposals seek to provide BT with clarity as to the requirements which it will need to follow to ensure that the RFS are prepared on the RAV basis.

²²⁴ The RAV is the value ascribed by us to access duct which was in existence prior to August 1997 (i.e. assets which were in existence prior to the change in valuation method from historical cost accounting to current cost accounting). Further details, see BT 2015/16 Accounting Methodology Document, section 6.2.5.

<http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2016/AccountingMethodologyDocument2015-16.pdf> [accessed 21 March 2017].

²²⁵ 2014 Regulatory Financial Reporting Statement, paragraph 3.91.

Transparency

- 10.18 One of the purposes of imposing a cost accounting obligation is to ensure that fair, objective and transparent criteria are used to prepare RFS. Therefore, the purpose of any such direction is to ensure that any information, material or explanatory document prepared by BT in respect of the RFS is sufficiently transparent such that a suitably informed reader can gain a clear understanding of the information presented. To preserve the integrity and consistency of the RFS, we consider that all markets should be subject to the same transparency direction. We consider that it is appropriate to re-implement these requirements in this review and propose to give a direction to BT in the form set out in the 2015 Directions Statement in respect of the WLA market.
- 10.19 We consider that giving the proposed direction, specifying the transparency requirements for each market, would fulfil our general duties under section 3 of the Act and meet the Community requirements set out in section 4 of the Act. In proposing this direction, we have taken due account of all applicable recommendations issued by the European Commission under Article 19(1) of the Framework Directive, in particular the 2005 EC Recommendation.
- 10.20 We also consider that the proposed direction meets the tests set out in section 49(2) of the Act in that it is:
- objectively justifiable because the Accounting Methodology Documents (AMD) previously prepared by BT were difficult to understand. The changes we propose to re-impose will continue to clarify that BT should be providing less detailed, but clearer Accounting Methodology Documents;
 - not unduly discriminatory because it reflects BT's market position in the UK excluding the Hull Area;
 - proportionate because the changes are no more than is required to ensure that presentation of the basis of preparation is clear for users, and they reduce the regulatory burden on BT; and
 - transparent because the intention of our changes is to ensure that presentation of the basis of preparation is clear for users.

Audit of the RFS

- 10.21 Audit of the RFS can help give users confidence that the information provides a fair reflection of financial performance, is free from material error and has been prepared following the accounting methodology statements published by BT and relevant directions issued by us.²²⁶ To preserve the integrity and consistency of the RFS we consider that all markets should be subject to the same audit direction. We consider that it is appropriate to re-implement these requirements in this review and therefore, propose to give a direction to BT in the form set out in the 2015 Directions Statement in respect of the WLA market.
- 10.22 We consider that giving the proposed direction, specifying the audit requirements for each market, would fulfil our general duties under section 3 of the Act and meet the

²²⁶ 2014 Regulatory Financial Reporting Statement, Chapter 5 explained the changes to audit requirements imposed on BT.

Community requirements set out in section 4 of the Act. In proposing this change, we have taken due account of all applicable recommendations issued by the European Commission under Article 19(1) of the Framework Directive, in particular the 2005 EC Recommendation.

10.23 We also consider that the proposed direction meets the tests set out in section 49(2) of the Act in that it is:

- objectively justifiable because it is important for both stakeholders and Ofcom that an appropriate level of assurance is provided on the RFS;
- not unduly discriminatory because it reflects BT's market position in the UK excluding the Hull Area;
- proportionate because the audit requirements are no more than is necessary to ensure that an appropriate level of assurance is provided on the RFS; and
- transparent because the intention of our changes is to ensure that an appropriate level of assurance is provided on the RFS.

Application of the consistency principle considering WLA Charge Control work

10.24 In the 2014 Regulatory Reporting Statement and the 2015 Directions Statement, we explained that Regulatory Financial Reporting should, as far as possible, be consistent with our regulatory decisions as set out in Regulatory Accounting Principle number four.²²⁷ In general terms, we would expect regulatory decisions to be reflected in the RFS unless we consider that there were good reasons not to.

10.25 We also explained that we do not consider that the requirement for consistency meant that all regulatory decisions must be reflected in the RFS. For example, when we set prices, we may include adjustments to cost calculations that do not strictly reflect BT's costs (for reasons that we disclose and consult upon). Also, attempting to model the impact of some adjustments, such as steady state valuation adjustments, and how they might uplift costs in later years, would require BT to make difficult judgements about how we might approach these costs on an ongoing basis.

Proposed charge control adjustments

10.26 To inform our proposals on the charge controls set out in this consultation, we have proposed various adjustments to the cost information reported in BT's 2015/16 RFS, which we use as our base year and we have also made several other adjustments in respect of costs calculations that do not strictly reflect BT's actual costs. Detailed explanations and justifications are set out in the relevant annexes of this consultation (see below). We have summarised them in Table 10.1. below.

²²⁷ 2015 Directions Statement, Annex 3, March 2015 Directions Statement.

Table 10.1 List of all proposed charge control adjustments

Proposed Adjustment	Description	Relevant Annex
a) Capitalisation Credit relating to self-installations costs	To correct an error in relation to capitalisation credits for self-installation costs identified by BT in the 2015/16 RFS.	11
b) Cumulo	<p>A small change to the cumulo attribution methodology so that the amounts to be attributed to</p> <ul style="list-style-type: none"> • GEA-FTTC rental services should be calculated with reference to a rateable value per connected line of £18 per annum • Other GEA rental services should be calculated with reference to a rateable value per connected line of £20 per annum <p>The rest of the current direction on cumulo attributions would remain unchanged.</p>	17
c) Restructuring and Property Provision Costs	Consistent with our approach in the 2016 BCMR Statement, smooth these volatile costs over a three-year period.	11
d) Residual Copper proceeds	We have annuitized the estimated copper scrap present value over 12 years, using BT's WACC as the relevant discount rate. We then attribute this annual value, which we treat as a negative cost, across all CGA Rentals lines on an equal basis. This negative cost is modelled to increase with RPI each year.	18
e) Steady State adjustment	<p>We modelled the costs of an ongoing copper network, which is consistent with our proposed approach to modelling an ongoing FTTC overlay network.</p> <p>We propose the following adjustments to reflect an ongoing copper network as follows;</p> <p>Steady state capex – this adjusts the base year capex to equates to the base year OCM Depreciation.</p> <p>Depreciation profile – this adjusts the cost recovery for heavily depreciated assets by adjusting both the asset lives (and thus the implied OCM depreciation) as well as the base year NRC</p>	11
f) Common Cost reattribution	We re-attributed WLA Common costs between WLA copper loop-based services and commercial GEA services.	11
g) Subsidised FTTC Deployment	We removed all costs and income associated with the subsidised GEA services with an adjustment made to the associated volumes and costs for the remaining GEA services.	11

Proposed Adjustment	Description	Relevant Annex
h) Service level	To adjust the operating costs for reactive repair of the access network in the base year to account for the difference in the mix of service options available between the base year and our forward look period.	11
i) SLGs	To account for the new SLG regime that will be in place in the Charge Control period. We expect the number of faults and therefore the cost of SLG payments will decrease, against this however, with the introduction of automatic compensation, the cost per payment will increase. We therefore removed BT costs from the base year model and separately modelled this impact.	11
j) DPA Implementation Costs	To account for the cost of implementing the DPA remedy we have made a forecast of what these costs would be including one-off set up costs and ongoing variable costs. Our forecasts are based on our assumption of DPA take up.	11

10.27 We explained in the 2015 Directions Statement that the identification of proposed adjustments that should or should not be reflected within Regulatory Financial Reporting to achieve consistency and that should or should not be reflected within the Adjusted Financial Performance Schedules is a matter for our judgement and should be considered on a case by case basis.

