Vodafone Response to Ofcom's Consultation:

Wholesale Local Access Market Review

Incorporating Quality of Service for WLR, MPF and GEA

Non-Confidential

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Executive Summary

The Wholesale Local Access Market Review is the key vehicle for the implementation of Ofcom's broadband strategy following its two year long Digital Communications Review. This Market Review matters. It matters because its outcome will determine:

- the price consumers pay now for broadband services; and
- the service improvements they will feel over the next years; and
- if and how fibre network investments are made, either by Openreach or by others.

The repercussions of this market review will be felt for years to come. However, the consultation proposes to limit price cuts to a single broadband product; the quality of service improvements fail to address Ofcom's own ambition for customer experience and the fibre investment incentives are limited.

Ofcom is proposing an anchor pricing mechanism that would place a charge control on Openreach's 40/10 GEA product and leave other, higher bandwidth, products to float free of specific regulation. This places great faith in Openreach's willingness to align its own interest, that of its CP customers and that of consumers in pricing other products. Providing such control of the market to Openreach when Ofcom has found SMP is astonishing. Given there is no risk to the investment of VDSL based 40/10, 55/10 and 80/20 GEA products, the prices are known and there is no prospect of market entry that would seek to compete at these bandwidths, there appears to be little reason to provide Openreach with such a free reign.

Ofcom's own policy objectives for consumers to receive Automatic Compensation in the event of service failure, as proposed in the Digital Communications Review are ambitious. Not least because this Wholesale Market Review sets much lower quality thresholders for Openreach service delivery and repair. Whilst it might be economically efficient for Openreach not to deliver good service all of the time, it is not economically efficient for CPs or their consumers to pick up their costs. CPs already bear the cost of that failure, however Automatic Compensation will increase that burden as 'liability' becomes much more fought over. The Wholesale Local Access Market Review must take account of Ofcom's own policy, the implications on the market and on consumers, by either setting increased quality service targets on Openreach or recognising that service liability falls with them and cannot be recovered through charges.

A significant level of medium-long term support is required to deliver Ofcom's ambition for three fibre networks covering 40% of the UK, yet we find that the lack of regulatory control over Openreach's GEA product pricing means that third party investment can be thwarted on a local basis without any real disruption to Openreach's revenue lines. Targeted build and pricing of G.Fast based services, sufficient to dent an already fragile business plan would retain dominance in local access networks for Openreach for years to come. The freedoms granted by Ofcom in pricing could be used by Openreach to invest in fibre but instead Openreach's focus is on utilising cheaper copper technology. The same copper technology that provides a poor customer experience and the need for Automatic Compensation.

By providing BT with one sided pricing freedoms, by failing to integrate Ofcom's own policy on service standards for the consumer and by failing to effectively incentivise and support fibre based investment, we find that this market review is unlikely to be the catalyst for change that could make the communications market work for everyone.

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1. Introduction

1.1 Vodafone is the fasted growing fixed broadband provider in Europe[1], with an expanding footprint in many of the territories we serve. The United Kingdom is our home market and we have a vested

[1] http://www.vodafone.com/content/dam/vodafone/investors/financial_results_feeds/preliminary_results_31march2017/dl_prelim2017.pdf

interested in making the market work for consumers, enabling them to exercise choice and benefit from a fibre future that will serve their needs over the long term. This market review is the culmination of two years of policy development in Ofcom through its Digital Communications Review project. The market review process is a complex one, attempting to address the key issues of pricing, investment incentives and quality of service. We comment on each of these in turn in this response.

- Part one discusses the policy issues relating to this market review, looking at the merits of Ofcom's policy aspiration for Wholesale Local Access in the UK and taking a view on what modifications are needed to Ofcom's proposals to best achieve them. With a focus on the encouragement needed to bring about vibrant competition at the retail level on GEA and the issues associated with both stimulating FTTP investment and managing the transition to fibre in the decade ahead.

- Part Two takes a more detailed view of the charge control proposals, the assumptions used and the outcomes proposed. It looks at the detail of the model and the principles around casting a genuinely fair bet around returns from incumbent network investment, highlighting what rigor is needed to protect UK consumers and prevent meritless returns by BT on regulated services.

- In Part Three we address the issue of Quality of Service, highlighting the issues faced by the industry when dealing with a monopoly supplier, reinforcing the need to maintain minimum standards to protect the consumer interest and avoid falling into another avoidable Openreach service crisis.

- In Annex 1 we assess the proposed changes to the legal instruments proposed by Ofcom, making recommendations to ensure they work and fit the purpose for which they are intended.

- Annex 2 is a stand-alone report focusing on the steps required to establish a transparent reporting process for externally funded network build.

2. The Wholesale Local Access market

The importance of this Market Review

2.1 The importance of this Market Review cannot be underestimated. It is much more than establishing markets to enable SMP regulation; rather it is the means by which the objectives of Ofcom's Digital Communications Review will be implemented. Ofcom's objective of 3 fibre networks across 40% of the UK is well documented. It also recognises that 60% of the country is unlikely to have access to more than 2 broadband networks, and we know that a large part of the UK has already benefited from State

Aid, because a single superfast network is unviable. In order to facilitate this, Ofcom has chosen not to price regulate the majority of Openreach's superfast products, leaving consumers at risk of high prices, with BT enjoying a further regulatory holiday, nor are there any plans to constrain G.Fast roll out to support fibre build.

Squeezing copper is bad news for consumers

2.2 The copper local access network has become the default delivery system for digital communication to consumers in the United Kingdom. A network that was designed decades ago

to carry voice services over copper loops, connecting homes to local exchanges has seen a significant shift in its usage to the point where its primary purpose for many consumers is now focused on broadband delivery, rather than carrying the dial-tone voice services it was originally designed for. Even in 2017, the foremost technical standards[2] for the copper network remain focused on operated and maintaining a network to a voice standard only.

2.3 The full re-purposing of the copper network and the transition to principally providing broadband is expected to take a number of years and will result in voice services being provisioned over broadband as standard, with no need to retain a separate voice path on copper, meaning an end to exchange lines. The adaptions & innovation that have occurred in technology to enable copper to be used as the delivery mechanism for broadband have been technically impressive, delivering speeds of up to 80Mbit/s over a thin set of copper pairs, with G. Fast expected to stretch this yet further for some customers. While investment in accelerating the speed that can be delivered over legacy copper may be an expedient & relatively cost effective way to deliver broadband, it is a tradeoff that comes with both a short and long term consumer welfare cost.

2.4 The negative consequences of legacy copper reliance are apparent today for the many consumers whose copper line characteristics mean they can't achieve the speeds they need, leaving them frustrated and unable to fully participate in the range of digital services enjoyed by their fellow citizens. While policy initiatives like the Broadband USO aim to raise the speed floor for all, to 10Mb/s, the stark reality is that the gap between the best copper based broadband performance and the worse, is set to widen yet further, with the advent of G.Fast (Ultrafast), pushing more from copper, but in doing so leaving millions of consumers behind who are unable to realise benefits from further copper acceleration technologies.

2.5 There is also however, a more fundamental economic cost in the long run which can be directly attributed to having a short term focus on upgrading copper loops to the limits of technology. The economic consequences of a bias toward copper acceleration will eventually touch all UK consumers, not just those unable to reach the highest speeds on copper. The reality is that even when copper access lines are utilised to their maximum, their performance falls well short of the capabilities of Fibre to the Premises ("FTTP"). Yet the presence of an upgraded copper network, pushes out the prospect of truly mass-market FTTP investment in the UK and in so doing restricts the UK's infrastructure capability and service quality. Accelerating copper ruins the consumer appetite for fibre and has a cost that has never been addressed. It might be economically efficient for Openreach to sweat its copper network assets, but they are alone in reaping this benefit. It is clear the capabilities of copper will never match those of fibre and the UK must be able to be well position to ensure fibre becomes the standard for local access in the years ahead.

2.6 Given where we are, copper is likely to be the only mass-market means of delivering adequate broadband speeds for much of the UK in the short term, however a much more coherent set of actions are required to encourage real FTTP deployment over the medium term if the UK is to thrive digitally, underpinned by a quality fibre infrastructure, not a network still reliant on repurposed legacy copper. Creating the right investment climate is far from straightforward and one of the most complex tasks facing Ofcom. It requires a balance between satisfying consumer demand for greater speed in the short term (which largely falls to copper

[2] See BT Suppliers' Information Notes (SIN) 349: http://www.sinet.bt.com/sinet/SINs/pdf/349v2p5.pdf

acceleration investment to deliver), whilst ensuring in the longer term that mass-market FTTP remains the achievable end goal for the UK.

Openreach or someone else?

2.7 In its effort to be technologically neutral, Ofcom's approach has had the unintended consequence of favouring copper investment, rather than the FTTP investment that the UK so desperately needs. We support Ofcom's aspiration to stimulate infrastructure competition and ensure fibre participation from a much wider investor community than is the case today. Like most long term infrastructure investments, the upfront capex costs of fibre are heavy and the pay back periods are long, so before any investment on this scale is contemplated we must be sure that the investment climate is right. Two decades ago the UK was in the midst of cable network building frenzy, which culminated in the urban and suburban cable networks that exist today, however the investors who originally funded this roll out lost out, through asset write-downs and ultimately Chapter 11 restructuring.

2.8 The reality is that fibre investment is costly, but the benefits of doing it are clear, however if investors are to avoid a repetition of the early 90s cable network roll out, then more needs to be done to ensure that a fair opportunity for return is available and the copper network itself is not favoured by the regulatory process to undermine investor confidence. This isn't an easy task as the short term broadband needs of consumers have to be balanced with the long term reality that without a fibre future the UK is at risk of falling behind both economically and in the overall consumer experience.

2.9 Strong regulation of BT's significant market power ("SMP") in the wholesale local access ("WLA") market, including price control of key inputs such as metallic path facility ("MPF") and Generic Ethernet Access ("GEA") are essential to deliver vibrant competition, choice and lower prices for consumers over the next control period.

2.10 Maintaining incentives to invest in the WLA market is crucial for the UK's long term economic development. Not all types of WLA investment are equal and while technology neutrality remains an important principle, in practical terms supporting WLA investment based on legacy copper access will lead to unintended consequences.

2.11 There is a clear distinction between investment in delivering new fibre to the premises ("FTTP") and investment which has the purpose of accelerating the speeds achievable over legacy copper access bearers. While BT should of course be free to invest in which ever technology it sees fit, investing in products that are underpinned by copper access acceleration technologies should be subject to regulatory remedies that limit returns, recognising that the copper bearer is itself a sunk SMP asset and this kind of investment has a far lower risk associated with it, with tax payers already de-risking a significant proportion of this investment via the BDUK program.

2.12 Ofcom's own research presented in this consultation clearly indicates that standard broadband is no longer an effective substitute for superfast broadband, and for many consumers the only superfast choice available are those delivered over a BT copper access bearer. These consumers need to be protected from excessive pricing at the wholesale level, regardless of what bandwidth of service they purchase. This can be achieved by extending the charge control approach to the full current range of FTTC based GEA services. In recognition of the genuine risk associated with FTTP and the need to attract investment in new fibre links to UK homes and businesses, FTTP services should not be subject to charge controls.

2.13 To this end all FTTC based GEA services available today should be placed within a regulatory charge control basket, allowing BT to determine its own bandwidth gradient within an acceptable range, enforced through sub-caps, allowing more to be charged for higher speeds delivered over copper and allowing BT to earn a fair, but not excessive return from its investment to accelerate copper, taking account the significant contribution tax payers have already made to this investment. While GEA above 80Mbit/s, including G.Fast services should not be subject to regulation at first, given their reliance on copper there should be a reasonable expectation that they would be price regulated within a reasonable period.

2.14 The likelihood of an adverse impact as a result of copper acceleration investment is high. Although FTTP is key to delivering transformational service, it incurs far greater risk given the amount of upfront capex required and far longer payback periods (and the ongoing competitive threat from accelerated copper in situ). These short and long term trade offs are too important to leave to chance, not just to satisfy consumer demand today, but also to guarantee infrastructure keeps pace with aspirations and UK consumers aren't left behind.

2.15 However, the consultation document makes no reference to the fact that alternative CPs have not been able to secure the same level of market share in the superfast Broadband market as they have achieved historically in standard broadband, with BT able to sign-up a far higher market share in superfast than for standard broadband. If no pricing remedies are put in place for all but one of the GEA bandwidths, it will result in alternative CPs being far more cautious about selling into the retail market the full range of products across the speed range, particularly those underpinned by wholesale service that have no long term pricing stability. This will lead to retail market distortion, with BT's retail businesses able to capitalise on this yet further, being the only CP who can retail these services with any long term confidence. This will limit the ability of other CPs to attract market share in a market where they have already struggled to make the same kind of retail impact as in the standard broadband market.

2.16 FTTP investment from all communication providers is welcome and is what the UK needs to transform its communications infrastructure. However, potential investors have to not only contend with the threat posed through accelerated copper eroding the appetite of some consumers for paying for fibre, but also the prospect of being the subject of an over-build assault by BT. It could re-prioritise its plans, target prices or otherwise obstruct investment that would be in the long term interest of the UK, for its own gains. Even the mere prospect of such practices constrains business plans. To this end we believe Ofcom should be much better informed about the locations earmarked by BT for G.Fast and FTTP rollout so it is able to act quickly should the prospect of reactive, anti-competitive over-build arises, to prevent it from scaring off alternative FTTP investment and prolong reliance on copper as a result.

Risk of consumer harm due to limited charge controls

2.17 Allowing a fair return does not mean FTTC, G.Fast and FTTP investment should all be treated equally. To that end we believe Ofcom have been overly generous around the investment returns proposed for BT's copper acceleration investment (focused on FTTC and G.Fast deployment), with BT's regulatory holiday on FTTC extending until 2018, a full decade after this investment was first announced, and thereafter the regulatory holiday is only being partially suspended through a charge control that is narrowly focused upon one anchor service, rather than a wider basket of copper services.

2.18 Ofcom's approach also fails to take account of the significantly lower risks associated with copper acceleration investment and the significant tax payer funded state aid contribution that effectively derisks much of BT's roll out in some of the most challenging locations. An approach to investment risk and reward that does not differentiate will not assist Ofcom in its stated aspiration of scale FTTP deployment, in fact it may well do the opposite, prolonging reliance on copper, to the detriment of UK consumers in the longer term.

2.19 To this end we believe Ofcom must be bolder in its charge control proposals, setting a clear delineator between investment focused on copper acceleration and investment delivering future proof fibre to the premises. This would involve all copper based services set within a charge control basket, mindful of BT's overall returns but permitting higher copper speeds to be more lightly price controlled than lower speeds, to continue to provide a fair return on copper acceleration investment, particularly at the higher end. FTTP investment however would remaining outside the scope of any formal charge controls in recognition of the long term and genuinely riskier nature of this investment.

2.20 BT's returns in the superfast broadband market are completely out of step with competitive market outcomes. They have gone beyond allowing BT a fair opportunity to recoup its relatively modest initial investment, allowing excess returns to be generated in both the short and medium term. By the time the new charge control commences a decade will have elapsed since BT first muted FTTC investment, this amounts to an extensive regulatory holiday and does not represent a fair balance of risk over reward, particularly when you consider the significant tax payer contribution to the roll out in the form of BDUK gap funding. We estimate the 1-year delay to the GEA charge control will cost UK consumers alone £140M[3].

2.21 Regardless of the eventual structure of any charge control, it needs to be both intellectually robust, fair and constructed from reliable data sources. We believe there are number of failings in these proposals that need to be addressed to ensure model outcomes are fair and the charge control that is set delivers for consumers.

2.22 Ofcom's analysis does not reflect the true benefits of the fibre regulatory holiday BT has been gifted, nor are BT's generic excessive profits considered, with the investment risk around VULA deployment overplayed, with only BT's initial £1bn investment considered with no adjustments for economies of scale or fixed costs that benefit future roll-out.

2.23 Ofcom's modelling approach is labelled as a 'bottom up equally efficient operator based approach' however it appears that more than 50% of the costs are based on BT's actual costs, using data source from unaudited BT data, with the model calibrated back to a BT centric view of costs and failing to recognise that many of BT's fixed costs were partly funded by the BDUK subsidy (OSS/BSS). The issue of business rates also needs to be addressed as they have been calculated as though BT will not appeal, yet it is our understanding that this is a standard procedure in cumulo valuations, with the opportunity for windfall gains as a result. Ofcom's application of 'other telecoms operators' WACC could represents a £100m windfall for BT if the move is widely adopted for WLA services and needs to be considered further.

[3] Based on an FTTP roll out cost of £400 per home passed (based on Kcom costs quoted at: http://www.ispreview.co.uk/index.php/2016/09/kcomsfttp-broadband-roll-hull-uk-reaches-100000-premises.html), with 50% of Openreach FTTC volumes on the anchor 40/10 product, with a UK overall FTTC customer base of 7.3M by the end of 17/18 rising to over 11M by 2021 – with pricing based on the central estimates provided in Ofcom's WLA charge control consultation published in March 2017.

Quality of service

2.24 When looked at through the prism of Ofcom's consumer quality of service plans, it is clear that the WLA QOS proposals are not adequate to support Ofcom's own ambitions. The Ofcom consumer policy proposals identify a strong desire to minimise service failure to absolute limits (through the automatic compensation initiative), however the proposals in this document, whilst welcome as an overall improvement package simply to do go far enough to realise those consumer policy aspirations.

2.25 Ofcom policy approach across these two projects is inconsistent. With these WLA QoS proposals setting out a framework for the next 3 years for graduated improvement year on year based on what is
economically efficient for Openreach, while Ofcom's consumer policy initiative envisages far higher service standards from day one, resulting in Openreach being responsible for retail consumers' payments up to £175M per annum.

2.26 It would appear there is a disconnect between Ofcom's aspirations and work is required to join them up for the benefit of consumers. This requires Ofcom's wholesale and retail proposals to work in harmony to achieve the overriding objectives of better service to improve consumer outcomes. This requires Ofcom to increase the pace of all aspects of service improvement on Openreach:

I. having the goal of 100% performance for the review period for all the service components that Ofcom wished to apply automatic compensation for;
II. Until service reaches optimal levels Openreach investment must be focused on service improvement rather than new compensation methods;
III. Ensure that service fully supports both a voice and broadband purchase;
IV. Deliver tools for superior fault detection on broadband lines in tariff;
V. Be incentivised to invest on GEA service delivery as the mechanism to improve service issues – in particular for service repair.

Part A: Managing a successful transitioning to the UK's fibre future

3 WLA Market Trends

WLA Market Definition

3.1 Ofcom are proposing that the Wholesale Local Access Network in the UK is a single product market for the supply of copper loop, cable and fibre based wholesale access at fixed locations, with BT having Significant Market Power in the supply of WLA in the UK, reflecting the characteristics of the market at the highest level and BT's continued market dominance. At the end of December 2016 there were
25.3m broadband lines in the UK. 80% of these, excluding Hull, use the Openreach network with the rest mainly on Virgin Media's cable network.[4]

3.2 The significant upsurge in demand for higher broadband speeds from UK consumers who are no longer satisfied with the speeds that can be achieved through the provision of standard broadband is evident from both our own direct commercial experience and the research work presented by Ofcom within the consultation. In the face of falling demand, Vodafone is no longer planning to sell a standard broadband service to new customers, making superfast FTTC based variants the only retail option for consumers going forward. The growing number of devices that stream content in ever higher screen resolutions has partly fueled superfast demand amongst consumers. With around 75% of broadband lines expected to be superfast by 2021[5], Ofcom have rightly identified that the price constraining impact of standard broadband on superfast has weakened rapidly[6], with a staggering 91% of superfast broadband consumers indicating they would not consider switching back to a cheaper, slower service[7].

3.3 This lack of substitutability between standard broadband and superfast is now very apparent in the market, clearly illustrated by both the consumers who are unable to access superfast services, held back and left frustrated on their standard broadband offerings by virtue of the lack of market alternatives available to them or by the consumers who have already made the switch to superfast and who would now be unwilling to make a backwards step to standard broadband for reasons of price. We set out our concerns for the ~1.8M poorly served UK consumers[8] within WBA Market A later in this response.

3.4 This evidence all points to the need to firmly constrain both MPF pricing during the transition to Superfast and to provide comprehensive pricing protections for both new and existing consumers across the current range of superfast products, via suitably designed wholesale charge controls. Given the dwindling lack of substitutability at the retail level between standard

[4] See p. 84 http://www.btplc.com/Sharesandperformance/Annualreportandreview/pdf/2017_BT_Annual_Report.pdf
[5] See 3.19 of the consultation
[6] See 3.20 of the consultation
[7] See Figure 3.8 of the consultation
[8] Based on the customer numbers at the time of the last WBA review

and superfast broadband, it is necessary to introduce wholesale remedies which support retail competition in all parts of the retail market which rely upon copper access bearers.

The need for continued price regulation on MPF

3.5 Whilst it is clear that MPF usage is experiencing rapid decline, a significant number of consumers will continue to rely upon it over the duration of the next control period and beyond. A minority of consumers who do not utilise their connections to stream content, instead using broadband for more traditional web-based tasks are likely to remain content with the speeds they are achieving and have no desire to switch, but the majority of consumers are likely to wish to move before then and they are highly unlikely to ever revert back to standard broadband once they have experienced the benefits of higher speeds. There are also a number of consumers who do not have superfast broadband options available to them, either living in areas where roll out is not planned, not complete or by virtue of the fact they live in a premises served by an exchange only line, with no alternatives yet available. For reasons of practical convenience MPF invested CPs may continue to use the platform for the voice path when their end users have migrated to superfast broadband until alternatives become available (like SOGEA).

3.6 Absent regulation, BT would be able to raise its MPF pricing to the detriment of both its rival communications providers and consumers. The lack of a proposed charge control in WLR means that it is even more important that MPF costs are properly understood over the next three years, with MPF pricing acting as a reference point for copper bearer pricing in this market and for narrowband (WLR) services. Under the circumstances we believe it would be appropriate to index WLR pricing to the MPF price. This would be an efficient and proportionate means of providing appropriate and certain pricing for two key regulated wholesale products that underpin important retail services relied upon by consumers.

3.7 Ofcom's proposal to only regulate the price of WLR in instance where it is purchased alongside the anchor 40/10 GEA product do not go far enough and leave consumer of WLR who may purchase it on its own, or with a different product exposed to the knock-on impact of excessive pricing at the wholesale level. This can be remedied with little regulatory effort, ensuring Ofcom protects consumers proactively, and doesn't create a commercial loop hole which BT can exploit to earn excessive returns through the absence of effective regulation.

3.8 The cost base of MPF and WLR are very similar, with the copper access line costs making up the majority of the costs in both cases. In setting the MPF charge control Ofcom need to be mindful of preventing BT from making excess returns. Meritless over-recovery by BT has resulted in a significant wealth transfer away from consumers over the past decade, with Frontier Economics calculating total excess returns from regulated products to be £9.7BN since 2005[9]. While we believe it remains important to build in efficiency incentives, ensuring regulation doesn't revert to a rate of return approach that lacks genuine efficiency incentives. However, too often charge control targets are set too low, assumptions are too cautious and BT is simply able to outperform

[9] https://mediacentre.vodafone.co.uk/pressrelease/planned-reforms-openreach-required-new-report-highlights-bt-excess-profits-increased/

the control without breaking sweat, leading to meritless over-recovery and consumers paying too much.

3.9 In Part B of this response we discuss some the charge control assumption in more detail, including the concept of constructing a robust 'fair bet' when setting a charge control. For the sake of consumers, a charge control needs to deliver close to competitive market outcomes and setting soft assumptions that sets BT off on a course of over-recovery without the need to become more efficient fails UK consumers. Ofcom must learn from past errors in charge control setting, ensuring that all incentive opportunities are genuine, require effort on the part of BT and over-recovery isn't an inevitability, amounting to nothing more than a straight wealth transfer from consumers to BT shareholders.

3.10 In common with Ethernet Services, MPF suppliers need accommodation (co-location) facilities within BT's exchange buildings. These are essential facilities that are necessary to make use of access inputs like Ethernet Local Access and MPF. It is essential that the price of these services (alongside electricity charges) are tightly regulated to prevent over-recovery and ensure costs are allocated fairly. BT will have a natural incentive to both add margin and load costs into the cost base for space and power in BT exchanges. It is vital these costs are locked down to an efficient cost reflective basis and do not allow scope for over-recovery or allow costs to be added without detailed scrutiny.

Superfast Broadband – the new mainstream

3.11 It is abundantly clear from both the consumer behaviour witnessed today relating to broadband purchasing decisions and from the research work presented in the consultation into future market trends that superfast broadband has now become the default consumer choice for new and replacement broadband supply, with standard broadband tailing off into a declining legacy position. That trend is set to continue over the next control period and the economic life of MPF is likely to be curtailed due to the sheer volume of migrations from the platform, which will further drive demand for superfast.

3.12 Unlike MPF, which is sold without a choice of speed characteristics (as it is the end provider who determines what speed of service can be supported by the line and sold into the retail market), superfast broadband is sold at a number of speed variants at both the wholesale and retail level, with the consumer able to select a higher or lower speed depending upon their particular needs (although line characteristics still determine what speed is actually achieved).

3.13 While GEA has been a regulated product since the last market review in 2014, the pricing remedies placed upon it only extend to a complex margin squeeze test that has never been stress tested and would be administratively complex to assess. Alternative CPs who sell retail broadband have always been naturally cautious about relying upon any wholesale products sold by their largest competitors that are not subject to more formal regulatory price controls and lack the long term pricing certainty of charge controlled products like MPF, where in contrast, pricing is predictably plotted against a known charge control trajectory.

3.14 This lack of pricing certainty might go some way to explaining why alternative CPs, who have historically been successful in capturing market share in the standard broadband market have been far less successful in the superfast market. In contrast BT's retail businesses have been heavy promoters of BT's Infinity, EE & Plusnet fibre propositions and face none of the pricing uncertainty that has caused anxiety amongst external CP customers when it comes to promoting and pricing a product that lacks pricing surety.

3.15 With BT Group in charge of both the wholesale and retail price it has been able to market products with confidence and has been highly successful in capturing market share, securing a much higher share in superfast compared to standard broadband, achieving over ~60% of all Openreach superfast connections, with 53% of its retail broadband base already on FTTC. This dominance shows no signs of abating, even with fibre becoming more mainstream. In the last financial year BT's retail lines of
business captured over 50% share of Openreach GEA net additions.[10] This compares to standard broadband retail market share of closer to 32% or 39% when cable lines are excluded. In fact, BT's broadband market share in 2009 was sitting at 26% and has been growing significantly since this date, even though it frequently tops Ofcom's broadband complaints table. These market share figures signpost a significant competition problem in the retail market that needs to be addressed within the remedies set out for the wholesale market, achieving an outcome that allows all CPs to retail GEA at all speeds with confidence.

3.16 Given the technical characteristics of the GEA superfast product, BT is effectively in charge of the end to end consumer experience. The opportunity for CPs to differentiate their product is confined to the customer service and product integration experience, unlike standard broadband, BT sets the speed, stability options, repair SLAs, wholesale pricing, shapes CP network design and requires CP to use BT 'approved' routers. Had different technical choices been made by BT in designing how superfast services were delivered then external CPs may have had more opportunity to add value, however that did not transpire and all CPs must use a more BT centric GEA product.

GEA price regulation is in the consumer interest

3.17 We welcome Ofcom's decision to regulate the price of GEA for the first time, believing it is long overdue. While recovering investment is a significant part of charge control design, the risk of investing in copper acceleration technology has been massively over-stated, with the overall amount of capex required, both limited and spent in phases, ensuring that there was an ample opportunity to refine and re-scope any future investment plans to reduce risks throughout the roll out program. In Part B of this response we look at the capex profile of Openreach over the last few years, which highlights that there is no evidence of a significant capex outlay, rather it is a change in capex emphasis towards delivering the FTTC network.

3.18 The fact that a significant amount of state aid was allocated in the form of gap funding to effectively de-risk the most expensive parts of the rollout (BT Capex for Superfast to date totals £1.5BN, while the State's contribution has been £1.7BN) further reinforces the view that allowing a prolonged unregulated return on GEA is not an appropriate outcome for consumers

or indeed tax payers who have contributed significantly to that investment. Indeed, the 12-month delay to Ofcom's WLA Market Review will result in BT earning at least a further £140M in excess returns.

3.19 Ofcom risks prolonging this injustice by proposing to charge control only one entry level GEA product (40/10) that is no longer used for new supply by BT Consumer lines of business, compromising the effectiveness of the overall charge control before it has even commenced.BT's own lines of business will be able to promote all bandwidth product with certainty, knowing that BT Group is aware of all the aspects. Other CPs in contrast will only have certainty around a sole anchor service, with all other bandwidths subject to far greater commercial risk.

3.20 This approach leaves alternative CPs with one hand tied behind their back in the retail market, making them far less inclined to heavily promote anything beyond 40/10 as a result, leaving the market open

[10] See page 86: http://www.btplc.com/Sharesandperformance/Annualreportandreview/pdf/2017_BT_Annual_Report.pdf
& Page 73: http://www.btplc.com/Sharesandperformance/Annualreportandreview/pdf/2015_BT_Annual_Report.pdf
Page 9: http://www.btplc.com/Sharesandperformance/Annualreportandreview/pdf/2014_BT_Annual_Report_smart.pdf
Ofcom Telecommunications Market Data Table – Table 16 Q4 2016

to distortion at the retail level. This approach risks Ofcom presiding over an unwelcome transition from a fairly dynamic standard broadband retail market that has been underpinned by MPF investment by a number of players at wholesale level, to a superfast retail market reliant on one wholesale supplier able to leverage the largest market share at the retail level and not facing any regulatory pricing constraints beyond an entry level product it chooses not to supply itself.

3.21 Having invested in MPF based technology, the choice to move to GEA products was presented to all parties. With BT Group's backing, BT's consumer businesses were able to make the decision to be an anchor tenant. Will history repeat itself as unequal profiles between BT Consumer and external CPs, given that BT Group is playing all the cards?

Securing the anchor: Policy considerations for charge control design

3.22 In a market where thus far there has been no retail price regulation (other than a margin squeeze test) we have seen the impact of growing retail bias towards BT's line of business. Ofcom have provided no explanation as to why market shares in standard broadband have not translated over to superfast services supplied using copper bearers, with BT taking a dominant retail position (~60%+ Superfast Vs. ~38% for Standard Broadband). This market share advantage is not one that would appear to have been earned on merit, with BT's consumer brands Plusnet and BT regular fixtures at taking the top two positions in Ofcom's broadband complaints league table[11]. What has occurred in the retail market is the direct reversal of the

strong competitive entry that we've seen as a result of the development of MPF, with BT effectively taking back control of access lines from MPF providers, using the GEA product to do so and winning market share at the same time, all under a regime designed by Ofcom and where state aid has been used to de-risk the rollout to around 4 Million UK homes, where coverage was more challenging.

3.23 While it is true that a charge control on one GEA product will act to some extent to constrain pricing on other GEA services, the constraining impact is likely to be weak at best. Once customers buy a higher bandwidth product, they do not move back to a lower bandwidth product. As a result, there is little pressure on Openreach to do anything other than the bare minimum to attract customers new to higher bandwidth products, because once customers have moved they will not move back.

3.24 Alternative Communication Providers need certainty in the value chain in order to compete effectively with BT's retail offerings on a longer term basis. Even in an environment where BT doesn't put up higher bandwidth GEA pricing aggressively, but rather holds back on price reductions, leaving an ever wider gap between 40/10 and other services, it will have a dampening impact on competition and a negative impact on consumers. There will be a natural reluctance to push anything other than 40/10 in any alternative CP price promotions to capture market share, while at the same time there will be pressure from consumers for all CPs to offer all bandwidths, to ensure the entire addressable market is reached from a product perspective, but there is high likelihood that these higher speeds

[11] https://www.ofcom.org.uk/__data/assets/pdf_file/0030/99471/Complaints-publication-Telecoms-and-Pay-TV-Complaints-Q4-2016.pdf [In Q4 2016, BT was top with 33 complaints per 100,000 customers, followed by Plusnet with 30. In the previous quarter BT secured the top three slots , with BT on 36, Plusnet on 31 and EE on 26].

will be priced in a more cautious way by all CPs other than BT, who remain the only ones in control of the end to end value chain, having the opportunity to make margin at both the retail and wholesale ends of the transaction. This will enable BT's Retail businesses to cement their strong positions in the retail market and secure a disproportionate share of higher value retail customers more likely to purchase superfast broadband at the highest speeds, further unbalancing the market in BT's favour.