Analysis of proposed charge control adjustments

10.28 The starting point for our analysis is that we would expect to see a cost adjustment, made by us in our regulatory decisions, to be reflected in the RFS if it relates to the way BT's actual or incurred costs should be treated.

10.29 We said in the 2015 Directions Statement that "we would not expect to see a cost adjustment reflected in the RFS if:

the adjustment has the effect of replacing BT's incurred costs with an alternative estimate of cost. In such case, we would expect to see the adjustment reflected in the Adjusted Financial Performance Schedules; and

the adjustment has the effect of replacing BT's incurred costs with a value that is not based on BT's network (whether actual or estimated). In addition, we would not expect such an adjustment to be reflected in the Adjusted Financial Performance Schedules."²²⁸

10.30 In addition, as part of this consultation we have considered that we would not expect to see a cost adjustment to be reflected in the RFS or the Adjusted Financial

²²⁸ 2015 Directions Statement, para 3.35.

Performance Schedules if the adjustment has the effect of replacing BT's incurred costs with a value that is not based on BT's network and it is only made for forecasting purposes.

- 10.31 To determine whether the adjustments listed in Table 10.1 should be reflected in BT's RFS or Adjusted Financial Performance Schedules we have applied the approach set out above and set out our analysis in Table 10.2 below.

Table 10.2 Analysis of all proposed charge control adjustments

Proposed Adjustment	Does the adjustment have the effect of replacing BT's incurred costs with an alternative estimate of cost?	Does the adjustment have the effect of replacing BT's incurred costs with a value that is not based on BT's network (whether actual, estimated or for forecasting purposes)?
a) Capitalisation Credit relating to self-installations costs	No	No
b) Cumulo	No	No
c) Restructuring and Property Provision Costs	Yes	No
d) Residual Copper proceeds	Yes	No
e) Steady State adjustment	Yes	No
f) Common Cost reattribution	Yes	Yes
g) Subsidised FTTC Deployment	Yes	Yes
h) Service level	Yes	Yes
i) SLGs	Yes	Yes
j) DPA implementation costs	Yes	Yes

Proposed adjustments to be reflected within the RFS

- 10.32 In line with the approach set out above, we consider that there are no reasons not to reflect adjustments a) and b) in Table 10.1 in BT's RFS. We therefore propose that the RFS should include these adjustments.
- 10.33 We propose that BT should reflect adjustments a) and b) in the order presented above because some of the adjustments logically should follow others, whilst others have a cumulative effect on the RFS.

10.34 In Annex 11, we set out how we have calculated the adjustments we have made to BT's 2015/16 RFS base year data to correct the Capitalisation Credit relating to self-installations cost error and we propose that BT should reflect the adjustments in its RFS on the same basis. In Annex 17 we set out how we have calculated the cumulo adjustment we have made to BT's 2015/16 RFS base year data and we propose that BT should reflect our proposals on how they should be implemented in the RFS as set out in Table 10.3 below.

Table 10.3 Proposed Adjustments to be reflected in the RFS.

Proposed Adjustment	Proposed requirements on treatment in the RFS
a) Capitalisation Credit relating to self-installations costs	We propose BT corrects the attribution of capitalisation credits for self-installation costs. ²²⁹
b) Cumulo	<p>We propose BT makes a small change to the cumulo attribution methodology so that the amounts to be attributed to</p> <ul style="list-style-type: none"> • GEA-FTTC rental services should be calculated with reference to a rateable value per connected line of £18 per annum • Other GEA rental services should be calculated with reference to a rateable value per connected line of £20 per annum <p>The rest of the current direction on cumulo attributions would remain unchanged.</p>

10.35 We have included the proposed direction which implements our proposals on the requirement for consistency with regulatory decisions in Annex 23 (together with the direction relating to the RAV adjustment).

10.36 We have considered our decisions set out in the Consistency with Regulatory Decisions Direction against the tests set out in section 49(2) of the Act and for all the reasons set out above, we consider that they are:

- objectively justifiable because we have established in the 2014 Regulatory Reporting Statement the need for the RFS to be consistent with regulatory decisions and the Direction specifies the regulatory decisions which we have made in this statement with which the RFS need to be consistent. The Direction also provides BT with clarity as to how our decisions made in this statement should be reflected in the RFS;
- not unduly discriminatory because it reflects BT's market position in the UK excluding the Hull Area;
- proportionate because the Direction in which we have specified the adjustments with which BT's RFS need to be consistent, is no more than is required to ensure consistency with our decisions. Further, BT retains an important role in determining the basis of preparation of the RFS; and

²²⁹ BT has provided the calculation to do enable them to do this in its response to the 24th s.135 dated 20th February 2016, Q10.

- transparent because the intention of the Direction is to ensure that BT's RFS are consistent with our decisions.

Proposed adjustments to be reflected within the Additional Financial Performance Schedule

- 10.37 In the 2015 Directions Statement, we noted that if not all regulatory decisions were reflected in the RFS, differences could arise between the reported view of BT's financial performance and the view we took when making regulatory decisions²³⁰. We therefore decided that BT must prepare the Adjusted Financial Performance Schedules as part of its Regulatory Financial Reporting to show the impact of certain regulatory decisions not reflected in the RFS.²³¹
- 10.38 In line with the approach set out above, we consider that there are no reasons not to require BT to calculate the impact of adjustments c)-e) in Table 10.1 in the Additional Financial Performance Schedule. We therefore propose that the RFS should include these adjustments in the Additional Financial Performance schedule.
- 10.39 In respect of adjustment d) in Table 10.1, we note that this adjustment will be difficult to calculate as it relates to Copper assets, some of which may no longer be recorded within the RFS. Further complexity in the calculation is the historical volatility of the market price for scrap copper which is a key input into the calculation. Whilst we calculate the adjustment to be is relatively small now, it could potentially become much larger as the realisation of scrap copper proceeds becomes more certain. We are interested in stakeholders' views as to any alternative methods to that proposed by us in our Charge Control modelling for the purposes of estimating the impact in the Additional Financial Performance Schedule.
- 10.40 In Annexes 11, 17 and 18 of this consultation we set out how we have calculated the adjustments we have proposed and we propose that BT should calculate the impact of the adjustments in its Additional Financial Performance schedule on the same basis. We set out in Table 10.4 below our proposals for how they should be implemented in the Additional Financial Performance schedule.

²³⁰ 2015 Directions Statement, paragraph 3.36.

²³¹ Each market review level is composed of individual SMP markets. The market review levels and the component SMP markets for which BT has Regulatory Financial Reporting requirements are set out each year in Section 1 of BT's RFS.

Table 10.4 Proposed Adjustments in BT’s Additional Financial performance Schedule

Proposed Adjustment	Proposed requirements on treatment in the Additional Financial Performance schedule
c) Restructuring and Property Provision Costs	We propose that BT should calculate the impact of smoothing the movement of Restructuring Costs over a three-year moving average.
d) Residual Copper proceeds	We propose that BT should calculate the net proceeds in scrap value that BT will recoup when it moves to a FTTx only network. BT should discount this back using the relevant WACC and treat as if the credit was against the E-Side Copper Capital Network Cost component.
e) Steady State adjustment	<p>We propose that BT should uplift the NRC’s of the following components to achieve an NRC/GRC ratio of 50%. BT should then adjust the asset lives to equate to the book lives of the following components to calculate the OCM depreciation.</p> <ul style="list-style-type: none"> • LLU line testing systems • LLU systems development • Wholesale Local Access specific • Local exchanges general frames capital • Local exchanges general current • Analogue line testing equipment • Analogue line cards • Co-mingling power & ventilation • Combi Card and MSAN Access – Voice

10.41 In the 2015 Directions Statement,²³² we also said that some regulatory decisions should not be reflected in either the RFS or the Adjusted Financial Performance Schedules and as part of this consultation we have considered that we would not expect to see a cost adjustment to be reflected in the RFS or the Adjusted Financial Performance Schedules if the adjustment has the effect of replacing BT’s incurred costs with a value that is not based on BT’s network and it is only made for forecasting purposes.