3.25 Retail price reductions and marketing discounts are not viable for alternative providers, being commercially risky and leaving CPs exposed to excessive, or at best uncompetitive pricing at the wholesale level. With its largest retail competitor setting the wholesale input price of its superfast broadband products (with the exception of 40/10) it is unsurprising that the commercial anxieties experienced by external CP product managers are not present in the minds of their counterparts at BT line of business, who will always benefit from margin in the value chain, either at the wholesale or retail end, or both.

3.26 Commercial anxiety causes a very understandable reduction in competitive intensity that does harm consumers, who will have fewer deals and less price competition as a result. It

represents a form of system control that Ofcom have failed to acknowledge in the market for superfast broadband, spanning both the unregulated retail market and the partially regulated wholesale market.

3.27 We have seen the same issues arise in WBA Market A, where ~1.8M consumers rely on a BT Wholesale product that is weakly charge controlled, however with poor speed performance and a price that has not tracked MPF reductions, these consumers pay more and receive far less for their money. Any review of a price comparison website reveals future deals on offer and more expensive headline pricing for these consumers. Even BT's own lines of business unashamedly seek to differentiate these consumers, for example Plusnet states clearly on its website Market A is a non-low cost area: That's
because it costs us more to provide broadband there. We call those places non-low cost areas[12] . What
it fails to mention is that its sister business, BT Wholesale & Ventures is making a significant return wholesaling broadband to these end users. The 2016/17 BT Regulatory Financial Statements[13] revealed that BT earned a return of 70% from the regulated wholesale broadband services living in rural Market A, who make up ~9.5% of UK homes and businesses. This provides BT with average profit in excess of regulatory predictions of nearly £94 per customer per year. With fewer competitors, BT is able to claim a larger share of this market and earn excessive returns both at a retail and wholesale level. In the larger UK –wide market for superfast, while we've seen many CPs compete, they are ultimately restrained in what they can do from a retail perspective by the lack of regulatory pricing certainty at the wholesale level, tipping the retail market in BT's favour.

3.28 Arguments around encouraging investment through uncontrolled returns for 80Mbit/s and below GEA are unfounded. The fact is the investment on the 80/20 and 55/10 product has already taken place, being a modification of the existing service and incremental to the 40/10 base product. No new investment is going to take place on these products, other than incremental increases to capacity to support future demand which is a normal in life occurrence of any telecommunication product. To allow BT to make uncontrolled returns on these service in situ, when new investments isn't on the horizon fails consumers and harms competition in the market.

[12] https://www.plus.net/help/broadband/broadband-prices-around-the-uk/

[13] https://mediacentre.vodafone.co.uk/pressrelease/planned-reforms-openreach-required-new-report-highlights-bt-excess-profits-increased/

3.29 BT's proposals for Legal separation will not address this concern and while the wholesale market will be served by a legally separate Openreach, BT's shareholders remain the overall beneficiaries of the lack of price regulation placed on Openreach for GEA above 40/10. This allows BT's retail lines of business to pursue pricing strategies safe in the knowledge that they are insulated from risk at a Group level.

3.30 Selecting the 40/10 GEA service as the default anchor for the basket represents a significant risk, particularly when you consider that BT's Retail lines of business no longer market this service for new supply, with the 55/10 service the BT entry point. The existence of the 55/10 GEA service is somewhat puzzling as it was rushed through product development with no industry Statement of Requirements at the behest of BT Consumer, without any real support from alternative providers, leaving BT's retail lines of business the only CPs able to take advantage of it at launch. In contrast the throttled back 18/2 product (designed to provide a price sensitive GEA soft landing for standard broadband customers) has been slow to develop[10], and we now understand has been withdrawn from new supply.

3.31 Ofcom asked the EAB to investigate the product launch, with the investigation hampered and not able to reach a robust conclusion because Openreach failed to document its meetings with BT lines of business. This is a very real concern for alterative CPs and this conduct provides further evidence around BT's desire to position itself to capture more market share at the higher speeds in the market, capturing value from other CPs who will be less inclined to wish to over-promote retail services that are not underpinned by robust regulatory pricing remedies. With BT's entry level product set at a higher speed than everyone else, and more commercial certainty for them in selling higher speeds, market distortion is a very likely occurrence.

3.32 BT retail lines of business's failure to utilise the anchor, even before the charge control has commenced, harms the effectiveness of the charge control from day one. Ofcom risks adding regulatory complexity to the market, in a similar way to the BCMR, where alternative CPs still have an established base of WES circuits, however BT have migrated all customers to EAD. This leads to the need to build in control mechanisms to prevent discrimination to ensure BT can't select pricing that favours its own downstream businesses.

3.33 The risk to retailers of superfast broadband services reliant on BT's uncontrolled GEA offerings is even greater as a result of Ofcom's well intentioned General Conditions which effectively prevent CPs passing on price rises at the retail level to consumers as a result of Ofcom's safeguards against 'Material detriment' [11]. This refers to any change to a customer's service that is so significant that it triggers the customers right to terminate the agreement without penalty. A retail price rise triggered by an increase in wholesale costs risks being classed as one such event, leaving alternative CPs completely exposed and unable to pass through any wholesale price rises imposed by BT in services that are not subject to charge controls. A fair and reasonable obligation is not the answer.

3.34 Market distortion is likely to occur gradually over the next control period and the next market review will likely highlight that BT has secured a disproportionate share of consumers on

[10] http://www.btplc.com/Thegroup/Ourcompany/Theboard/Boardcommittees/EqualityofAccessBoard/Publications/EAB_Annual_Report_2017.pdf
[See: page 8]

[11] https://www.ofcom.org.uk/__data/assets/pdf_file/0021/36192/general_conditions_22sept2014.pdf

higher speeds, in contrast with the near effective competition recently enjoyed in the standard broadband market. Addressing the retail distortion and correcting unbalanced market shares will represent a challenge to remedy, especially through wholesale remedy changes that occur after market shares have already been allowed to develop. It would be far more expedient to use a broad anchor in this forthcoming charge control to prevent this market distortion from deepening further.

3.35 In the absence of any kind of meaningful overall constraint from either MPF or 40/10 GEA, the only effective remedy to address this is through the use of a broader anchor, capturing all GEA services up to 80/20, capturing all services used by BT's own business. This points to a more comprehensive basket based charge control approach that ensures all GEA variants available today are included within the charge control and while safeguard caps should be introduced to prevent price rises falling too unevenly, BT should be free to set charges within the basket, provided the overall basket glidepath trajectory is met.

Need for Price Reductions in GEA

3.36 The issue of over-recovery in regulated markets remains a significant one and while there are a number of causes, delays to introducing charge controls are a significant contributing factor. In October 2016, Frontier Economics calculated that BT had made excess profits in regulated markets of around £9.7 billion since 2005. This is in addition to the £13.8 billion of allowed and predicted profit BT has earned over the same period through the sale of regulated services. The excess profit recorded in 2016 alone was £1.1 billion[12].

3.37 In the case of FTTC GEA pricing, we note that Ofcom is likely to be a full 12 months late introducing a WLA charge control and is proposing to introduce a charge control on Openreach's 40/10 GEA product for the first time from April 2018. Had this charge control been implemented on time (ie to run back to back with the previous WLA charge control), it would have resulted in pricing for consumer falling sooner. The 12-month delay in implementing this charge control and the subsequent delay in further annual reductions will result in UK consumers are being over-charged by around £140m for GEA based retail services. This windfall gain would allow Openreach to invest in FTTP to cover a city the size of Cardiff or make a substantial contribution towards improving the quality of rural broadband[17]. Given the delay and the extent of profitability Openreach is earning on GEA, it is important that prices are reset as early as possible to minimise the time period consumers are over-charged.

[12] https://mediacentre.vodafone.co.uk/pressrelease/planned-reforms-openreach-required-new-report-highlights-bt-excess-profits-increased/ [17] Based on an FTTP roll out cost of £400 per home passed (based on Kcom costs quoted at: http://www.ispreview.co.uk/index.php/2016/09/kcomsfttp-broadband-roll-hull-uk-reaches-100000-premises.html), with 50% of Openreach FTTC volumes on the anchor 40/10 product, with a UK overall FTTC customer base of 7.3M by the end of 17/18 rising to over 11M by 2021 – with pricing based on the central estimates provided in Ofcom's WLA charge control consultation published in March 2017.

4. Short and Long-term trade offs

FTTC now Vs. FTTP Future

4.1 The complex trade off and tension that surrounds the investment cases for accelerate copper and the rollout of fibre. Stimulating the former too heavily is likely to deter or defer investment in the latter, making it far harder for Ofcom to realise its ambition to ensure the UK has the best fibre future that comes from scale FTTP investment.

4.2 While there are clear benefits that come from fibre delivery, such as significantly faster speeds, more reliability and lower ongoing opex costs, copper based delivery is expedient and can deliver broadband speeds to the majority of consumers that are likely to satisfy demand at least in the short term. Using existing, fully depreciated copper access infrastructure in situ may also be a cost effective means of connecting a minority of more remote / disparate premises for broadband (albeit at slower maximum speeds) as in these locations fibre delivery to the premises would be prohibitively expensive without significant public sector intervention. In other infrastructure industries we have seen access infrastructure renewed, new waste and fresh water connections or in energy new wiring or mains gas links to premises replaced or refurbished. In communications many premises remain served by the same copper wire that was installed decades ago, with policy seemingly content to encourage adding new electronics to an old line, rather than focus on an end to end fibre future.

4.3 In its Duct & Pole Access Remedies Consultation[13] Ofcom acknowledges the need for investors in future Fibre infrastructure to have certainty and predictability over the level of DPA charges to fully support long term business plans for the deployment of fibre. To this end Ofcom is proposing a maximum cap on charges to deliver that certainty. Given the importance to a fibre business case of customer take up, capping total GEA charges at all bandwidths through a basket based charge control would be a consistent position to take, giving future fibre investors certainty over the medium term around total GEA wholesale charges, assisting them in acquiring customer numbers ahead of the transition to fibre.

4.4 Once there is an acceptance that the goal must be fibre, the question is then, how services are priced and investment rewarded. To answer this a proper cost benefit analysis on copper investment is required, looking at the benefits accrued to consumers in the short term, but also around the costs to them in the longer term, if each pound directed towards copper acceleration delays the likelihood of FTTP.

4.5 With this evidence it would then be easy to determine how regulations can be created to match policy aspirations. We are sure that if a cost benefit analysis is conducted it will point for the need for investment in mainstream GEA that delivers speeds of up to 80Mbit/s and uses legacy copper to be regulated differently from FTTP investment, recognising the short term usefulness

[13]https://www.ofcom.org.uk/__data/assets/pdf_file/0008/101051/duct-pole-access-remedies-consultation.pdf

of the former and the long term strategic need for the latter and the inter-relationship between the two, at least in the medium term. It may well also indicate that a further refinement is need to recognise that copper acceleration in rural locations maybe the most appropriate, where the prospects of fibre roll out are even more challenging, ensuing that such investments in these areas only should be classed as
strategic until such time as fibre roll out is considered viable to these more remote locations, taking account of any future appetite for state intervention.

Regulation of Ultrafast
Copper

4.6 As a first step, we would support price regulation of BT GEA services up to 80Mbit/s to ensure BT earned a fair return and had an incentive to continue to invest in their copper network. For copper delivered services above 80Mbit/s we would not propose any price regulation at this point, ensuring incentives were there to provide a stimulus to seek out technologies that try to deliver higher speed broadband from the copper wires that connect homes and businesses. This would go some way to assisting existing consumers who are not able to take advantage of current GEA technology because they live in a location that is not served by the existing FTTC network, are on an exchange only line or their line length prevents higher speeds being achieved. These consumers are not being served by the market today and as discussed above, the cost of rolling out fibre to very long line length premises in often disparate locations would be significant and unlikely to be economic in the near term. New accelerated copper technologies (like G.Fast) may provide the best possible option for these consumers in the medium to long term and it is only right that a fair return on this investment is not stopped by regulation. To this end we would not propose an initial charge controls on these technologies which deliver over 80Mbit/s or that use something other than FTTC GEA for delivery to deliver a superfast speed over longer distances.

4.7 The expectation would be that these services would revert to a charge controlled approach after one review period, setting a return that takes proper account of the capex spent, the state aid allocated, the earnings achieved during any regulatory holiday to ensure that investment is rewarded, but returns are fair over the medium term.

Preventing anti-competitive FTTP Overbuild

4.8 Healthy infrastructure based competition creates market dynamics that benefit consumers: higher quality, lower prices. However, competition based on targeting new investment with cheap upgrades that allow marketing to claim similar headline service characteristics in a defensive way is likely to damage investment and leave consumers with a poorer outlook. BT's behavior in this regard will determine the outcome of Ofcom's policy. There must be a sense of fair play,

otherwise Ofcom's support and encouragement of new infrastructure investment is actually misleading.

4.9 BT has a track record of providing misleading and inconsistent information around the volume of FTTP and FTTC and G.Fast investment and roll out planned, often re-announcing existing commitments or silently backing away from other investment announcements without making its retreat clear to stakeholders. BT's current ambition is to cover12M UK premises[14] with ultrafast Broadband, using a mixture of FTTP and G.Fast to achieve this. We understand that 10M homes will covered using G.Fast and the remainder FTTP[15]. However if we look back at BT's original roll out of the NGA network, as was initially announced in July 2008[16], starting in January 2009. At that time the roll out was planned to be 10% FTTP and 90% FTTC. Then in 2010, the planned roll out was further extended to cover two thirds of UK households by 2015, with a mix of 25% FTTP and 75% FTTC[17]. The reality is that from 2009/10 BT has significantly reduced overall capital expenditure, driven by BT management's focus on increasing cash flow, with material FTTP investment failing to materalise (only ~200k premises are currently covered), with copper acceleration investment being almost the sole focus of BT's capex.

4.10 We are aware of the limits of Ofcom's powers to tackle the issue of anti-competitive behaviour, however we must be mindful of the motivation for any targeted rollout in a particularly geography. Increased awareness by Ofcom of what premises BT are planning to cover and by when is necessary if Ofcom is to prevent anti-competitive behaviour occurring. It is one thing for BT to respond legitimately to a response from a competitor, it is entirely another to act in a concerted and coordinated way to restrict competition, strangling it in infancy by foreclosing competition in a particular geography at the point when other players are either seriously contemplating or undertaking market entry in an area. This behaviour is anticompetitive and clearly deters future network expansion by other providers, acting against the long term consumer interest.

4.11 This risk extends to both the deployment by BT of copper acceleration kit in the network and BT's own ambitions for FTTP. If BT has decided it will fulfill its 2M homes FTTP commitment partly based on a plan to over-build existing or known planned alternative FTTP networks, then this is massively concerning for the future prospects of competition in our industry. Ofcom need a more sophisticated and nuanced approach to dealing with these matters, making clear to BT what conduct is expected and where the boundary lies between responding to competition in a healthy way and stifling network competition before it has had a chance to even develop. We would therefore ask that Ofcom compels BT to inform it on a confidential basis the details of its roll out plan, updating Ofcom each and every time those plans change, providing details around the motivation for any change. That would allow Ofcom to act appropriately if BT is believed to

[14] http://www.btplc.com/Sharesandperformance/Annualreportandreview/pdf/2017_BT_Annual_Report.pdf
[15] http://www.ispreview.co.uk/index.php/2016/05/bt-pledge-2-million-uk-premises-get-1gbps-ultrafast-fttp-broadband.html
[16] https://www.theguardian.com/business/2008/jul/15/btgroupbusiness.news
[17] 2009/10 Q4 and Full Year Results

be undertaking preemptive strikes on locations targeted by alternative investors, allowing Ofcom to see any patterns of behaviour emerging, rather than any co-incidental investment decisions.