10.42 In line with our approach set out above, we do not propose that the adjustments set out in items f) to j) of Table 10.1 should be reflected in either the RFS or the Adjusted Financial Performance Schedules. We have set out our reasons for this in Table 10.5 below.

²³² 2015 Directions Statement, paragraph 3.23.

Table 10.5 Proposed Adjustments not to be made in BT's Additional Financial performance Schedule

Proposed Adjustment	Justification for non-inclusion.
f) Common Cost reattribution	Our adjustment to re-attribute common costs between GEA and CGA services uses GEA LRICs from our bottom up model and not BT's LRIC data. It would be unreasonable to expect BT to re-produce the outputs from our bottom-up model on an ongoing basis, therefore it would not be appropriate for BT to prepare and include adjustments in respect of Common cost re-attribution.
g) Subsidised FTTC Deployment	Our adjustment to remove costs and income associated with the subsidised services with an adjustment to volumes for the commercial services represents our view of what the network of an efficient commercial national operator would look like. It is not based on BT's network which includes subsidised areas. Therefore, it would not be appropriate for BT to prepare and include adjustments to remove actual BDUK subsidy income.
h) Service level i) SLGs j) DPA implementation costs	These adjustments on our model reflect our view of what these costs would be going forward taking account of volume movements, efficiency and inflation. These adjustments do not reflect BT's actual costs and should not be reflected in the RFS. Going forward, BT's actual costs will be reflected in the RFS rather than the costs we have modelled. It is therefore not appropriate for BT to prepare and include adjustments in respect of Service level, SLG payments and DPA implementation costs in the Adjusted Financial Performance Schedules.

10.43 We have considered our proposals about the Adjusted Financial Performance Schedules against the tests set out in Section 49(2) of the Act and consider that they are:

- Objectively justifiable because some disclosure of BT's financial performance from a regulatory perspective is appropriate and the decision in relation to the calculation of the impact of the smoothing restructuring and property provision costs, residual copper proceeds and the steady state adjustments to specify the detail to enable BT to produce the additional statement. Our decision concerning Schedule 2 of the Adjusted Financial Performance Schedules to be provided only to us seeks to enable us to understand the way in which BT has calculated the impact of the smoothing restructuring and property provision costs, residual copper proceeds and the steady state adjustments in the published Adjusted Financial Performance Schedule.
- Not unduly discriminatory because it reflects BT's market position in the UK excluding the Hull Area.
- Proportionate because our decision in relation to the Adjusted Financial Performance Schedules is no more than is required to provide stakeholders with a better understanding of BT's financial performance from a regulatory perspective and to enable us to understand the way in which BT has prepared the published Adjusted Financial Performance Schedule.

- Transparent because the intention of our decision is to ensure that stakeholders can gain a better understanding of BT's financial performance from a regulatory perspective and that we can understand the way in which BT has prepared the published Adjusted Financial Performance Schedule.

Other accounting requirements

Changes to the basis of preparation

10.44 We have also identified three areas, where in our opinion, the accounting treatment of certain WLA costs does not comply with our Regulatory Accounting Principles. They are, GEA services, Sales of property and the APCA Class of Work. We also propose changes to the list of Network Components.

GEA Services

10.45 As noted in Annex 12, we used a bottom up model in which we adopted a scorched node approach based on BT's existing commercial FTTC overlay roll out, calibrated against BT's top down asset count and cost information to determine the LRIC's for GEA services. We then modelled the attribution of common cost attributions within the WLA market on GEA services to arrive at adjusted GEA service costs. The adjusted GEA costs were then used as the basis for setting GEA prices, in particular the 40/10 rental service. Given our bottom up approach, we will not require BT to reflect our modelled GEA costs as adjustments in its RFS or the Additional financial performance schedule.

10.46 We are aware from historical scrutiny of BT's RFS that it is difficult to accurately establish the cost of new services, particularly where volumes are rapidly increasing. This is evident with BT's 2014/15 GEA costs that were provided to us confidentially within Additional Financial Information (AFI) Schedule²³³ B6. In respect of the 2014/15 costs, whilst the overall attribution of costs to GEA services was correct, the attribution of costs between individual services was incorrect.

10.47 Because of uncovering errors in the attribution of costs to individual GEA services, we commissioned Cartesian LLP to review the attribution of costs to GEA services. We asked them to specifically to review the way the way in which GEA services and components were established within BT's Regulatory Financial Reporting System, the structure of BT's cost attributions to GEA services, and the attribution of costs within the WLA market (including the attribution ratio between GEA and non-GEA services). A copy of the report²³⁴ is published alongside this consultation.

10.48 Cartesian identified several cases where the treatment or attribution of costs were in their opinion contrary to the requirements of the Regulatory Accounting Principles. In each case, they made recommendations for changes. In summary, Cartesian found that:

- The attribution of fibre costs to FTTC and FTTP services fails to properly account for the rate at which NGA services consume fibre;

²³³ AFI's are additional schedules provided in private to us as part of the RFS. They usually contain more detailed and disaggregated financial reporting information.

²³⁴ Cartesian, 13th March 2017. *Cost Allocation Review: Next generation Access Services* ('Cartesian NGA Report').

- BDUK funding and the costs of deployment in BDUK areas have no attribution to FTTP services, although a small number of FTTP services do exist in these areas;
- BDUK funding and BDUK rollout finance type of costs do not provide full clarity on how the BDUK fund is spent;
- A number of NGA Network Components include both provisioning and maintenance costs which may reduce transparency and limit the flexibility for onward attribution to services; and
- Capital costs incurred during NGA provisioning (including labour and modems) are attributed to rental services.²³⁵

10.49 Our view, based on Cartesian's assessment, is that BT should rectify the accounting treatments highlighted in the Cartesian Report. We note that Cartesian has discussed these findings with BT. While BT has indicated to us a willingness to rectify some of the treatments found by Cartesian in the RFS, these changes will not be included as part of the Change Control Notification 2016/17 that BT is required to publish no later than 31st March 2017. This in turn means that BT does not propose to implement any of the Cartesian recommendations in the 2016/17 RFS. On that basis, we have proposed directions to implement the changes as set out in Table 10.6. Most of these proposed changes require proposed changes to BT's list of Network Components (see below). We propose to apply this change from 2018/19, although BT may wish to implement these changes through the Change Control process for the 2017/18 RFS.

Sales of property

10.50 In Annex 18 we discuss the attribution of profits and losses from the sale of properties. We consider that BT's current attribution of these proceeds is neither objective (Regulatory Accounting Principle three) nor consistent (Regulatory Accounting Principle four) and we have proposed changes to that attribution. These are given in Table 10.6 below. We also said that BT should include information in its RFS that allows the sales of property and the attribution of these sales to be monitored and reviewed.

ACPA

10.51 Annex 13 sets out our approach to calibrating our BU Cost Model. One source of data was BT's 2015/16 RFS. One discrepancy discovered by our calibration exercise was that, at a cabinet level, our NRC estimate was above BT's RFS FAC (by around £[>]). We have examined the reason for this by looking at the implied NRC to GRC ratios for 2015/16 for the Network Component PG953C (GEA DSLAM and Cabinets GEA). While this ratio in our BU Cost Model was 65%, in BT's RFS was [>]% for this Network Component.