5. Innovation

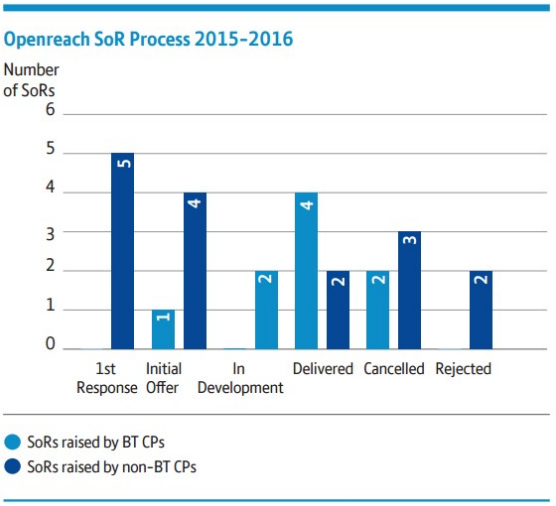
5.1 The network choices made by BT in creating a bit stream GEA product and not allowing any opportunity for alternative providers to add value has allowed BT to take back control of the leading wholesale broadband product, undermining MPF investment in doing so. While demand for increased speed needed to addressed, that lack of opportunity to add value has been accepted at face value rather than challenged and it represents a significant upside for BT that has not be recognised in this debate.

Fixing the Statement of Requirements Process

5.2 Openreach's current statement of requirements (SoR) process is currently unsatisfactory, with industry SoRs taking too long to process, an opaque decision making process with no transparency around the criteria for progression leading to frustration and acting as a deterrent for CPs to use the process. This is in stark contrast to the apparent speed and ease with which BT's retail lines of business are able introduce new services, like in the case of the 55/10 GEA product highlighted earlier in this response. As Ofcom is aware, the SoR process can act as a significant impediment to innovation, because the procedure requires us to justify the commercial benefit to BT of the proposal. This is problematic as not all product developments have a direct commercial benefit to BT. The primary purpose of some developments is to improve internal processes and efficiencies, or to improve the customer experience. As a result, BT often does not progress SoR requests that have no obvious revenue increasing opportunities for BT.

5.3 The current SoR process is so fraught that the Equality of Access Board (EAB) (the body that monitors BT's compliance with its Undertakings) needs to monitor it annually. Indeed, the EAB's 2016 report shows that BT delivered four of its own requests that were progressed using the SoR procedure, and is progressing a further two. By contrast, BT is only progressing two of the SoR requests that it has received from its customers from the entire telecommunications industry, as the following graph from the EAB's 2016 report illustrates:[23]

Table 1



5.5 While we welcome the addition work the EAB has done in 2016/17 to improve the mechanics of the SoR process, in clear recognition that the process was broken and not satisfactory. However, these improvement, while welcome need to be follow up by Ofcom through its own reforms of the SoR process. While Ofcom's proposals are welcome, they leave gaps which BT could exploit. We highlight some of the more problematic issues below (and in more detail in Annex 1)

[23] 2016 EAB report, page 20. Available at: https://www.btplc.com/Thegroup/Ourcompany/Theboard/Boardcommittees/EqualityofAccessBoard/Publications/EAB_Annual_Report_2016.pdf.

i. BT's SoR guidelines are not legally binding

ii. BT has the final say over the content of the SMP guidelines

iii. The SMP conditions still give BT too much discretion over whether to accept or reject SoR requests from other CPs

iv. Ofcom's powers to grant extensions of time are too open-ended

v. It is not clear what sanctions apply if Ofcom refuses to grant an extension of time

vi. The new SoR process should extend to all regulated markets and services

Part B: Bottom up FTTC modelling of GEA

6. Introduction – key modelling issues

6.1 Regardless of the eventual size and scope of the charge control set, it is important that the assumptions used to establish pricing trajectories are worked out using robust cost information that seek to replicate competitive market outcomes. A soft charge control that is based on weak or inaccurate assumptions, or gives the benefit of the doubt to BT across a series of cumulative calculations will not serve the consumer interest and will lead to meritless over-recovery and consumers paying too much.

6.2 Setting a charge control reliant on forecast volumes and information sourced directly from the regulated business, with little scope for peer review makes Ofcom's task a difficult one. However, it is important that all steps are taken to ensure that the charge control is both challenging and fair, providing opportunities for out-performance, but only where genuine effort is expended to achieve more efficient service and product delivery.

6.3 If BT is handed a set of charge control conditions that don't challenge it to become a more efficient organisation, it will not have any incentive to step up and pricing will be set too high and consumers will lose out. Likewise, if BT is over-rewarded and investment risk is overstated, then consumers will suffer. It will take a full three year market review cycle before we can properly judge if Ofcom's assumptions are correct, however it is important that Ofcom learns some of the lessons from past charge controls which have resulted in BT earning excessive returns, unjustified by any efficiency or business transformation effort on BT's part.

6.4 In this section we highlight key concerns around the modeling assumptions proposed by Ofcom, which we believe will result in a charge control that is too cautious and allows for meritless overrecovery. We focus on the FTTC 'bottom-up' model that Ofcom has constructed to calculate the prices of GEA services.

6.5 We have identified the following concerns with the modelling approach Ofcom has proposed to charge control fibre products, believing these issues are worthy of further consideration before any charge control is set:

- Ofcom's analysis does not reflect the true benefits of the fibre regulatory holiday BT has been gifted:
    I. BT's generic excessive profits are not considered;
    II. The investment risk is overplayed and up to date information at the time BT actually made the investment is not considered;

III. Only BT's initial £1bn investment is considered with no adjustments for economies of scale or fixed costs that benefit future roll-out.

- Ofcom's modelling approach is labelled as a 'bottom up equally efficient operator based approach' however it appears more than 50% of the costs are based on BT's actual costs:

  I. The model is based on unaudited BT data;
  II. The same BT information is used as input to the model, and to calibrate the model;
  III. BT's fixed costs that are added are also partly funded by the BDUK subsidy (OSS/BSS);
  IV. Business rates have been calculated as though BT will not appeal, so a mechanism for adjustment is required.

- Ofcom's application of 'other telecoms operators' WACC could represents a £100m windfall for BT if the move is widely adopted for WLA services:

  I. Will SOGEA use Openreach WACC;
  II. Demand for GEA will become more stable.

- Model Calibration is not performed in a 'conventional way' i.e. like MTR that relies on input from different operators:

  I. Calibration information is unaudited;
  II. Calibration information is also used as model input; III. Limited benchmarking or other operator input.

7. Timing: when to introduce a charge control

7.1 BT announced its plans to invest in a fibre-based superfast broadband network in July 2008. Since then BT has been allowed pricing freedom on their superfast broadband products (SFBB). In 2010 Ofcom imposed an obligation on BT to offer wholesale VULA services, and in 2014, added detailed compliance obligations to guard against the increased risk of margin squeeze. However, no form of wholesale price control is currently proposed until 2018/19. This gives BT 10 clear years of pricing freedom in a market where they have SMP.

7.2 Underpinning Ofcom's approach to assessing the period of time to allow BT to make super-normal profits in an SMP market is Ofcom's view of the 'asymmetric' risk they are faced when assessing whether to protect BT's investment?[18]

[18] Wholesale Local Access Market Review, paragraph 8.18:
https://www.ofcom.org.uk/__data/assets/pdf_file/0033/99636/Vol1-Market-review.pdf

"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."

7.3 Vodafone suggests this assessment is not asymmetric at all, especially when Ofcom's strategic objectives are considered. Preserving the investment incentives faced by BT should not be a oneway bet with the odds stacked in BT's favour, Ofcom should assess the 'fair bet' considering all their strategic objectives and particularly taking into account their objective to encourage infrastructure competition and investment from 'other operators' as they outlined in their strategic review. [19]

7.4 Allowing BT extended regulatory holidays to make super-normal profits because Ofcom has an asymmetric concern about BT's incentives to invest hinders the case for competitive investment by other network providers who do not, and will not benefit from extended periods of super normal profits, post investment.

7.5 Vodafone also suggests that assessment of the length of regulatory holiday to allow BT to make super normal profits should be considered by Ofcom in the context of BT's overall profitability in regulated markets. If BT's profitability in regulated markets is generally in line with their regulated WACC, then allowing short periods of 'excessive profits' should not adversely impact the investment incentives of other operators. However, we consider that Ofcom's approach to charge controlling in SMP markets leads to significant excess profitability which means BT is already making significant excessive profits even before they have been rewarded with a regulatory holiday.

Ofcom's approach to charge controls leads to excessive profitability

7.6 There are three ways in which Ofcom's approach to charge controls leads to BT's excessive profitability in regulated markets:

Allowing regulatory holidays or delaying the start of charge controls; As BT has shown in the case of the GEA product, absent a cost based charge control they will price excessively above cost. In the case of this product, an over 40% (£88.80p to £52.77) price cut is required to bring charges in line with cost. Allowing this period to extend, gifts BT ever more excessive profits.

Modelling assumptions that are driven by and bias towards assumptions that have been provided by BT: There are many examples in the regulatory accounts published by BT each year where BT is making returns in charge controlled markets, on products subject to a charge control significantly in excess of their regulated WACC.

[19] Making communications work for everyone, https://www.ofcom.org.uk/__data/assets/pdf_file/0016/50416/dcr-statement.pdf

This issue was highlighted by Frontier Economics in their last report relating to the excessive regulated profits enjoyed by BT, which reached an all-time high of £1BN[20] in a single year in 2016. One of the main drivers of these excessive profits on charge controlled products is the systematic way in which Ofcom rely on BT to provide a substantial amount of the input, assumptions, and forecasts. BT has a clear incentive to present maximised costs and prices of regulated products therefore the primary source of Ofcom's data comes from an operator that has a commercial interest in securing a specific regulatory outcome.

Given BT's excess profitability track record over the past decade, Ofcom should always start from the presumption that excess profitability is highly likely and when making individual charge control decisions, Ofcom should not give the benefit of the doubt to BT at every stage in any calculations, as this practice has cumulatively contributed to excess returns over the years. There also needs to be acknowledgement of any regulatory holidays given prior to controls starting, taking account of all returns in the round against the initial investment.

Uplifting depreciated assets to bring mean capital employed levels closer to that of an ongoing network: If BT's network assets have relatively short accounting lives and a longer actual economic life (meaning they can be used after they are fully depreciated on an accounting basis) this benefits BT because Ofcom artificially uplift the value of heavily depreciated network assets. Ofcom explain the rational for this adjustment:[21]

"If asset lives are different from accounting lives, then an asset will be depreciated too quickly or too slowly. In the extreme, this could leave us with an asset that is near fully depreciated but still has many years of useful life ahead of it. If we set charges based on the accounting value of the fully depreciated asset, we may be setting them at an inefficiently low level. For example, artificially low copper prices may delay consumer migration to SFBB and may impact on other telecoms providers' incentives to deploy their own networks."

7.7 However, regardless of the policy objective of this adjustment it is unquestionable that the effect of the adjustment is to gift BT yet further excessive profits. Uplifting asset values in the charge control model increases the size of the cost stack (with absolutely no actual associated costs incurred by BT) and thus allows BT to charge higher regulated prices. Ofcom quantify the impact of this cost uplift in the MPF charge control model:[22]

"The combined impact of our ongoing network adjustments is to increase the 2020/21 forecast charge for MPF rentals by around £6.3 per line."

[20] https://mediacentre.vodafone.co.uk/pressrelease/planned-reforms-openreach-required-new-report-highlights-bt-excess-profits-increased/

[21] Wholesale Local Access Market Review, paragraph 2.61:

https://www.ofcom.org.uk/__data/assets/pdf_file/0033/99636/Vol1-Market-review.pdf

[22] Wholesale Local Access Market Review, paragraph A11.125: https://www.ofcom.org.uk/__data/assets/pdf_file/0033/99636/Vol1-Marketreview.pdf

7.8 Estimated at £6.30 per line in 2020/21 with actual MPF volumes in the 2016 RFS being just under 10 million, this equates to a gift to BT of approximately £60 million, even without considering the WLR pricing effect. The process for charge controlling will systematically enable BT to over-recover their costs, and consider this when reviewing the regulatory holiday period.

8 Assessing BT's true 'investment risk'

8.1 Ofcom discuss in their fair bet analysis that BT has:[23][24]

> "Invested substantial amounts in its FTTC network and that uncertainty surrounding costs and demand for superfast services meant that there was a risk that the project may have failed to recover its cost of capital.
>
> As we said in 2009[30]
>
> "super-fast broadband requires major new investment, carrying with it uncertainty and risk".

8.2 However, if we consider the Openreach capital expenditure over this period, it does not seem like Openreach has opened itself up to any further significant risk.

8.3 Although a breakdown of Openreach's capital expenditure is not publically available before 2009, we have sourced from their annual accounts Openreach's capital expenditure from 2009 to 2016. We have also sourced from evidence provided by BT to a CMS public select committee a detailed breakdown of Openreach's capital expenditure. The information from BT's annual reports shows that Openreach's capital expenditure has not increased significantly over the period from 2009 to 2015, and the only significant increase we see was in 2016.

8.4 In addition, from the evidence presented by BT it can be shown that BT's annual spend on fibre did not increase to significant levels (above £300 million) annually until 2011/12. This was at a point in time where certainty around take-up and the 'riskiness' of BT's investment was far better understood. This reconciles with Openreach's new chairman Mike McTighe's admission of historic network underinvestment by BT[25].

Table 2: Openreach's capital expenditure from 2009 to 2016[32]

[23] Wholesale Local Access Market Review, paragraph A8.15: https://www.ofcom.org.uk/__data/assets/pdf_file/0033/99636/Vol1-Market-review.pdf

[24] Wholesale Local Access Market Review, paragraph A8.15: https://www.ofcom.org.uk/__data/assets/pdf_file/0033/99636/Vol1-Market-review.pdf

[25] http://www.telegraph.co.uk/business/2017/02/01/openreach-chairman-says-bt-should-have-invested-better-broadband/

[32] Sourced from BT's annual reports available on line: http://www.btplc.com/Sharesandperformance/Annualreportandreview/Archivedreports/index.htm

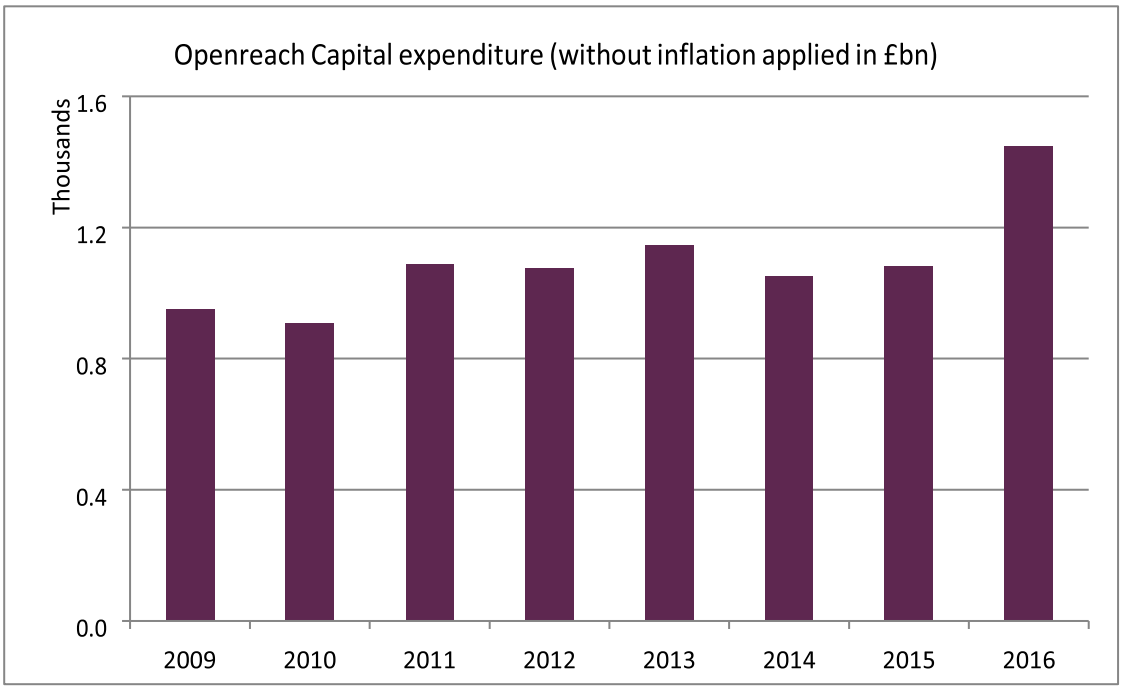


Table 3: Openreach's capital expenditure by programme and technology[26]

Openreach capital expenditure spend by programme categorised by technology type £m	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	Forecast 2015/16
Ethernet Total	112	124	118	164	177	206	261
Copper Total	464	466	460	444	423	424	500
Fibre Total	128	262	313	360	233	165	217
BDUK/SEP Net	-	2	11	12	56	142	262
Other Total	205	234	175	166	161	146	129
Total	909	1,089	1,077	1,146	1,049	1,083	1,369

Source: BT submission (EWC0097)

[26] Public accounts select committee

8.5 Ofcom do acknowledge in their assessment of the 'riskiness' of BT's investment in superfast the incremental nature of the roll-out.[27]

"Thus while we do believe that BT's investment in fibre was risky, the risk was mitigated to some extent by the investment being split into tranches and expectations about the eventual evolution of demand."