10.52 Further investigation into this Network Component revealed that there was one Class of Work²³⁶ (CoW) that had lower than expected NRC to GRC ratios. That was the ACPA (Accommodation Plant (Wholesale) Network Capital) CoW.

²³⁵ Cartesian NGA Report, page 9

- 10.53 ACPA is defined in BT's Accounting Methodology Document (AMD)^{237 238} as the construction provision, installation and recovery assets necessary for the operation of network equipment e.g. ventilation and cooling plant. The costs within this CoW are attributed to three Plant Groups²³⁹, PG132B (LLU Co-mingling Recurring Costs (OR)), PG136A (LLU Co-mingling Surveys) and PG953C (GEA DSLAM and Cabinets). The age profile of the assets for the GEA ACPA equipment on average would be expected to be newer than the assets used for LLU Co-mingling as GEA rollout started as LLU rollout was slowing down.
- 10.54 The explanation given in the AMD is that the attribution of ACPA assets to these Plant Groups is based on Fixed Asset Register asset lives and Capex data from Openreach. However, whilst this sounds a reasonable source of attribution data, in practice the analysis of NRC: GRC ratios for the ACPA assets within the Co-mingling Plant Groups was [3<]%, and for the GEA Plant Group it was [3<]%, indicating an identical attribution. We believe therefore that the attribution description is either not being followed or is being done in a way that does not reflect the age of the assets being used within those Plant Groups. The actual attribution of average life assets between services that use assets near the end of the life and services that use much newer assets conflicts with Regulatory Accounting Principle Number Seven (cost causality) because GEA services are not being attributed the higher cost of the newer assets they use and instead Co-mingling services are being attributed some of the costs of those newer assets. This treatment also conflicts with Regulatory Accounting Principle three (objectivity) because Co-mingling services (mainly purchased by CP's) other than BT are attributed a higher share of costs and GEA services (mainly purchased by BT) are attributed a lower share of costs. Our proposal is for BT to split the 'mixed' ACPA CoW into two separate CoWs; one for GEA and one for Co-Mingling.

²³⁶ Class or Work's specify a type of activity or asset type on which engineers are engaged at an F8 code level. See BT, 28 October 2016. *Accounting Methodology Document*, page 343.

<http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2016/AccountingMethodologyDocument2015-16.pdf>.

²³⁷ The 2014 Regulatory Financial Reporting Statement imposed (Conditions 18-20) a requirement for BT to provide a document (AMD) that sets out a description of each of the Attribution Methods, the Transfer Charge System Methodology, the Accounting Policies and the Long Run Incremental Cost Methodology used in preparing BT's RFS.

²³⁸ BT, 28 October 2016. *Accounting Methodology Document*, page 343.

²³⁹ Plant Groups are used to attribute onwards the costs and asset values of activities, equipment and infrastructure for the purposes of running and selling network services. BT, 28 October 2016. *Accounting Methodology Document*, section 13.

Table 10.6 Proposed Adjustments to BT’s RFS relating to other changes to the basis of preparation

Other changes	Proposed requirements on treatment in the RFS
GEA	<p>We propose that BT should correct the following attribution of costs in relation to GEA services:</p> <ul style="list-style-type: none"> • BT should attribute fibre costs to separate GEA services based on the physical consumption of fibre assets. • GEA Network cost components should be subdivided where they include both provisioning and maintenance costs • BT should separately identify and attribute provisioning and installation costs (including labour and modems) for the different GEA services. This costs should be attributed to separate GEA services in accordance with the Regulatory Accounting Principles. • BDUK funding and the costs of deployment in BDUK areas should be attributed to the different types of GEA services (e.g. FTTP as well as FTTC) that are deployed in the BDUK areas.
Profits and losses from the sale of property	<p>We propose that:</p> <ul style="list-style-type: none"> • BT should identify the type of building that the profits or losses from disposal relate to, i.e. whether the building is owned by Telereal Trillium or BT, and whether it is a general purpose or operational building; and • BT should then allocate these disposal proceeds in the same way that the “underlying costs” for that type of property are attributed. We proposed that underlying costs should mean rent for Telereal Trillium owned buildings and depreciation for BT owned buildings.
ACPA	<p>We propose that BT should attribute the ACPA CoW to Plant Groups where they are utilised on a basis that takes account of the age of the assets used within the Plant Group</p>

10.55 We have considered our proposal that we apply the Consistency with Regulatory Decisions Direction against the tests set out in section 49(2) of the Act and for all the reasons set out above, we consider that they are:

- objectively justifiable because it is necessary for us to give a direction specifying changes to the accounting treatment of certain WLA costs as the current treatment does comply with our Regulatory Accounting Principles;
- not unduly discriminatory because it reflects BT’s market position in the UK excluding the Hull Area;
- proportionate because our proposal is no more than is required to ensure compliance with the Regulatory Accounting Principles. Further, BT retains an important role in determining the basis of preparation of the RFS; and
- transparent because the intention of our proposal is to ensure that BT’s RFS are consistent with the Regulatory Accounting Principles.

Network components

- 10.56 This direction specifies all the network cost components used by BT to prepare the RFS. To preserve the integrity and consistency of BT's Regulatory Financial Reporting it is important that there is a single list of network components used to attribute costs to services in regulated markets. In the 2015 Directions Statement, we gave a direction to BT in respect of, among others, the WLA market, specifying the network components. In the 2016 BCMR Statement,²⁴⁰ we gave a direction to BT specifying the list of network components in relation to the markets covered by that review.
- 10.57 This list was an updated list based on the list contained in the 2015 Directions Statement. In the 2017 Narrowband Market Review²⁴¹ we proposed to impose the same list of network components as that that directed in the 2016 BCMR Statement. We consider that the list set out in the direction given in the 2016 BCMR Statement is appropriate starting point for review in relation to the markets covered by this review.²⁴² We propose to amend the list of the network components. In particular, we propose:
- The publication of GEA network components for services we propose are published within the RFS.
 - That BT creates a new "Duct" component by removing the cost of duct from all other network components where Duct Cost groups (D3 and DB) are currently attributed. We anticipate that within this new Duct component BT should be able to disaggregate costs into Plant Groups that align to the network elements utilised by DPA services. We intend to work with BT to establish what these Plant Groups might be and if required consult on any further proposals in the 2017 WLA Market review – proposals to develop an effective PIA remedy (DPA 2017).
 - The creation of a new Fibre Voice Access (FVA) rental network component that captures the (mostly software) cost of enabling an FTTP line to carry voice traffic.
 - The creation of a new Fibre Voice Access (FVA) connection network component that captures the set-up costs of enabling an FTTP line to carry voice traffic.
 - The separation of FTTP and FTTC costs within the current GEA Access Fibre Spine (CL950) and GEA Access Distribution Fibre (CL951) components.
 - The separation of FTTP and FTTC costs within the current GEA Electronics (CL952) component.
 - The separation of FTTP and FTTC costs within the current GEA Customer Site Installation (CL954) component.

²⁴⁰ 2016 BCMR Statement, paragraph 16.90 says that, following a review of the network components, i) components that are only utilised by services in markets where no cost accounting obligation exists were removed from the component list, ii) nine new components were introduced and iii) seven components were withdrawn.

²⁴¹ 2016 Narrowband Market Review Consultation, <https://www.ofcom.org.uk/consultations-and-statements/category-1/narrowband-market-review>.

²⁴² Some of the components added to the network component list in the 2016 BCMR Statement are relevant to the WLA market, e.g. the component for 'FTTC Development'.

- The publication of the Project Services component where costs are reported within the SMP markets.
- 10.58 We propose to implement these changes by giving a direction in respect of the WLA market in the form set out in the 2016 BCMR Statement.
- 10.59 We consider that giving the proposed direction, specifying BT's list of network components for each market, would fulfil our general duties under section 3 of the Act and meet the Community requirements set out in section 4 of the Act for the reasons given above. In proposing this change, we have taken due account of all applicable recommendations issued by the European Commission under Article 19(1) of the Framework Directive, in particular the 2005 EC Recommendation.
- 10.60 We also consider that the proposed direction meets the tests set out in section 49(2) of the Act in that it is:
- objectively justifiable because it is necessary for us to give a direction specifying network components. Our proposal about the modification of the list of network components is objectively justifiable because it is necessary to make the reporting of services in the WLA market consistent our regulatory requirements;
 - not unduly discriminatory because it reflects BT's market position in the UK excluding the Hull Area;
 - proportionate because our proposal is no more than is required to specify network components. Our proposal about the modification of network components is no more than is required to make the reporting of services in the WLA market consistent with the reporting of services in other regulated markets; and
 - transparent because our proposal seeks to specify network components and to make the reporting of services in the WLA market consistent with the reporting of services in other regulated markets, and to ensure that these components remain fit for purpose.
- 10.61 We set out in the next sub-section our proposals for the direction specifying requirements in relation to the preparation, delivery, publication, form and content of the RFS. This includes proposals in relation to the information that BT publishes in its RFS, provides to us privately and includes in the compliance statements

Reconciliation report

- 10.62 In the 2014 Financial Reporting Statement, we decided as a matter of policy that BT must publish the impact of all material changes and errors in an annual reconciliation report with an accompanying assurance report from their regulatory auditors. Changes to attribution methods or the correction of errors can affect all markets reported in the RFS.
- 10.63 To preserve the integrity and consistency of the RFS, we consider that all markets should be subject to the same direction to produce a reconciliation report. We consider that it is appropriate to re-implement these requirements in this review and to issue a direction to BT in respect of this.
- 10.64 We consider that giving the proposed direction, specifying the requirements in relation to the reconciliation report and the accompanying audit opinion for each

market, would fulfil our general duties under section 3 of the Act and meet the Community requirements set out in section 4 of the Act for the reasons given above. In proposing this change, we have taken due account of all applicable recommendations issued by the European Commission under Article 19(1) of the Framework Directive, the 2005 EC Recommendation.

10.65 We also consider that each proposed direction meets the tests set out in section 49(2) of the Act in that it is:

- objectively justifiable because it is necessary for there to be visibility in relation to changes and errors made in the Regulatory Financial Statements, both for us and for other stakeholders, and it is therefore necessary for us to specify the requirements in relation to the content of the reconciliation report and the accompanying audit opinion;
- not unduly discriminatory because it reflects BT's market position in the UK excluding the Hull Area;
- proportionate because our proposals are no more than is required to provide visibility in relation to changes and errors both for us and for other stakeholders; and
- transparent because our proposals seek to provide visibility in relation to changes and errors both for us and for other stakeholders and to provide BT with clarity about the requirements specifying the content of the reconciliation report and the accompanying audit opinion.

Preparation, delivery, publication, form and content of the RFS

10.66 This direction provides details of the financial information to be included in the published RFS and to be provided to us privately. It therefore plays an important role in ensuring the RFS provide relevant information to stakeholders. Some elements of the published RFS relate to all markets,²⁴³ while others are specific to the WLA market. To preserve the integrity and consistency of the RFS, we consider that all markets should be subject to appropriate reporting requirements.

10.67 We set out below some background on why such financial information is necessary and the categories of information we generally require. We then consider, for the WLA market, the information we propose to require BT to provide.

Background

10.68 It is important that BT maintains appropriate and reliable accounts that capture information on an ongoing basis relevant to its provision of services in the WLA market. In the 2014 Regulatory Financial Reporting Statement, we said that regulatory financial reporting should provide us with the information necessary to make informed regulatory decisions, monitor compliance with SMP conditions, ensure that those SMP conditions continue to address the underlying competition issues, and investigate potential breaches of SMP conditions and anti-competitive practices.²⁴⁴

²⁴³ For example, the reconciliation of the RFS as a whole to BT Group's statutory accounts.

²⁴⁴ 2014 Regulatory Financial Reporting Statement, paragraph 2.28.

10.69 We also said that sufficient information should be published to enable stakeholders to: contribute to the development of robust regulatory decisions; review and challenge data on which those decisions are made; assist us in monitoring compliance and to intervene in a timely fashion when required; and have reasonable confidence that BT has complied with its SMP conditions.²⁴⁵ We said that we would consider and determine what level of information would provide reasonable confidence in any particular case, following input from stakeholders.²⁴⁶ We also set out in the 2014 Regulatory Financial Reporting Statement that cost, volume and revenue information published in the RFS should reflect the level of the remedy.²⁴⁷

10.70 Considering the approach set out in the 2014 Regulatory Financial Reporting Statement, we have considered what specific regulatory accounting requirements are required to support the remedies we have proposed in this review. We set out our proposals relating to reporting requirements in the following categories:

- **Public information.** This is information that we consider would give stakeholders reasonable confidence that BT has complied with its SMP conditions, allow them to contribute to the regulatory regime (as set out above), and is consistent with the level of the remedy. For example, if the remedy is in the form of a charge control on individual services or baskets of services, information should be published relating to those services or baskets of services.²⁴⁸ We consider that our proposals are proportionate and strike a balance between the information that stakeholders need to contribute to the regulatory regime, as set out above, and confidentiality concerns that BT may have around the commercial nature of its financial information.²⁴⁹
- **Private information.** This is information that we receive privately from BT. As set out above, we may require this information to, for example, make informed regulatory decisions, monitor compliance with SMP conditions, ensure that those SMP conditions continue to address the underlying competition issues, and investigate potential breaches of SMP conditions and anticompetitive practices.

²⁴⁵ 2014 Regulatory Financial Reporting Statement, paragraphs 2.29-41. We also said that publishing financial information supports stakeholders' contribution to an informed regulatory framework and adds credibility to the regulatory accounting system. We said that this was consistent with the guidance in the 2005 EC Recommendation which states that: "regulatory accounting information serves national regulatory authorities and other parties that may be affected by regulatory decisions based on that information, such as competitors, investors and consumers. In this context, publication of information may contribute to an open and competitive market and add credibility to the regulatory accounting system". See Commission Recommendation of 19 September 2005 on accounting separation and cost accounting systems under the regulatory framework for electronic communications, Official Journal L 266, 11/10/2005 P. 0064 - 0069, Annex – Guidelines on reporting requirements and publication of information ("the 2005 EC Recommendation").

²⁴⁶ 2014 Regulatory Financial Reporting Statement, paragraph 2.39.

²⁴⁷ 2014 Regulatory Financial Reporting Statement, paragraphs 4.76-85.

²⁴⁸ In certain circumstances, we may decide that BT needs to publish regulatory financial data that goes beyond the level of the remedy to give stakeholders reasonable confidence that BT has complied with its SMP conditions and allow them to contribute to the regulatory regime. For example, in the 2016 BCMR Statement, given the broad baskets used in that charge control, we decided that BT must publish financial information on certain individual services (see paragraphs 16.44-46 and 16.52-61). For the WLA market, we consider that all the information we propose that BT should publish is consistent with the level of the remedy.

²⁴⁹ The 2005 EC Recommendation also says that, when requiring information to be published, national regulatory authorities should have due regard for commercial confidentiality. See paragraph 5 of the 2005 EC Recommendation.

10.71 We also set out our proposals for the non-confidential compliance schedules that BT should publish on its website alongside the public version of the RFS.