8.6 Vodafone questions whether Ofcom have asked BT to evidence when their actual capital expenditure on super-fast occurred and considered the level of increased knowledge and experience that BT would have drawn from in taking the capital expenditure risk at that point in time. We consider this has a dramatic effect on BT's overall risk associated with their 'phase 1' £1bn investment and consider at the point in time when BT had spent £0.5bn, their knowledge and experience was such that further expenditure risk was very minimal.

BT's £1bn Superfast investment

8.7 We understand that Ofcom has limited the extent of its 'fair bet' assessment to the first major tranche of Super-fast broadband investment and only considered the proposed £1bn investment that BT forecast to cover 40% of UK premises. This initial investment included all of the 'set-up' and fixed costs associated with provisioning for this service, many of these would have been central systems (i.e. BSS/OSS system costs as discussed by Ofcom[28]) and would not have subsequently increased in cost when the roll-out of SFBB was increased to cover more homes.
This means that the 'unit cost' of this first major tranche of investment would have been higher than subsequent tranches. This is demonstrated when considering the next tranche; consisting of a £0.5bn investment, covering an area of 6.5 million premises, the unit cost (per premise) is slightly above £75. The initial tranche was £100 per premise.

8.8 If the future uptake and scale of SFBB was in question, then to a degree assessment of the fair bet based on BT's initial investment only may be equitable, however as noted by Ofcom, future demand of SFBB was widely accepted.[36]

"there seems to be a broad acceptance of premium pricing for a very high speed broadband product…..Fibre is highly likely to be the future of high speed access. The issue is timing. Whilst there is insufficient current market demand or services that can use the speeds fibre will offer, this position will change in the future."

8.9 This means in effect that Ofcom realised that the higher levels of fixed costs, which increased the unit costs of the initial tranche of SFBB were going to be offset in the future by further SFBB rollout. Therefore, Vodafone considers it appropriate that Ofcom should reduce the unit costs in their assessment of the IRR and make adjustments to take into account that the first tranche of SFBB investment, including a level of fixed costs that

[27] A8.19 https://www.ofcom.org.uk/__data/assets/pdf_file/0035/99638/Annexes1-19.pdf

[28] Wholesale Local Access Market Review, Annex 12: https://www.ofcom.org.uk/__data/assets/pdf_file/0033/99636/Vol1-Market-review.pdf

were going to be offset by future tranches of SFBB. BT's SFBB network is now forecast to pass 26.5 million premises.[29]

9 Conceptual modelling approach

Choice of technology

9.1 The model proposed by Ofcom assumes that for the time period to 2047/48 all NGA services will be provided using FTTC plus VDSL2 over copper pairs. Ofcom's rationale is that this is the predominant technology used by BT for delivering NGA services over this review period. However as pointed out in our last response to the fibre cost modelling consultation[30] under the modelling approach proposed by Ofcom, the modelled costs during this review period are strongly affected by assumed service volumes over the entire period to 2047/48.

9.2 We note Ofcom's comments that whilst they recognise BT will roll-out new technologies over the coming years and within this charge control period, the uncertainty surrounding the choice and costs of this technology presents difficulties.

Ofcom explain that[31][32]

" Specifically, we have modelled service unit costs based on the "old" technology such that consumers are not made worse off by the introduction of "new" technologies. Under this approach, operators are encouraged to introduce new technologies when they lead to lower unit costs and/or deliver higher value to consumers"

9.3 Vodafone does not understand or accept this explanation, Ofcom is assuming that if charge control models are based on 'older' more expensive technologies then BT will be incentivised to roll-out newer more efficient technology that will lead to lower unit costs. However, in fact the opposite is likely to be the case, if Ofcom modelled charge controls on the most efficient newer technology then BT would be incentivised to roll-out the newer technology quicker to avoid making any losses on operating services that rely on older technology that incur higher operating costs.

[29] BT's 2016/17 Q4 financial results: http://www.btplc.com/Sharesandperformance/Quarterlyresults/20162017/Q4/Downloads/Newsrelease/q417-release.pdf

[30] Wholesale Local Access Market Review - Consultation on possible approaches to fibre cost modelling, Ofcom, https://www.ofcom.org.uk/consultations-and-statements/category-3/wholesale-local-access-market-review-fibre-cost-modelling

[31] Wholesale Local Access Market Review, Annex 12, paragraph A12.28, https://www.ofcom.org.uk/consultations-and-statements/category-

[32] /wholesale-local-access-market-review

9.4 Vodafone considers that any modelling approach that enables BT to recover higher costs relating to

operating older technology services simply enables BT to continue to run and use older technology for longer. Ofcom should seek to model the most up to date technology available and base charge control models on the most efficient technology available, it is naive to base charge control models on older technology in an attempt to encourage BT to roll-out newer technology.

Bottom up modelling approach

9.5 As discussed in Vodafone's response to the fibre cost modelling consultation[33] we agree with Ofcom's proposal to model the costs of an NGA network on a bottom-up basis, for the reasons given by Ofcom: more accurate modelling of cost-volume relationships, greater transparency, and consistency with the 2013 EC Recommendation.

9.6 However, Vodafone considers it important to be clear on the degree to which this model is truly a bottom up, equally efficient operator based approach and the degree to which BT's costs have simply been modelled. We believe that in fact more than 50% of the costs included in this GEA cost stack are directly sourced from BT's regulatory accounts, management accounts, or other BT based cost data. Therefore, this modelling approach could be better described as a bottom-up equally efficient operator based approach with significant costs from BT added.

9.7 Ofcom also explains that the bottom-up modelling approach proposed includes only the incremental costs incurred in providing fibre based access services, and does not include any costs which are common between fibre based access services and copper based access services. These are allocated to fibre services based wholly on BT's actual cost information, and from our initial analysis seem to represent in excess of 30% of the fibre charges cost stack. This is discussed further in later sections; however, it is worth noting that this is another example of this modelling approach being based on BT's actual costs.

Scorched Node Approach

9.8 As we stated in our response to the fibre cost modelling consultation[34] Vodafone acknowledges that a scorched node approach to bottom up modelling has practical benefits. However, it should be noted that the current network topology deployed by BT for its FTTC services is heavily influenced by the legacy left by its copper-based origins. An efficient network topology would feature far fewer optical nodes, and be less costly overall. Moreover, BT plans to change its network topology fundamentally in that direction over the

[33] Wholesale Local Access Market Review - Consultation on possible approaches to fibre cost modelling, Ofcom, https://www.ofcom.org.uk/consultations-and-statements/category-3/wholesale-local-access-market-review-fibre-cost-modelling

[34] Wholesale Local Access Market Review - Consultation on possible approaches to fibre cost modelling, Ofcom, https://www.ofcom.org.uk/consultations-and-statements/category-3/wholesale-local-access-market-review-fibre-cost-modelling

medium term (within the timescale considered by the model), vacating most of its exchanges. Therefore, applying the scorched node approach to BT's current network topology inflates costs above not only efficient greenfield levels, but also above BT's own likely level of costs in the medium to longer term.

9.9 Again this is another area where the model is based purely on BT's own network characteristics and (by definition) costs and not those of an equally efficient operator. In line with our discussion above regarding the modelled technology choice we do not believe that modelling inefficient network topology incentivise BT to roll out/re-design its network topology to be more efficient, precisely the contrary – it allows BT to recover the costs of a network with a sub-optimal network topology, simply continuing to operate a network that has an inefficient geographic design.

10 NGA network Modelling construct

BDUK exclusion

10.1 Vodafone notes that the bottom-up model covers areas included in BT's commercial deployment and excludes coverage areas that were partly funded by state aid (i.e. BDUK, SEP). Whilst we understand the advantages of limiting the network model and the difficulties in obtaining data that would make the inclusion of a wider range of geographic network possible, there are issues that need to be considered.

10.2 One of the dangers in excluding the BDUK coverage area and not offsetting network costs by the subsidies provided to BT. It is possible that Ofcom's cost model includes costs that are already funded by government subsidies. Including these costs would allow BT to double recover. Considering the BDUK intervention is the largest source of BT's superfast network funding (if BT's commercial superfast roll-out investment is estimated at £1.5bn) the danger of including some costs that are included in the BDUK subsidy must be extremely high. For example the BDUK procedure document includes details of the costs that are, and are not permitted under the BDUK funding contract, permitted costs include:[35]

"Software and systems (including reporting systems) development costs directly attributable to bringing the broadband infrastructure into use"

10.3 These types of costs could feasible include a portion of fixed and common costs that are common to the whole geographic superfast network. For example, costs associated with operations support systems and business support systems could be wholly included in Ofcom's model and yet also be covered in part by the BDUK subsidy.

PCP Cabinets and PCP-to-FTTC cabinet

[35] CUMBRIA COUNTY COUNCIL, LOT 2.2, SCHEDULE 5.1, MILESTONE PAYMENTS AND CLAIMS PROCEDURE

10.4 Vodafone understands that the level of costs in the bottom-up model for PCP cabinets are highly influenced by BT's estimate of the number of cabinets that require added capacity (referred to as a 'reshell'). Considering the geographic area covered by the bottom-up model and the excluded areas funded by the BDUK subsidisied roll-out, Vodafone find it surprising that so many commercially funded cabinets required additional capacity. In addition, it is unclear if the same re-shell assumption would apply in BDUK funded areas, due to lower density usage at these sites. It would therefore be inappropriate to use this assumption for all areas of the UK without adjustment to reflect a reduce need for re-shell in some parts of the country.

Types of FTTC cabinets and DSLAM capacity

10.5 Vodafone understands that Version 2 of the bottom-up model includes two types of FTTC Cabinets, a Type 1 (small) and a Type 2 (large) cabinet. Cartesian have estimated the number of small/large cabinets to model DSLAM capacity. Vodafone also understands that this proportion of small and large cabinets has an impact on the unit costs in the model, smaller cabinets having a lower economy of scale compared to larger cabinets.

10.6 Have Ofcom considered the impact of the BDUK funding? The BDUK funding is likely to have been used in areas where the economies of scale are more challenging, and thus it is assumed that this subsidy covers many of the 'smaller' type one cabinets. We have seen that BDUK funding has been used in urban areas to provide 'urban-infill'[36] and thus we consider than there is a danger than this model increases the modelled unit costs of SFBB by including a larger percentage of smaller type 1 cabinets when in fact they have actually been funded using BDUK money.

Replacement of retired assets

10.7 Vodafone understands that the model constructed by Cartesian calculates the total number of elements or assets required in each year. It does this by calculating for each year the additional capacity and the number of assets retiring and requiring replacement. However, Vodafone questions whether the assumption of asset lives actually reflects the useful economic life of the asset rather than simply the accounting depreciation life.

10.8 As an example, figure 24 within the Cartesian cost modelling documentation[37] refers to DSLAM asset lives of approximately 7.1 years. However, within the last WBA consultation in 2014 Ofcom investigated the issue of asset lives and the length of time BT actually use assets and found that in practice the economic lives of assets is considerably longer than the initial conservative asset lives assumed. [38]

"In the case of all these assets a percentage of the base has been in service for 13 years. This suggests that the relevant physical asset life for DSLAMs, SDH, and ATM assets is at

[36] see Annex 2.

[37] https://www.ofcom.org.uk/__data/assets/pdf_file/0036/99639/Annex-20.pdf

[38] WBA market Review 2014 Paragraph 7.228.4, https://www.ofcom.org.uk/__data/assets/pdf_file/0021/57810/WBA-Final-statement.pdf

least 13 years. The asset lives could potentially be longer than this, but we do not have any evidence to support longer asset lives at present."

10.9 We also know from our own experience of operating a network that network assets can be used and have economic value long after their accounting lives, we still operate assets in our network that were acquired as part of C&W's Bulldog acquisition back in 2005.

10.10 We have explained earlier in this response how Ofcom's treatment of uplifting the value of heavily depreciated assets still in use enables BT to over-recover their costs; this is another example of how Ofcom's modelling assumptions could enable BT to over recover costs. If Ofcom's bottom up model assumes end of life assets are replaced, and BT do not replace the assets as they are still within their economic life BT will be rewarded with additional costs in the model that they will not incur. This example is similar to the earlier example, leading directly to the over recovery of costs by BT.

11. Recovery of common costs across services and between GEA rental services

11.1 Vodafone considers there to be three broad issues associated with the recovery of common and 'overhead' type costs; the first issue is the allocation of general BT overheads to and between regulated services, the second is the allocation of costs that are common to GEA and MPF (WLR) type services, and the third is the allocation of common/overhead costs between different speeds of GEA services.

Generic BT overheads

11.2 Vodafone understand from Ofcom's consultation that the allocation of generic common costs to MPF and GEA services has the effect of increasing GEA prices (and costs) by nearly 50%, and reducing MPF costs by 10%.[39] We speculate that this is because previously MPF services had an allocation of these costs, whilst the costs in the bottom up GEA model did not include an allocation of these types of costs.

11.3 Vodafone understands why, from a policy perceptive Ofcom may wish to allocate a greater portion of overhead costs to GEA services. However, Vodafone would like to highlight a danger in this approach. Whilst MPF volumes are stable and can be forecast with a relatively high degree of accuracy, GEA volumes are not and actual outturns could be far higher than forecast. This was the case in the assumptions BT used when bidding for the BDUK government funding, take-up of SFBB was much higher than forecast and BT generated significantly more revenue than forecast in their business plans, this has resulted in BT having £446 million of deferred government subsidy on their balance sheet.[40] If GEA volumes are higher than forecast and BT recover a significate portion of their common

[39] Table A14.1 https://www.ofcom.org.uk/__data/assets/pdf_file/0035/99638/Annexes1-19.pdf

[40] Vodafone report to accompany this response: Establishing a transparent reporting process for externally funded network build

overhead costs from GEA service then there is a high risk that overhead costs will be over-recovered by GEA services.

Shared GEA/MPF common costs

11.4 It would be useful if Ofcom could confirm the amount of these common costs allocated to Fibre services. Ofcom explain their allocation of common costs in the top down MPF model and the bottom up GEA model in Annex 11.[41] These costs being based on adjusted 2015/16 RFS cost data. Ofcom state the common costs allocated to MPF rental on a per line basis in 2020/21 is £32.90[42], however in the following fibre modelling section the common costs allocated to each GEA line does not seem to have been included.

11.5 Using Ofcom's example in an earlier paragraph[43] it would seem that if £32.90 was allocated in 2020/21 to an MPF line that is priced at £ 81.98, (i.e. 40% of the total price) then £21.18 would be allocated to a GEA line priced at a total of £52.77, but it would be useful if Ofcom could explain this.

Allocation across speeds of GEA products

11.6 Vodafone understands that Ofcom intend to allocate common costs between GEA rental services based on the current BT pricing structure:[44]

"Current FTTC charge differentials are likely explained by differences in the retail customer's willingness to pay, rather than LRIC differentials, across the different speeds. We propose to spread the total cost allocated to FTTC rentals in line with the existing ratio of BT's charges for different speeds."

11.7 Vodafone also understands that the ability of this approach to ensure only the actual recovery of BT's common costs and not the 'over-recovery' depends on the mix of speeds BT sells in the future. If BT sells higher volumes of higher speed services, then common costs maybe over recovered. For example, GEA services with speeds of 55/10 recover 114% of common costs, if these speeds were to become the benchmark GEA speed sold by BT (note this is the speed BT currently sells itself internally) this would lead to an over-recovery of common costs.

11.8 Vodafone understands that Ofcom do not propose to update this methodology in the future due to BT's ability to 'game' the system, however how will Ofcom ensure BT does not systematically over-recover these common costs as benchmark SFBB speeds increase.

[41] https://www.ofcom.org.uk/__data/assets/pdf_file/0035/99638/Annexes1-19.pdf
[42] Paragraph A11.70 https://www.ofcom.org.uk/__data/assets/pdf_file/0035/99638/Annexes1-19.pdf
[43] Paragraph A11.67 https://www.ofcom.org.uk/__data/assets/pdf_file/0035/99638/Annexes1-19.pdf
[44] Wholesale Local Access Market Review, paragraph 2.36, https://www.ofcom.org.uk/consultations-and-statements/category-1/wholesale-localaccess-market-review

12 Sources of costing information

12.1 Ofcom describe in annex 12 the data sources they rely on to populate the network and cost modules, they state: [45]

> "To inform the assumptions in the Network and Cost modules, we have primarily relied on BT data, alongside our own (and Cartesian's) understanding of how networks are built"

12.2 Vodafone would find it useful if Ofcom could explain what other sources of information they rely on to inform the assumptions in the cost and network module. By way of a comparison when Ofcom validate the assumptions and costs within the mobile termination bottom up LRIC model[46] they use data and information from four mobile operators and use averaging and other techniques to establish the appropriate level of costs to add. This provides checks and reassurance that Ofcom's model was not adversely favouring one operator or that one operator was not able to game the regulatory outcome.

12.3 In the case of a fibre FTTC bottom-up model it would seem that there would be various sources of actual data and models that could be referenced and benchmarked against. Other operators have rolled out actual networks in the UK, BT have submitted business plans in connection with the BDUK government funding schemes, as have other operators, and these networks have been rolled out in many countries with similar geographic characteristics as the UK. Ofcom's modelling methodology whereby the network design, network costs, and various additional and overhead costs are sourced and based almost exclusively on BT's costing data means the risk that the calculated result includes significant errors is extremely high and asymmetric.

12.4 The asymmetry of information between BT and Ofcom together with the incentives for BT to provide data that inflates the cost stack means the risks that the model is based on higher, rather than lower costs is not equal or equitable. BT has at its disposal all of the information to ensure costs are submitted to Ofcom and added to the model, whereas Ofcom only has available to them for assessment the information BT provides. Vodafone understands it is not possible or feasible for Ofcom to gain access to the same level of information as BT, however we would like to point out that when evaluating BT's information Ofcom must consider it in the context of their disadvantageous position and evaluate and adjust it accordingly. Equally if Ofcom cannot verify and provide assurance on BT's information by gaining input from other sources they could adjust BT's information accordingly to account for their incentives to provide information in line with the regulatory outcome they seek.

[45] Wholesale Local Access Market Review, Annex 12, paragraph A12.158, https://www.ofcom.org.uk/consultations-and-statements/category1/wholesale-local-access-market-review
[46] MCT 2015, annex 9, https://www.ofcom.org.uk/__data/assets/pdf_file/0019/72109/annexes_7-13.pdf

Unaudited data sources

12.5 Ofcom details the information sources which they rely on to populate the cost module[54]. Vodafone would like to understand how this information has been audited and reconciled to the regulatory and statutory accounts. In the case of the RFS data this is understood, however with regards to BT actual asset count data, BT's management accounts, and BT's chief engineers model, it is not clear.

12.6 Vodafone would like to stress the importance of validating, cross-checking, and auditing the information BT provides, BT has a long history of providing inaccurate, misleading, and selfserving information. Vodafone would draw Ofcom's attention to BT's track record on producing regulated financial statements (which are audited). With many published and then subsequently corrected or re-stated after having been found to contain errors.

Costs added to the 'cost module'

OSS/BSS costs

12.7 Vodafone understands that these are costs associated with operations support systems and business support systems. These systems, as well as covering FTTC services would also cover all other system products and services, therefore we consider the attribution of these costs provided exclusively by BT and contributing to the bottom up model raise concerns, specifically we would like Ofcom to consider the following issues if they have not already done so:

I. OSS/BSS costs are incurred by all network operators and are generally included in all bottom-up FTTC network models, therefore it is Vodafone's strong view that it is more appropriate to source this data from industry benchmarks rather than BT.

[54] Wholesale Local Access Market Review, Annex 12, paragraph A12.158, https://www.ofcom.org.uk/consultations-and-statements/category-1/wholesale-local-access-market-review

II. There are very good reasons why BT's OSS/BSS costs will be significantly higher than that of an equally efficient operator. BT's network is complex and extensive carrying many services, these systems would be costlier and complex as a result of this,

III. Our concerns in point (II) above would be addressed if the cost allocations of OSS/BSS costs followed all the regulatory accounting principles.

IV. Ofcom state they have reviewed BT allocation of OSS/BSS costs in the RFS in 2011/12, 2012/13, and 2015/16[47]. We would ask Ofcom why they did not consider year 2014/15, and note that in these RFSs BT allocated approximately 13% of

[47] Wholesale Local Access Market Review, Annex 12, paragraph A12.171, https://www.ofcom.org.uk/consultations-and-statements/category1/wholesale-local-access-market-review

OSS/BSS to GEA services. However we also note that BT provided additional OSS/BSS costs that related to fibre specific services[48]. We assume that these 'fibre specific' OSS/BSS costs were allocated previously to GEA services within the RFS but would like Ofcom to confirm this.

V. If historically within BT's RFS only 13% of OSS/BSS costs were allocated to GEA service, then going forward we would expect no more than 13% of costs to be allocated to the GEA charge control model. BT have a history[49] of moving costs into service that are subject to a charge control, this enables double recovery of costs as costs are present in the base year costs of more than one charge control model. There is potentially a high risk in this case, that previously recovered OSS/BSS costs are re-recovered in this charge control.

VI. Ofcom state[50]

a. "The inputs we received suggest that OSS/BSS costs are largely a fixed cost and that one would not expect these costs to change with the number of products offered in the market and/or with the network reach"

b. This statement justifies the consideration of all of these costs not simply a percentage. However then when projecting the costs in the charge control model Ofcom state[5152]

"To project OSS/BSS operating costs backwards and forwards, we have assumed these costs are dependent on the size of the systems in place."

12.8 Is Ofcom confident that the different treatment of BT's costs does not ensure that BT is able to overrecover their OSS/BSS costs, assuming they are fixed costs for the purposes of deciding the level of costs to include, and then assuming they are a variable cost when projecting the costs forward?

12.9 Vodafone also considers that there may be a risk that these fixed type OSS/BSS costs are also recovered by the BDUK funding subsidy provided to BT. As mentioned previously the BDUK procedure document includes details of the costs that are, and are not permitted under the BDUK funding contract, permitted costs include:[53]

"Software and systems (including reporting systems) development costs directly attributable to bringing the broadband infrastructure into use"

[48] Wholesale Local Access Market Review, Annex 12, paragraph A12.172, https://www.ofcom.org.uk/consultations-and-statements/category1/wholesale-local-access-market-review
[49] Reference to 2014 RFS restatement in which BT moved costs from regulatory services
[50] Wholesale Local Access Market Review, Annex 12, paragraph A12.168, https://www.ofcom.org.uk/consultations-and-statements/category1/wholesale-local-access-market-review
[51] Wholesale Local Access Market Review, Annex 12, paragraph A12.173, https://www.ofcom.org.uk/consultations-and-statements/category-
[52] /wholesale-local-access-market-review
[53] CUMBRIA COUNTY COUNCIL, LOT 2.2, SCHEDULE 5.1, MILESTONE PAYMENTS AND CLAIMS PROCEDURE

It would seem that these OSS/BSS costs would fall directly into this category of costs and that BT is able to use BDUK subsidy funding to contribute towards the recovery of these costs. If this is the case Vodafone considers it possible that BT is double recovering a proportion of these costs.

Customer installations

12.10 We note that BT capitalise customer installation costs in their management accounts and RFS,[5455] however Ofcom allow BT to recover customer installation charges via a one-off charge. We agree with Ofcom's approach to consider it inappropriate to allow BT a return on these capitalised costs considering they are recovered from a one-off charge in the year. However, we assume BT treats these costs similarly in their statutory accounts following the accounting matching principle. BT, we assume would be matching costs with revenues, thus if BT recognise revenue in the form of one-off charges in the year we assume they would not be capitalising these costs at all in their accounts.

General management (GM) costs

12.11 As explained by Ofcom[56] these costs relate to general management costs specific to FTTC services. These costs are solely sourced from BT information and as we understand are not cross-checked or benchmarked to any other source. Ofcom also go on to explain that these costs represent between 20% and 50% as a proportion of our modelled bottom up operating costs. Could Ofcom please clarify this statement, is it the case that general management costs represent between 20%-50% of the total modelled operating costs in addition to the shared and common management overhead costs that are added as discussed by Ofcom[57]. These additional costs we refer to are the overhead and other shared costs common to MPF, WLR, and other access services.

Vodafone would like to know as a proportion of the total operating cost stack calculated for FTTC GEA services what proportion relates to management and management overhead type costs.

E-Side and Remote duct costs

12.12 Vodafone understand that duct costs for ducts that are exclusively used by FTTC cabinets (i.e. between the PCP and FTTC cabinet) are included in the bottom-up cost model.

12.13 However, we also understand that BT has a pool of general duct repair costs. These costs were included in the bottom up cost data submitted by BT[58]. However, BT does not believe

[54] Wholesale Local Access Market Review, Annex 12, paragraph A12.176, https://www.ofcom.org.uk/consultations-and-statements/category-

[55] /wholesale-local-access-market-review

[56] Wholesale Local Access Market Review, Annex 12, paragraph A12.190, https://www.ofcom.org.uk/consultations-and-statements/category1/wholesale-local-access-market-review

[57] Wholesale Local Access Market Review, Annex 11, https://www.ofcom.org.uk/consultations-and-statements/category-1/wholesale-local-accessmarket-review

[58] Wholesale Local Access Market Review, Paragraph A12.197, https://www.ofcom.org.uk/consultations-and-statements/category-1/wholesalelocal-access-market-review

its own model and has proposed to Ofcom that additional duct repair costs should be added to the bottom-up LRIC model.

12.14 Vodafone questions whether these costs are really related to the incremental costs of providing FTTC or whether in fact they are simply due to BT's historic under investment in its core network.
Additionally, Vodafone would like to highlight this as another example of data asymmetry where BT only provides data to move the costs, and consequently price of its regulated wholesale services in one direction. Vodafone would like to understand whether BT has ever provided information voluntarily that has the effect of reducing costs in the cost model.

Cumulo

12.15 Vodafone understands that Ofcom have calculated a unit cumulo cost for GEA and MPF services in 2020/21 of £7.70 and £7.08 respectively.[59] Therefore in order to provide SFBB to customers CP's
(They are currently required to procure MPF+GEA or WLR+GEA) are required to pay £15 towards BT's business rates bill for each customer. This represents approximately 10% of the total wholesale SFBB charge paid to BT. Vodafone has two broad concerns with the business rate costs included in this model; firstly, we question whether the correct portion of business rate costs are being allocated to WFAEL and WLR services, and secondly whether at the total level BT may over recover business rates in the future.

12.16 Vodafone considers that BT's business rates should in theory simply be a 'pass-through' cost, BT should not be able to make a margin on business rates when charging CP's wholesale prices, nor should regulated products sold to CP's be burdened with a higher portion of business rate costs compared to products that are unregulated or sold internally within BT.

12.17 To investigate our first concern Vodafone have performed the following simple top down calculation to confirm whether the costs allocated to GEA and MPF services as a proportion of BT's total revenue seem reasonable or require further analysis.

- BT total business rate bill for the UK (forecast for April 2017): £812 million[60]
- Number of MPF and GEA lines: 20 million MPF, and 8 million GEA lines[61]
- Business rate attributed to WFAEL and WLR services: 20 million x £7.08, and 8 million x £7.70 = £211 million or 26% of BT's total bill.

[59] Wholesale Local Access Market Review, Annex 12, paragraph A17.94, https://www.ofcom.org.uk/consultations-and-statements/category1/wholesale-local-access-market-review
[60] VOA, September 2016, https://www.gov.uk/government/publications/the-central-rating-list-2017
[61] BT KPI's, Dec 2016: BT's publish the number of Total DSL + fibre as 20.308 million and an Openreach fibre base of 7.177 million. We forecast in the financial year starting April 2017 there will be 20 million lines and 8 million fibre lines. Considering broadly speaking MPF wholesale prices = WLR prices we assume BT volumes of 20 million MPF lines and 8 million GEA lines to calculate the top down business rate contribution of these WFAEL and
WLR services. http://www.btplc.com/Sharesandperformance/Quarterlyresults/2016-2017/Q3/Downloads/KPIs/q317KPIs.pdf

- WFAEL + WLR represent £3.6bn or 19% of the total revenue identified in BT's 2016 regulated financial statements.[62]

12.18 Vodafone understands there is not a direct link between business rates by regulated service and the revenue generated from them, the direct link is associated with the revenue attributable to the property elements the regulated services consume. However, we consider that this high level comparison provides a first order test that raises questions; does Ofcom consider it reasonable on this basis that MPF and GEA services should consume a higher portion of business rates compared to other services?

12.19 Our second concern relates to the danger that BT will over-recovery their business rates payable due to subsequent reductions in their rates. BT's business rates could reduce because:

(a) As Ofcom notes, BT is planning to challenge the business rate increase they are subject to and considering the business rate bill increased from £200 million to over £800 million there may be scope for BT to achieve a significant reduction on appeal.

(b) The government is planning to introduce business rate relief for 5 years on new full-fibre build. Considering BT may well use full-fibre to provide a portion of the anchored charge controlled services they may well achieve significant rate relief.

12.20 As discussed above we consider that business rates should simply be a 'pass-through' cost to BT,

any reductions they receive as a result of lower rates due to appeals or fibre relief should simply be passed through in the form of wholesale price reductions. Business rates should not be treated in charge control models like direct labour costs where BT benefits from operating efficiently if their actual costs are lower than that which is forecast at the time of the modelling process. What process is Ofcom going to put in place to ensure BT does not over-recover this now significant portion of the SFBB cost stack?

12.21 Ofcom's sensitivity analysis also supports our concerns relating to the significance of these costs.[63] As shown by Ofcom moving from their low assumption on Cumulo costs to their high assumption moves the price of a GEA rental from £47.11 to £58.14 per line.

13. Modelling assumptions

Move away from Openreach WACC

13.1 Ofcom have historically used the calculated WACC for Openreach in this market, Vodafone understands that Ofcom are now proposing for the regulation of SFBB to use the WACC

[62] BT's 2016 RFS, section 5.1, http://btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2016/CurrentCostFinancialStatements2016.pdf

[63] Annex 14, https://www.ofcom.org.uk/__data/assets/pdf_file/0035/99638/Annexes1-19.pdf

calculated for 'other UK telecoms'. The central estimate calculated for Openreach's pre-tax nominal WACC and other UK telecoms is 8.0% and 9.4% respectively.

13.2 Performing a very high level approximate calculation using the mean capital employed in BT's 2016 RFS[64] for the WFAEL and WLA services and applying the different WACC, if the whole WFAEL and WLA market switched from being controlled using 'other UK telecoms' instead of the calculated WACC for Openreach it would represent a windfall of over £100 million for BT.