Public information

10.72 In the published RFS, financial information on specific markets broadly relates to three areas:

- **Market level information.** This is information on the revenues, operating costs, capital employed and returns on MCE for a specific market. In the 2015/16 RFS, this information in respect of the WLA market is set out in the schedules on pages 21, 25 and 28 for the 2015/16 financial year. For example, in 2015/16, these schedules show that revenue in the WLA market was £1.95bn and the return on MCE was 14.5%. The schedules also show a breakdown of operating costs and capital employed.²⁵⁰
- **Service level information.** This can include the revenue, volumes, prices and FAC of specific services or groups of services associated with the relevant market. For example, in relation to the WLA market, page 38 of the 2015/16 RFS gives this information for 16 services provided in that market.
- **Network components costs for reported services.** In BT's cost attribution system, costs are ultimately attributed to network cost components which in turn are attributed to services. A network component cost schedule therefore shows how the service level FAC information is broken down by network component. For example, in relation to the WLA market, page 39 of the 2015/16 RFS shows which network components are used by each reported WLA service. We propose to amend the network component cost schedules reported in the RFS so that the network component cost information is reported in unit costs rather than the total network component cost.²⁵¹ This change will make it easier to compare network component costs where those network components are shared across markets, for example between the WFAEL and WLA markets.

10.73 Consistent with our decision in the 2014 Regulatory Financial Reporting Statement, we consider that it is appropriate to impose the following requirements on BT in relation to the provision of public information for the WLA market, and therefore, we propose to make directions to this effect.

Market level information

10.74 We propose that BT should publish the revenue, operating costs, capital employed and returns for the WLA market. In practice, this means that the WLA market will continue to be included in the 'performance summary by market' schedule in the RFS and the 'attribution of wholesale current costs and mean capital employed' schedules.²⁵² Trends in market level financial performance are informative in the

²⁵⁰ Operating cost and capital employed are broken down by what BT calls 'sectors' on pages 25 and 28 of the 2015/16 RFS. These sectors provide a high-level view of the types of operating costs and assets associated with the relevant market.

²⁵¹ For example, page 39 of the 2015/16 RFS shows which cost components are used by each reported WLA service. The cost component value by service is reported in £millions. We propose to amend this so that the values are reported in £/units. The bottom row of this schedule would then change from £units to £millions and could be reconcilable to the service level FAC information.

²⁵² See pages 21, 25 and 28 of the 2015/16 RFS.

context of considering the impact and effectiveness of the remedies we propose in the WLA market. Market level cost information also provides transparency regarding how BT has attributed costs between regulated markets (and between regulated and unregulated markets).

- 10.75 We see this as facilitating stakeholder confidence that such costs have been attributed consistently and appropriately. It also mitigates against the risk of double recovery of costs or that costs might be unreasonably loaded onto services or markets. We consider it is appropriate to require BT to publish this information to understand and demonstrate the overall reliability and robustness of the RFS.

Service level information

- 10.76 We propose that BT should publish revenue, volume, average price and FAC for WLA services, split between internal and external customers, at the level that they are regulated.
- 10.77 We consider that publishing internal and external revenues and volumes can demonstrate the impact and effectiveness of the remedies proposed in the WLA market and provides transparency about the relative usage of WLA services by BT and external telecoms providers.
- 10.78 As services within WLA are required to comply to a cost-based remedy we consider that it is important to publish service-level cost information to test compliance with these remedies.
- 10.79 We propose that BT should publish revenue, volume, average price and FAC information for the following services/groups of services as set out in Volume 2 Section 3 where revenues are greater than £5m:
- GEA 40/10 (FTTC) Rentals;
 - GEA 40/10 Other Rentals;
 - GEA Other Rentals (all other speeds except 40/10);²⁵³
 - GEA 40/10 (FTTC) PCP Only Install and Start of a Stopped Line 40/10;
 - GEA 40/10 FTTP Other Connection;²⁵⁴
 - GEA Cable link 1 Gigabit;
 - GEA Cable link 10 Gigabit;
 - MPF Rentals (SML1);
 - MPF New Provide Services;

²⁵³ In private we be provided with network component FAC cost information breakdowns of all product variants with revenues above £5m.

²⁵⁴ We propose that BT must separately identify the revenue, volume and average price only for GEA 40/10 FTTP FVA Connection and GEA 40/10 FTTP Other Connection. In private we be provided with network component FAC cost information breakdowns of all product variants with revenues above £5m.

- MPF Single Migrations;
- MPF Bulk Migrations;
- Co-mingling New Provide and Rental services;
- Tie cables;
- Hard Cease services;
- Other MPF Ancillary Services;
- Special Fault Investigations;
- Time Related Charges; and
- Other WLA.

10.80 BT is currently required to separately report information for SMPF Rentals, SMPF New Provides Services, SMPF Single Migrations and SMPF Bulk Migrations. In Section 6 we propose that these services are no longer be subject to cost-based remedies. Therefore, we propose that BT will not be required to publish FAC cost base information on these services. We will still require this information to be provided in private to us (see below).

10.81 Conversely, we are proposing that BT report FAC information, including a cost breakdown by network component in respect of key GEA services. We consider we are justified in requiring this information to be published for several reasons.

- Firstly, whilst we used our own bottom up model to determine the LRICs of GEA service, we used BT's GEA cost data for calibration purposes (see Annex 13).
- Secondly once BT's GEA FAC data has been corrected for errors (see above) it will provide stakeholders with information as to how the regulated prices relate to BT's costs. Further, this information will help stakeholders scrutinise any cost movements against prices.
- Thirdly, we used the GEA FAC cost information together with other WLA and WFAEL FAC cost information to help determine the attribution of common costs between other GEA, other WLA and WFAEL services. Providing FAC cost information on the key GEA services will provide stakeholders with an insight into the ongoing impact of our common cost calculations.
- Finally, these GEA services are important services forecast to be purchased by other telecoms providers in increasing volumes in the period of this charge control. Not prejudging any remedy or cost standard we may apply in any future WLA Market Review, it is important that stakeholders have access to a time series view of volumes, revenues and costs for these services to allow them to provide meaningful contributions to that review.

10.82 In respect of TRC's and SFI's, we propose in Volume 2, Section 3 that these services remain subject to a cost based charge control. In the 2014 Fixed Access Market Review, we decided to impose a basis of charges condition that charge controlled these services using a mixture of management account information and FAC information. In Volume 2, Section 3 we propose that the services are charge

controlled based on FAC costs rather than Management Accounts information. Because of this change, whilst we propose BT to provide unit cost FAC information, we propose that BT will no longer publish Appendix IV “Time related Charges and Special Fault Investigation Costs” of the RFS. However, we propose that BT will provide information in private in relation to the labour charging elements of TRCs and SFI’s.

Cost components for reported services

10.83 Where BT publishes FAC cost information, unless otherwise specified, we propose that BT should publish the calculation of service level FAC based on network component costs and usage factors for the WLA market. As noted above, services within the WLA market are subject to cost-based remedies and therefore network component level reporting is important to help assess compliance with these remedies. We propose this is done on a unit basis and converted via service volumes into aggregate costs which reconcile with the total FAC aggregate costs for that service. This is a reversal of the current practice which we believe makes the reporting of this services more transparent as it makes easier comparison with average unit prices.

Private information

10.84 As explained above, in addition to information reported in the published RFS, BT also provides information to us privately which, overall, ensures that we have the information necessary to make informed regulatory decisions, monitor compliance with SMP conditions, ensure that those SMP conditions continue to address the underlying competition issues and investigate potential breaches of SMP conditions and anti-competitive practices.

10.85 BT currently provides several additional financial information (AFI) schedules privately to us, including a ‘data file’ which provides detailed information on all the revenues, volumes, costs and cost categories that support the published RFS.

10.86 We propose to amend the information that BT provides to us.

Proposed amendments and additions to the existing schedules

10.87 We propose to amend AFI’s relating to DLRIC/DSAC data, the Data File, TRCs and SFIs, GEA services. We propose two new requirements in connection with detailed WLA services.

DLRIC and DSAC data

10.88 BT currently provides FAC, DLRIC and DSAC data for each service in each regulated market under AFI-C1.²⁵⁵ DLRIC and DSAC data can inform our market reviews and our assessment and analysis of appropriate remedies where SMP is present. It is important to receive this information on all markets to ensure the overall coherence of the data on DLRIC and DSAC. We also believe the same reason

²⁵⁵ WFAEL, WLA, ISDN 2, ISDN30, Low Bandwidth TISBO, Medium Bandwidth TISBO, High Bandwidth TISBO, TI Regional Trunk, Technical Areas (Point of Handover), AISNO non-WECLA, AISBO WECLA, MISBO non-WECLA, WCO, WCT, Technical Areas (Interconnect Circuits) and WBA market A.

applied to LRIC information²⁵⁶ The new Direction will clarify that we require BT to provide this information in relation to all markets and will extend the requirement to LRIC data.²⁵⁷

10.89 BT currently provides FAC and LRIC data across all markets on a cost component by cost category basis under AFIs 1-4. BT has informally provided as with AFI's 1-4 on a DLRIC and DSAC basis. We propose to formalise this arrangement as that the DLRIC and DSAC information is provided within an amended combined AFI.

Data file

10.90 One of the directions imposed on BT requires it to provide a data file which contains the information supporting the RFS. We have worked closely with BT to ensure that the files it provides to comply with this direction allow us to interrogate the data underpinning the RFS. We propose to make amendments to the direction relating to the provision of the flat file to capture the arrangements that are currently in place. The main change is for BT to provide the file "FAC adjustment Summary" (for LRIC model)²⁵⁸ which contains the post RFS adjustments to cost categories for the purposes of LRIC reporting.

10.91 We also expect the data file can provide the following information (which, as explained above, will not or will no longer be included as part of public reporting):

- revenue, volume and cost information relating to each WLA rental, connection and ancillary service and related component. It will also help us assess the impact and effectiveness of the remedies we are proposing; and
- revenue, volume and cost information relating to each WLA service and related components. This information helps us understand how BT is allocating costs between and within markets and helps us assess the impact and effectiveness of the remedies we are proposing.

10.92 We propose to amend the direction to clarify that the data file should include this information

SFIs and TRC's (AFIs B1 - B2)

10.93 As noted above, we have proposed an FAC based charge controls in respect of SFI's and TRC's and have proposed removing the requirement for the publication of management accounting information. However, we have found the provision of this information to be useful, particularly the labour rate information which was taken into account in the recent TRC and SFI dispute²⁵⁹. We therefore propose to continue to require the provision of labour cost information within these AFI's.

²⁵⁶ That is, to be confident in the data received for a service or market, it is important to be able to see how it relates to the same data for other services or markets, to ensure the overall robustness of the data and to demonstrate that attribution and LRIC methodologies have been followed appropriately.

²⁵⁷ File titled "AFI- 1-4_02 March Updated and including DLRIC and DSAC" provided by [redacted] (BT) to [redacted] (Ofcom) at 17:03 on 2nd March 2017.

²⁵⁸ File provided by [redacted] (BT) to [redacted] (Ofcom) at 17:03 on 2nd March 2017.

²⁵⁹ Disputes between BT and each of TalkTalk and Sky in relation to BT's historical charges for SFIs and TRCs, Final determination, 17th November 2016

GEA (AFIs B4 - B6)

- 10.94 As noted below, we propose that BT should provide the revenue and FAC cost component breakdown for all services where revenue is expected to exceed £5m in the year. BT currently provides this information in AFI-B4 in relation to GEA revenues and AFI-B5 in relation to GEA service FAC's, albeit for several services where the revenues are below £5m. We propose that BT no longer provides this information which largely duplicate the proposed Detailed WLA and Component FAC requirements.
- 10.95 The final GEA AFI, AFI-B6 provides information on the allocation of government grants in relation to GEA services. We propose to keep this AFI but require BT to separately show grants received for operating expenditure as well as capital expenditure.
- 10.96 In addition, we propose BT provides a further breakdown of the two network components, Funded Fibre Rollout Spend which aimed to capture all the capital expenditure within BDUK areas and Fibre Rollout Funding which captured movements of BDUK income.
- 10.97 While Cartesian did not examine attribution of F8 code costs to Plant Groups they noted "BDUK funding and BDUK rollout finance type of costs do not provide full clarity on how the BDUK funding is spent."²⁶⁰
- 10.98 There have also been several errors corrected and improvements made to these network components as set out in the 2014/15²⁶¹ and 2015/16²⁶² Reconciliation Reports. In summary, the 2014/15 error corrected BDUK operating grant and expenditure incorrectly allocated to the FTTC Development component rather than the BDUK funding and expenditure components. In 2015/16 BT improved the accuracy of reporting within the BDUK network components by changing the BDUK depreciation calculation from an annual average to monthly one, Northern Ireland and TSO BDUK income and expenditure were also now captured within the BDUK components.
- 10.99 Because of these issues and in line with Cartesian's recommendation, we propose to require BT to set out in this AFI the costs and revenues that are attributed to both network component and the basis of i) Finance Type (disaggregating out any Transfer charges) and ii) reattributing to network components in the absence of the BDUK components. For the key GEA services this information will reconcile to that publicly reported within the RFS.

https://www.ofcom.org.uk/_data/assets/pdf_file/0019/94132/CW-01182-TRC-SFI-Final-Determination-non-confidential.pdf.

²⁶⁰ Cartesian NGA Report, page 9.

²⁶¹ BT 2016 Reconciliation Report, 2 December 2015, section 5.11 (page 31),

<http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2015/ReconciliationReport201415.pdf> [accessed 21 March 2017].

²⁶² BT 2016 Reconciliation Report, 28 October 2016, Section 5.12 (page 30),

<http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2016/ReconciliationReport2015-16.pdf> [accessed 21 March 2017].

Additional Detailed WLA Service and FAC Reporting

10.100 Consistent with our decision in the 2016 BCMR Statement²⁶³ we propose that BT provides additional information be provided to us in private, in relation to detailed WLA Revenue and Cost information and WLA service component FACs. We set out the requirements and our reasoning for them below.

10.101 The first requirement is for Detailed WLA Service information and should set out the revenues, volumes and FAC on a CCA basis of any other WLA not publicly disclosed where the revenue from this service is above £5m. The revenues and costs should, in total, be reconciled to the revenues and costs included within the publicly reported totals for the WLA market. This information will ensure that we have sufficient information to identify services that account for a significant proportion of WLA revenues and costs. Where BT cannot demonstrate this information meets the data file requirements in the below paragraphs, this information shall be supplied as an AFI.

10.102 The second requirement is for Detailed WLA Service Component FACs which we propose sets out the calculation of FAC based on component costs and usage factors for all services reported under the first requirement. The fully allocated service unit costs should reconcile to those given in the first requirement. As with Detailed WLA Service information, this schedule will ensure that we have sufficient information to identify services that account for a significant proportion of WLA costs. As with the Detailed WLA Service information, where BT cannot demonstrate this information meets the data file requirements in the below paragraphs this information shall be supplied as an AFI.

Potential removal of other schedules

10.103 As part of our ongoing engagement with BT on regulatory financial reporting, we have had discussions with BT over the continued provision of AFIs where that information is contained in the Data File. We note that the SMP condition that imposes the requirement for BT to provide additional financial information²⁶⁴ does not specify the format of that information. It could therefore be provided within the Data File rather than as a separate AFI.