13.3 Vodafone understands that at present the proposal is to use the calculated WACC of Openreach for the purely copper based access products (MPF and WLR) and 'other UK telecoms' for SFBB services. We understand broadly speaking that Ofcom's rational for this distinction is associated with their characterisation of the services. Ofcom considers that purely copper access (MPF) services are more of a utility type service with steady demand characteristics and SFBB services being more of a premium service with varying demand characteristics especially over the coming charge control period.

13.4 Whilst Vodafone accepts some of Ofcom's rational we consider that as SFBB services become more widely used as they very rapidly are and the demand curve flattens out, they will become the new standard utility type product with greater certainty of demand and the associated lower risks. We also believe that SFBB services as currently delivered by BT with FTTC do not represent a significant investment, risk, or step change for Openreach, the incremental steady upgrade of fibre from the exchange to the cabinet and within the cabinet has broadly been achieved by Openreach within their normal capital expenditure £1bn budget.

13.5 Therefore, we consider as a general trend a move to a higher WACC for WLA services to be inappropriate and we consider it appropriate for Ofcom to re-assess the use of a higher WACC and revert to the historic WLA market WACC of Openreach. We also consider that when (and if) BT roll out a stand-alone GEA product that includes the 'copper access' as well as the services over the copper that these are charge controlled based on Openreach's WACC and not 'other UK telecoms'.

Depreciation method

13.6 Vodafone does not fully understand Ofcom's explanation of their rationale for using CCA depreciation in the bottom up model.[65] We understand that in the past Ofcom have used economic depreciation when building bottom up models, and that this ensures the profile of cost recovery is consistent with the path of prices which would occur in a competitive market.

13.7 We have, in our previous responses expressed our concerns that CCA depreciation methods can lead to volatility due to fluctuations in asset values and in-life asset replacements. We have also in this response expressed our concern at Ofcom's approach to uplifting heavily depreciated asset values in charge controls to gift BT artificial modelled

[64] Section 5.1, http://btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2016/CurrentCostFinancialStatements2016.pdf
[65] Paragraph A12.218 https://www.ofcom.org.uk/__data/assets/pdf_file/0035/99638/Annexes1-19.pdf

cost increases. (Although this is not currently relevant in this model). Added to these are our general concerns that BT will over-recover depreciation charges.

13.8 When justifying their use of depreciation method in this model Ofcom have discussed their concerns that BT may not recover its costs in early years, however has Ofcom considered whether BT will over-recover their costs in later years? BT has a history of using assets for far longer than their accounting lives (as shown earlier in respect of DSLAMs) and this would seem to be an effective strategy for BT.

13.9 If BT depreciates assets over a short life and Ofcom does not make the appropriate adjustments for their actual economic life, then BT could benefit in two ways:

I. Firstly, Ofcom's assessment of BT's profitability in early years (i.e. the fair bet analysis) will include higher depreciation charges and thus lower profits or losses. This would have the effect of lengthening the 'regulatory holiday' BT is able to enjoy.
II. Secondly if BT utilise assets for longer than their modelled life, they are gifted extra depreciation in their modelled costs for replacement assets which they will not actually incur.

Vodafone is concerned that Ofcom have not considered these risks and taken steps to ensure BT does not over-recovery their depreciation charges.

14. Model calibration

Conceptual approach

14.1 Ofcom explain the conceptual modelling approach to calibration and draw on examples such as the mobile call termination market review.[66] Vodafone would like to highlight that the exercise that has been described in Annex 13[67] does not appear to be a calibration exercise but rather an exercise that adds to the cost model additional costs that BT have provided to Ofcom in response to the initial fibre modelling consultation. [74]

14.2 Vodafone points out this important distinction because we feel the information provided by BT needs to be assessed with this in mind. As pointed out earlier in this response, BT is incentivised only to provide calibration information that moves the results of the modelling exercise in one direction (i.e. to increase charge controlled prices). Any additional information or explanations that BT may have that would reduce charge control prices they do not necessarily provide, therefore Ofcom need to take a very balanced and analytical view when considering information that BT has provided to 'calibrate' their bottom up model.

[66] Paragraph A13.8 https://www.ofcom.org.uk/__data/assets/pdf_file/0035/99638/Annexes1-19.pdf
[67] Annex 13, https://www.ofcom.org.uk/__data/assets/pdf_file/0035/99638/Annexes1-19.pdf [74] Initial fibre model consultation

14.3 Ofcom does recognise the potential issues with calibrating a model that is based on operator's costs in cases where the operator in a market has SMP.[68]

"We consider that calibrating the 2015 MCT model using data from the 2G/3G/4G national MCPs is an important part of the modelling process. Although MCT is effectively a monopoly service, the four national MCPs do have incentives to be cost efficient in order to compete in the provision of access and origination services, which use many of the same assets as MCT. Because MCT assets are shared with services provided in competitive markets, we do not have reason to believe that the national MCPs would be operating inefficiently. This is in contrast to modelling a monopoly provider where much or most of its cost stack is not supporting services provided in competitive markets, and hence calibration may be of less use if we are seeking to model an efficient operator."

Data sources used for calibration

14.4 The sources of data that Ofcom use to calibrate the model seem to be exclusively from BT, and these same sources also seem to have been used to populate the bottom-up model. Therefore, Vodafone considers that significant weight has been placed on the information contained within these data sources and would like to ensure that the information has been audited and crosschecked to a level in-line with its importance in determining GEA prices. Vodafone has the following generic questions and specific questions with regards to these data:

Generic questions:

a. What level of audit, third party validation has the data source been subject to?
b. What BT internal compliance, /processes have been in place when the data was compiled?
c. What cross-checks/validation has Ofcom performed on the data?

BT's physical asset inventory. Does this asset inventory consider BDUK funded assets and record them as such? If BDUK funding has been used to procure assets in areas where the economies of scale are more challenging compared to the national average, then using BT's asset count including these assets may lower the economies of scale and thus increase modelled unit costs.

BT's management Accounts: Has this information on BT's capital spend on commercial fibre access been reconciled to BT's total capital spend and the regulated financial statements. Has any spend on BDUK been specifically segregated and reconciled to the total BDUK capital spend? See below a table showing BT's capital spend from 2009/10 to 2015/16.[69]

[68] Paragraph A9.3 https://www.ofcom.org.uk/__data/assets/pdf_file/0019/72109/annexes_7-13.pdf
[69] See Annex 2

Openreach capital expenditure spend by programme categorised by technology type £m							
	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	Forecast 2015/16
Ethernet Total	112	124	118	164	177	206	261
Copper Total	464	466	460	444	423	424	500
Fibre Total	128	262	313	360	233	165	217
BDUK/SEP Net	-	2	11	12	56	142	262
Other Total	205	234	175	166	161	146	129
Total	909	1,089	1,077	1,146	1,049	1,083	1,369

Source: BT submission (EWC0097)

14.5 BT's RFS: Ofcom explain that BT provided information on a LRIC and FAC basis[70] however Vodafone

understands that the RFS does not contain LRIC information, this is provided from BT's unaudited LRIC model.

14.6 BT model: It appears that Ofcom has relied on BT providing this information in 'good faith' based on parameters defined by Ofcom. However, given BT's clear incentive to inflate modelled costs how has Ofcom ensured that this information is accurate and in line with an equally efficient operator and indeed suitable for being used in a calibration process.

[70] Paragraph A13.17 https://www.ofcom.org.uk/__data/assets/pdf_file/0035/99638/Annexes1-19.pdf

Part C: QoS to support digital communication in the 21st Century

Improving Openreach Quality of Service

15.1 The short sighted pursuit of profit enhancement by Openreach via a range of cost saving schemes has resulted in direct detriment to the levels of quality of service provided and has led to years of suffering for UK consumers. Mechanisms to enforce Openreach to bring service back to acceptable levels has consequently become the focus for industry over recent years. This external pressure on Openreach to improve will need to have to continue for a full decade before good service becomes common place.

15.2 We question whether Openreach has properly grasped its obligations as the SMP provider and therefore its duties under both i) the SMP obligations and ii) under its contract with its customers to provide services with the promised service standard. Despite Ofcom making provision in the last charge control for specific capex budget for investment in the Openreach network to aid service improvement, Openreach has failed to make use of the full extent of the investment opportunity that was available.

15.3 Openreach has preferred instead to spend money on operational tactics. This is a distinct trade off where Openreach chooses to spend more on a short term fix (which is likely to require ongoing repetition) and less on long term investment in physical network changes / support systems to facilitate service improvement. Openreach's failure to invest to the maximum means that only incremental service improvements have been achieved over the past control and lacuna period with Openreach achieving the minimum standard floors set by Ofcom, rather than a distinct raising of the service bar and overachievement.

15.4 It is well recognised that the old copper network that has been in situ since telecommunications services were invented no longer meets the demands of a digital society in the 21st Century. Copper lines result in the restriction of the services a user can obtain, such as limiting broadband speeds. Copper lines are more at risk of interference by other user's services and more prone to faults. The optimal solution for service improvement, in particular for service repair, is a rapid transition from copper based services to fibre based services.

15.5 Ofcom's strategy to promote the investment in fibre services to end users sets an important contextual baseline for the treatment of costs that Ofcom allows Openreach within the charge control for legacy products service improvement. The discussion concerning recovery of inefficient costs pertaining to maintenance of the copper network is not evident. The proposals proceed on the basis that it is correct for industry / end users to continue to fully fund the higher costs of quality assurance for services that long since should have been replaced with fibre.

15.6 We are delighted that Ofcom proposes to continue to apply pressure on the timeline for Openreach service improvement. Ofcom's regulatory focus on Openreach quality of service has successfully raised the standards available from deplorably low rates in 2014/15 when; only 54% of appointments could be booked within 12 days; and only 67% of repairs completed

within SLA. Today 80% of appointments are within 12 days and 80% of repairs are completed within SLA. This is a marked improvement but clearly a further 20% improvement remains to be made.

15.7 After losing a year in the progression to improvement due to the delay to the market review process,

Ofcom proposes a further steady progression for the 3-year period between 2018/19 and 2020/21. These proposals for service improvement progression are taken in light of the reported limitations (by Openreach) which prevent speedier improvement and achievement of higher attainment levels.

15.8 There is a miss-match between the findings and requirements of the concurrent Ofcom service improvement initiatives of retail automatic compensation and WLA QoS. In our view a more cohesive and planned strategy of service improvement to be delivered by the interlinked Ofcom policy proposals is required. To date Ofcom's SMP QoS intervention has focussed on ensuring there is a steadily increasing service floor below which performance cannot fall and moving from a bad service situation to an improved service situation. However, the big picture service level goal – the ideal - has not been transparently communicated. When will Openreach finally deliver service that can be properly relied upon? What is the most efficient manner of achieving this goal? Despite this the proposals for retail automatic compensation appear to introduce the service level goal of 100% SLA compliance, although this target does not feature in the SMP QoS obligations or the foreseeable pathway for these obligations.

15.9 In summary we find Ofcom's policy approach inconsistent, with one set of economic competition policy proposals setting out a framework for the next 3 years for slow progression to improvement while at the same time a consumer policy proposal setting far higher service standards which will result in Openreach being responsible for retail consumers' payments amounting to £175M per annum. At the same time, we are looking to a fibre future. There is no evident link between any of these projects to establish whether policy decisions are working in harmony to achieve the overriding objectives and are in the best interest of consumers and competition. In our view Openreach should be:

i. required to increase the pace of all aspects of service improvement, having a goal of 100% performance for the review period for all the service components that Ofcom wishes to apply automatic compensation for;

ii. until such time as service reaches optimal levels, Openreach investment must be focused on service improvement rather than new compensation methods; iii. Ensure that service fully supports both a voice and broadband purchase; iv. Deliver tools for superior fault detection on broadband lines in tariff;

v. Be incentivised to invest in fibre service delivery as the mechanism to improve service issues – in particular for service repair.

16 Proposals for steady improvement

16.1 Vodafone has highlighted to Ofcom the general lax approach to service standards by Openreach prior to the current decade starting. Retailers and consumers have been left with the impact of substandard, slow installation and repair processes.

16.2 Ofcom proposes to set "tougher standards" for quality of service upon Openreach to speed up broadband and telephone repairs and installations. Openreach has some 87% market share of customer lines and therefore is responsible for an equivalent share of service installations and total loss of service repairs and other fault repairs that occur due to the physical customer connection.

16.3 We agree with Ofcom that the service levels experienced today still remain too low. It is necessary to increase the service standard floor to a higher level. This is particularly important since Openreach considers the floors set by Ofcom to be the height of the required service attainment and there is little apparent appetite by Openreach to seek to exceed the floor.

16.4 We also agree that it is necessary for Ofcom to include all service types: WLR, MPF, SMPF and all GEA options. The consultation addresses service for FTTC but not FTTP. We consider that FTTP repair must also be included[71], as should FTTP provision to CDD as a measure of performance against promise.

16.5 At the same time as it is consulting on WLA QoS, Ofcom is consulting on the strategy for competition and regulation for the wider WLA and retail automatic compensation proposals. Having regard for the big picture across these three consultations, and Ofcom's policy proposals within them, leads us to identify a lack of cohesion between the objectives and proposals within each consultation. This results in policy proposals that overall fail to support one another and in areas appear to be in conflict[72].

16.6 Ofcom seeks to promote investment in new fibre services and a transition from copper based access services to fibre based access services. The charge control for QoS fails to include incentives for fibre transition by permitting ongoing cost allowances for legacy services.

16.7 Within the consumer automatic compensation proposals, it is clear that Ofcom considers that any level of failure to:

I. provision a service on time (against promise),
II. arrive on schedule for an engineering appointment

III. repair a total loss of service with a short time period (against promise)

[71] Although we recognise at present that FTTP installation is bespoke and consequently customer appointing in a predefine timescale is potentially not a relevant performance metric

[72] Auto compensation suggests an Ofcom set SML which will increase the number of faults passed to Openreach as Retailers have less time to conduct nonet resolution tests. Auto compensation sets out the service levels should be at 100% and no less due to the consumer harm, while WLA QoS recognises the limitations to achieve 100% and does not introduce this target. Auto compensation will result in approx. additional costs per line of £6.88 to fund the £164M of compensation for which Openreach will be directly responsible.

Is a failure which results in substantial consumer harm.

16.8 The QoS proposals fail to take the same approach to consumer harm and therefore do not work together with the compensation proposals. The service floors that are proposed for QoS will continue to permit a large proportion of service failure and consequential consumer harm.

16.9 The QoS proposals on their own continue to proceed to further improve Openreach's service provision levels and leave scope for a successive progression between 2021/22 to 2024/25 in the subsequent market review control period. The result being a 10-year regulatory programme (2014/15 to 2024/25), necessary to achieve provisioning and repair against the actual Openreach contractual promise.

17. Proposals for WLA QoS in light of retail automatic compensation

17.1 Both the WLA QoS and retail compensation policies focus upon the same Openreach service failings of provisioning on time / to promise (which for automatic compensation also includes engineers arriving when promised) and repair of services against the repair promise. Automatic compensation seeks to focus on customer faults that result in a total loss of service (which in our view will most certainly be a fault for Openreach repair) and also seeking to redefine the time period by which such faults must be repaired. Due to the nature of the supply chain this would require a reduction in time taken to repair by both the retailer and Openreach, requiring improved standards to Openreach SML1 and SML2.

In the WLA QoS consultation document Ofcom tells us

"We propose to set standards that are stretching enough to drive Openreach to make improvements, but that are not so high that they are unachievable. We also take into account the additional resources Openreach may need to recruit, and the time required for Openreach to achieve those staffing levels and for the newly recruited or retrained engineers to become competent. This is particularly relevant in our proposals for the period of time over which the quality standards will increase."

17.2 The consumer policy proposals appear to be made without consideration that Ofcom is proposing to set a service floor via the WLA QoS SMP measures which at the start of automatic compensation allows 1 in 10 consumer repairs to fail their SLA and progresses to allow 1 in 20 to fail their SLA. In other words, these consumer proposals are made in light of the evidence that there are limiting capabilities beyond the control of retail CPs as a result of Openreach performance.