10.104 In principle, we agree that where the information is provided within the Data File it need not be provided as a separate AFI. However, this would not apply to:

- i) information that we do not get as part of a data file (currently any LRIC and DSAC information);
- ii) where obtaining the information from the Data File would not be straightforward and / or the information from the Data File would be different than that which would have been included in the AFI;²⁶⁵ or
- iii) where the AFI is used as a control total for information obtained from the Data File (such as AFIs 1-4).

²⁶³ 2016 BCMR, Volume 1, paragraph 16.85.

²⁶⁴ 2014 Regulatory Financial Reporting Statement SMP Condition 8 (i).

²⁶⁵ By different we mean that there would be a difference of at least 1% in any individual number.

10.105 Considering the above factors, we have reviewed the current list of AFIs and have found no further specific AFI's relating to the WLA market that should no longer be provided.

Accounting Deadlines

10.106 As part of our ongoing engagement with BT on regulatory financial reporting, we have had discussions with BT over the timing of the delivery of AFI schedules that contain LRIC information. As it takes BT two weeks to generate LRIC information from its LRIC model, BT requested that the AFIs with LRIC information be provided two weeks after all other AFI's had been provided.

10.107 As part of our consideration of BT's request, we reviewed the SMP Conditions and Directions relating to the timing of the delivery of the RFS and uncovered several practices that had arisen that appeared contrary to those SMP Conditions and Directions.

10.108 The 2014 Regulatory Reporting Statement says that BT is required to provide to us with a copy of RFS that "shall be in the form in which they are ultimately to be published at least two weeks before they are required to be published".²⁶⁶ We note that instead BT has been providing a 'near final' draft RFS. We propose that the new condition will make it clear that the copy of the RFS we receive two weeks in advance of the publication should be the same as that which is published.

10.109 The 2014 Regulatory Reporting Statement says that BT is required to provide the AFIs at the same time as the RFS. We note that BT has instead been providing final AFIs two weeks after the RFS has been published. This practise had been happening for many years. BT's view was that this custom had arisen as there was no legal deadline for the delivery of the AFIs. However, in the 2014 Regulatory Reporting Statement the definition of 'Regulatory Financial Statement' is "any financial statement in respect of a Financial Year..."²⁶⁷ And further, the glossary to the SMP conditions states that the RFS "describe the annual regulatory financial statements...We use this term in this consultation to refer to both the published and unpublished statements. The unpublished financial statements are submitted to us confidentially"²⁶⁸. To us therefore it is unambiguous that BT should have been supplying the AFI's on the same date that the RFS is published. We propose to clarify this requirement in the direction.

10.110 In the light of the fact that the RFS must be provided in final form two weeks prior to publication, the provision of the AFIs that contain LRIC information on the date the RFS are published should be achievable. We do recognise that the team producing the RFS are extremely busy around the date of the RFS publication, but it is for BT to resource appropriately to meet its regulatory obligations.

10.111 We therefore propose that the direction will make it clear that non-LRIC AFI's (including the Data File) should be provided alongside the RFS. We will however propose that LRIC AFI's should be supplied when the RFS is published and the data no later than two weeks after the RFS is published.

²⁶⁶ 2014 Regulatory Reporting Statement SMP Condition 8 (v).

²⁶⁷ 2014 Regulatory Reporting Statement, page 120.

²⁶⁸ 2014 Regulatory Reporting Statement Glossary paragraph A1.31 page 117.

Proposed Direction for the preparation, delivery, publication, form and content of the RFS

10.112 We therefore propose to implement the requirements set out above by giving a direction to BT setting the requirements explained above in relation to preparation, delivery, publication, form and content of the RFS in respect of the WLA market. We consider that it is appropriate for the form of the proposed direction to be based on the form of the direction given in the 2015 Directions Statement with the modifications necessary to reflect our proposals set out above.

10.113 We consider that giving the proposed direction specifying requirements in relation to the preparation, delivery, publication, form and content of the RFS for each market would fulfil our general duties under section 3 of the Act and meet the Community requirements set out in section 4 of the Act for the reasons above. In proposing this change, we have taken due account of all applicable recommendations issued by the European Commission under Article 19(1) of the Framework Directive, in particular the 2005 EC Recommendation.

10.114 We also consider that the proposed direction meets the tests set out in section 49(2) of the Act in that it is:

- objectively justifiable because the Direction will reflect the proposals in this consultation. Our proposals concerning the additional information to be provided, both in public and in private, seek to ensure that stakeholders have sufficient information about the products and services they purchase to provide them with reasonable confidence about BT's compliance with its SMP conditions and that we have sufficient information necessary to carry out our functions;
- not unduly discriminatory because it reflects BT's market position in the UK excluding the Hull Area. We have explained in this consultation the reasons for requiring relevant information from BT both publicly and privately;
- proportionate because the Direction will be no more than is required to ensure the effectiveness of the proposals in this consultation and ensures that Ofcom and stakeholders are provided with a sufficient level of information, and does not extend beyond these; and
- Transparent because the intention of the Direction will be to make sure that the RFS remain fit for purpose and that Ofcom and stakeholders are provided with a sufficient level of information.

Electricity Reporting

10.115 In respect of Electricity Charges, in Section 9 we propose that these services remain subject to a basis of charges obligation. We proposed to continue with the same obligation as set out in the June 14 FAMR Statement²⁶⁹ that requires BT to set electricity charges that are reasonably derived from its wholesale purchase of electricity plus an appropriate mark up, to reflect BT's own costs.

10.116 We continue to believe that publication of non-confidential information in BT's AMD is needed to provide stakeholders transparency as to the methodology BT uses to set

²⁶⁹ June 2014 FAMR Statement, paragraph 13.65

electricity charges. We do not propose that such an explanation contains specific financial information, for example about the precise level of BT's mark up on the purchase of electricity costs as we consider this information could allow third parties to derive the underlying purchase costs which we consider are likely to be confidential and commercially sensitive. We will however continue to require this information in private as an AFI.

10.117 We consider that giving the proposed direction, relating to reporting of the electricity charges seek to ensure that decisions taken in the Wholesale Local Access market are reflected in the Regulatory Financial Statements, would fulfil our general duties under section 3 of the Act and meet the Community requirements set out in section 4 of the Act for the reasons given above. In proposing this change, we have taken due account of all applicable recommendations issued by the European Commission under Article 19(1) of the Framework Directive, in particular the 2005 EC Recommendation.

10.118 We also consider that the proposed direction meets the tests set out in section 49(2) of the Act in that it is:

- objectively justifiable because our proposals concerning the additional information to be provided in the Detailed Attribution Methods seek to ensure that BT provides to stakeholders transparency as to the methodology which it uses to set the electricity charges. Our proposals concerning the additional information to be provided to us in private seek to ensure that we have the information which we need to carry out our functions;
- not unduly discriminatory because BT is the only SMP provider which has SMP obligations in relation to the electricity charges;
- proportionate because the changes are no more than is required in order to achieve transparency and give us the information we need to carry out our functions, and in particular does not require BT to publish information which may be commercially sensitive; and
- transparent because it is clear that the intention is to make sure that the Regulatory Financial Statements remain fit for purpose and adequately reflect the outcomes of the Fixed Access market review, that BT provides to stakeholders transparency as to the methodology which it uses to set the electricity charges, and that we have the information which we need to carry out our functions.

Compliance Information

10.119 We propose that BT should supply to us in an electronic format, no later than three months after the end of each Relevant Year, the data necessary for us to monitor compliance with the charge control as described in more detail within the 'General Provisions and interpretation' section of each of the proposed SMP conditions. This information should reconcile to the RFS. We also propose that BT should publish a non-confidential version of the data on its website. This requirement will be set out in the relevant Charge Control SMP conditions

Consultation question

Question 10.1: Do you agree with our proposals for BT's regulatory financial reporting? Please provide reasons and evidence in support of your views.