17.3 It is clear to us the service failure which Ofcom wishes to attribute compensation payment to will fall squarely in the domain of Openreach service provision.

17.4 Both the automatic compensation consultation and the WLA QoS consultation document

recognise the necessity to make arrangements for pass through from Openreach to retailers to cover the new automatic compensation payment where Openreach failure is the cause.

17.5 Neither of the consultations make proposals that are adequate or go far enough to ensure the automatic compensation regime can work. We estimate, using Ofcom's figures of likely consumer compensation payments, that Openreach will be liable across the various service failings for circa £175M per annum of compensation pass through payments.

17.6 The present proposal by Ofcom to give effect to its consumer policy is that Retailers are required

to reach agreement with Openreach over the necessary process changes and agree the financial arrangements.

"At this stage the introduction of retail automatic compensation is under consultation and its impact on SLGs is yet to be seen. For instance, possible changes to the SLA/G regime may only come into force midway through the review period, as there is a proposed implementation period of 12 months from the date of the statement. In addition, the degree to which higher SLGs may affect BT's incentives remains uncertain."

17.7 We entirely disagree that 1) the likely level of costs to Openreach of automatic compensation cannot be estimated 2) that Openreach can increase performance in response to the compensation proposal to avoid the compensation pass through costs– otherwise Ofcom should propose to set higher targets in its QoS measures and 3) that it is appropriate for Ofcom to leave such important implementation aspects to commercial agreements between unequal parties.

17.8 We propose that the general conditions and SMP obligations are specific and clear, that Openreach must pass through payment for onward automatic compensation payment where it fails to meet its CDD, where is fails to make an engineering appointment, where it fails to repair a total service loss within SLA (or a time frame determined by Ofcom); the obligation must include the time period for payment (before the retailer must make their payment) and the value of the payment (as per the current compensation value decision).

18. Are the QoS proposals sufficient?

18.1 When taken in the round it is clear that the WLA QOS proposals are not adequate to support the Ofcom service ambition for consumers as we move into the 2020s. The Ofcom consumer policy proposals identify a strong desire and incentive based regime to minimise service failure to absolute limits and as such the proposals in this document, while welcome as an overall improvement, simply do not go far enough.

18.2 The policy objectives within the digital communications strategy need to be achieved through the separate policy decisions that implement them being made to working together to achieve the overall common goal. We understand that goal to be a rapid transition to fibre based services supported by 100% service to SLA.

18.3 As presented across the various live consultations we see proposals:

I. for further consumer contributions via the inclusion of these costs in the regulated rental price to improve service for legacy products.

II. to remove £175Mpa (equivalent to £7.30pa for every Openreach based customer) for poor service provision to compensate affected customers. Arguably it would be better invested to provide better service for all customers. The cost benefit analysis of this is not considered;

III. that do not set a quality of service environment for the new fibre services FTTP / G.Fast which Openreach is rolling out and therefore creates a risk that these services will be developed without the desired service wrap. Ofcom should take the opportunity to ensure that newer services are required to achieve a service level of high nineties at launch as part of their basic reference offer objectives.

Part D: Answers to consultation questions

Quality of Service:

Question 3.1 Do you agree with our proposals regarding our approach to quality of service remedies. Please provide reasons and evidence in support of your views.

Please see section C above. Vodafone supports the ongoing focus by Ofcom aimed at improving the quality of service levels provided by Openreach for the services that we and our customers rely upon Openreach to deliver. If it is the overall policy of Ofcom to have a steady progress of service improvement by Openreach then we would agree that overall the proposals presented are reasonable to achieve that goal. Given however that Ofcom acknowledges the importance that users place upon communications services and the harm to them when there is failure the more appropriate response would be to ensure the necessary investment to eradicate current failure levels by Openreach is made as soon as possible.

We believe that Ofcom needs a cohesive strategy between its competition policy teams and its consumer policy teams to ensure that policy decisions are working together to deliver the optimal outcomes for competition and consumers. Ofcom is concurrently consulting upon these proposals for service improvement by Openreach at the same time that the consumer team is consulting upon changes to the General Conditions in order to commence a regime of automatic compensation payments for consumers.

The service failures of which it is proposed to apply automatic compensation to are failure to speedily repair a total loss of service, failure to install a service on time, failure to arrive for an engineering appointment at the scheduled time or without adequate notice of rearrangement. In our view these service failings will fall squarely in the domain of the Openreach portion of the service provision.

It is apparent that the consumer policy proposes far higher service standards than those proposed by the competition policy and resulting SMP QoS proposals. As a purchaser of these products from Openreach we would rather see an earlier improvement and greater investment in improvement of all service aspects and service level attainment. We would rather see Openreach invest this money to achieve service goals far sooner, rather than directing money from Openreach to consumers to the benefit of a sub set of customers.

Question 4.1 Do you agree with our proposals to incorporate the anticipated lower fault rate in the charge control, and not to allow a specific adjustment for the related capex. Please provide reasons and evidence in support of your views.

Ofcom's consumer research clearly identifies that consumers remain unsatisfied by the level of service provided – in particular the findings show 5.7M incidents of service loss per annum. We continue to look to BT Openreach to take substantial steps to ramp up its plans to improve fault resolution.

Ofcom identifies that the previous charge control made an allowance for greater capex investment in QOS for copper products and that Openreach took the option open to it of not using this full capex allowance.

CPs and end users pay for the allowances that Ofcom makes within the charge control via the rental service they purchase. We therefore entirely agree that CPs and ultimately end users should not bare the same costs twice. If Openreach has failed to make the necessary capex expenditure to improve service and effectively retained that money it is not appropriate for that funding to be provided a second time. Ofcom notes that Openreach has a programme in place which will be working to reduce the overall level of network faults by investing in "general network health". Ofcom proposes to use the information from this programme on lower fault rates to inform this policy proposal. We consider that this approach would be correct.

We believe that additional consideration is required to understand the cost benefits of Openreach further investing the £105M[73] per annum which is presently earmarked to provide the pass through payments to support the automatic compensation regime. We consider that a supplementary additional investment in network health and repair processes at this level for a number of years would be transformational for Openreach repair service performance.

We struggle to grapple with the current consultation proposals that do not take this analysis forward. We consider competition and all consumers are better served by increased and escalated investment in service level standards rather than a multiyear slow progression to service improvement and high compensation payments to consumers.

[73] Our automatic compensation response set out how we calculate this

Question 4.2 In Annex 5 we have set out our forecast for fault rates. Do you agree with our forecast? Please provide reasons and evidence in support of your views?

We lack sufficient independent data to fully verify the analysis that Ofcom has undertaken, our comments are therefore limited to experience with our smaller user base and consideration of the approach undertaken by Ofcom.

Ofcom's data shows that services provided with an MPF component result in a higher fault rate. The fault rate and therefore the costs driven by this category of user will therefore be highly reliant upon the strategy of the CPs that deploy MPF for their service provision. We expect that Ofcom will have verified its assumptions with these CPs specifically.

The ongoing higher level of faults will be as a direct result of Openreach failing to make adequate network improvements over the last charge control period. It would be appropriate for Ofcom to reset cost recovery on the basis that a lower fault rate should in fact be prevalent but absent due to Openreach failing to act appropriately in the last control period to improve fault efficiency.

Question 4.3 Do you agree with our assessment of the role better diagnostics could play in improving fault resolution for both telecoms providers and customers, and how should these improvements be realised?
Please provide reasons and evidence in support of your views?

Vodafone has substantial concerns that Openreach is conducting fault reporting to an old voice test standard. Testing of performance of a copper pair to SIN349 is an inadequate approach to checking performance in a broadband world. SIN349 is in essence an endorsement of NICC ND1601, both documents simply setting out the electrical characteristics of a copper pair. It sets out what can be expected of a copper pair in terms of the voltages supported and the maximum amount of noise that may be experienced on the line. However, it does not translate this to what might be expected at the broadband application layer, in terms of what bandwidth and stability a line might be expected to support. It is entirely plausible, therefore, that a line can be within the specification of SIN349, yet be unable to support a broadband service that anyone would reasonably consider acceptable.

Question 5.1 Do you agree with our proposals to set standards on repairs delivered to SMLs 1 and 2 timescales? Do you agree with our proposal to set new standards for repairs completed five working days over SLA for SMLs 1 and 2. Please provide reasons and evidence in support of your views?

Vodafone considers that stakeholders (CPs purchasing from Openreach's and ultimately end consumers) need to have a clear understanding of the action plan that leads to an operating environment where all repairs are undertaken to their SLA. At present we have a 3-year cycle of regulated service floors but we do not have a clear view as to when the service standard that Ofcom imposes will be set at 100%.

There is a clear divergence between the competition policy that proposes a steady climb to improvement over the coming 3-year period versus the consumer policy proposal that failure to fully meet an SLA leads to so much consumer harm that automatic compensation must be paid.

In our view the harm that is discussed in automatic compensation – ongoing service loss, will almost 100% of the time relate to Openreach when the customer is connected to the Openreach network. We consider therefore the appropriate manner in which to deal with the harm is at its source. We acknowledge that Ofcom proposes that Openreach be financially held to account and pass on to retailers the compensation for end users where it is at fault. We consider that a superior use of the compensation money is in investment in improvement.

As constructed today:

- Openreach will continue to have long term failure to repair all fault to their contractual SLAs, including beyond this review period.
- Industry players and Openreach will be required to investment in the compensation pass through notification and payment system.
- Some £105M specific to failure to repair loss of service within SLA will be passed each annum from
  Openreach to consumers rather than invested for the improvement of all consumers
- Some consumers will have higher service prices as Openreach seeks to recover these costs from higher rentals for either regulated or unregulated services

There is no winner in these scenarios.

Question 5.2 Do you agree with our proposed structure for the QOS standards? Please provide reasons in support of your views?

We consider that Openreach should report performance to its SLA for all service levels offered. Vodafone purchases across the range of service from Openreach: SML1, SML2, SML2.5 and SML4.

Each of these service levels should have a compliance target of meeting the SLA in excess of the proposed floor.

Question 5.3 Do you agree with the proposed levels of the repair standards? Please provide reasons and evidence in support of your views?
The repair levels proposed are a progression from the current minimum standards. We consider that that minimum standards should include all of the Openreach care levels. In our view repair by Ofcom is equally important to support every service level a customer has purchased.

As we have set out we consider that the minimum floors proposed need to match up with the demands of the automatic compensation scheme. We consider it at odds to permit a floor with allows 1 in 10 repairs to fail their SLA, or even 1 in 20 failures.

We consider there needs to be cohesion between the objectives of the two policies with momentum thrown into escalating the progression to improvement where we see a bare minimum subset fail their promise.

The repair standard needs to be supported by closure of a fault to a repair test standard that is relevant to the service being provided. Repair testing needs to ensure both a voice and/or broadband service no longer exhibits the fault that was reported. In a broadband situation the test

needs to check that the reported fault is no longer occurring rather than testing a line to confirm SIN 349 is passed.

Broadband lines are more likely to incur repeated issues of service interference which must be resolved in order to achieve customer closure of the fault. Today the test standards do not adequately ensure a fault is only closed down after the fault issues are properly resolved.

The failure of the current fault testing and repair process to properly resolve broadband faults has led to a suite of out of tariff repair services being developed. Ofcom rightly identifies the extensive use of out of tariff repair services. A trend for a continuing rise of faults that cannot be remedies in tariff or within the service maintenance level timescales is concerning. Between 2015 and 2016 the RFS show us that out of tariff charging for SFIs alone resulted in an increase in revenues for Openreach of £2.3M. The publication of the 2017 accounts will add to this evidence base and we will review the evidence base once these become available.

Question 5.4 Do you agree with our proposed glidepaths? Please provide reasons and evidence in support of your views

We consider that the glidepath needs to be imposed to support the automatic compensation proposal. In the first year of the proposed automatic compensation regime the floors would permit Openreach to fail 1 in 10 of the repair passed to it for resolution. In the second year this will still be 1 in 20. In our view we need a glide path and overall plan that seeks to set a floor far closer to 100% success against the service promise.

Question 5.5 Do you agree with our proposed compliance periods and geographic applications of the repair standards? Please provide reasons and evidence in support of your views.

We agree that compliance should be monitored across the UK and a method of doing so is to evaluate each Openreach local service area. Consumers in all nations and areas should benefit equally from the proposals.

Question 5.6 Do you agree with our proposal to continue to make an allowance for force majeure in the repair QoS standards? Do you agree with our proposal to use 1% as the Local MBORC allowance and to retain exemptions for High Level events? Please provide reasons and evidence in support of your views.

We do not agree with this proposal. In the run up to the consultation we provided Ofcom with our analysis of
MBORC over the last years. In our view the historic incidence of Openreach invoking MBORC was the FAMR equivalent of the Deemed Consent abuse, and essentially an Openreach tool, regularly deployed, to avoid the payment of legitimate SLGs to CPs for service failure.

The incidents of MBORC have reduced massively as the process under which Openreach calls MBORC is far more rigorously monitored and applied. In the same way that Deemed Consent came under the scrutiny of CPs so did MBORC.

We acknowledge that Ofcom wishes to provide a mechanism in the event that a serious and severe weather situation occurs so as to not penalise Openreach unnecessarily or enforce excessive service standards in such situations. We agree that certain situations warrant an exemption from

compliance, however we consider that this is better dealt with via an exemption ex post rather than ex ante.

As constructed the QOS proposals give an annual reduction to the total MSL targets of 1% whether the 1% has or has not been invoked by an MBORC callout. We consider that Ofcom should either:

- Disallow entirely an upfront allowance but allow situations of MBORC to be considered in the event that minimum standards are failed by Openreach and MBORC will have contributed to this failure
- While setting an overall limit of 1% allow only the actual MBORC incidents to be removed from the headline QOS floor standards.

In the event the Ofcom does not progress with either of the above options we consider that greater transparency is necessary to show all parties that the service floor upon Openreach is not the headline QoS rate but the MBORC modified rate.

Question 5.7 Do you agree with our proposal to make the payment period for late repair SLG payments indefinite. Please provide reasons and evidence in support of your views.

Ofcom's analysis identifies that there is a significant tail of customer that do not get their service repaired within a reasonable expectation. Openreach has sought to limit its exposure to SLGs but setting a contractual cap of 60 days which also lined up with the 2008 SLG direction.

Ofcom states its aim that there is a three pronged approach to incentivising service improvements. Along with transparency and the minimum service level floors Ofcom identifies the role of SLGs. We agree that where SLGs are no longer applicable, but the service issue remains ongoing a key incentive to resolve is removed. Consequently, we agree with Ofcom that the cap on SLGs should be removed.

Question 5.8 Do you have further comments on our proposals for regulating BT's service performance for repairs? Please provide reasons and evidence in support of your views

Please see section C above.

Question 6.1 Do you agree with our proposals for on-time installation standards? Please provide reasons and evidence in support of your views.

As drafted (and with the MBORC exclusion) by the end of the next review period the minimum service standards will permit Openreach to fail its SLA 1 in every 10, progressing to 1 in every 16, provisioning appointments. The harm from delayed installations to customers is considered to be substantial and impact customer switching behaviour by acting as a deterrent to potential switchers. Overall the improvements over the period are to be welcomed, as any service improvements are. However, taken in the round the proposals mean that over a 7-year period 2014/15 to 2020/21 we will have achieved only a 5% overall improvement. We need to further recall that improvement relates to a 5% increase in the number of times that BT meets it contractual promise to deliver a service on a certain date.

We acknowledge that delivery to CDD includes as mixture of both installations that require an engineer visit and installations that do not. We presume but lack the evidence that it is the 30% of installations that require the engineer visit that are responsible for the failure to meet 100% CDD and therefore the improvement of CDD performance is highly reliant upon the improvement of appointment availability.

We note that over the same time period that appointment availability will increase by 10% yet the performance to CDD is given only a 5% increase rather than a matching 10% increase. We consider it would be useful to further scrutinise the correlation between appointments being (1) available, (2) attended and (3) installed right first time with the attainment objective to install a service to CDD.

Question 6.2 Do you agree with our proposals for new timely appointment availability standards? Please provide reasons and evidence in support of your views.

The availability of appointments is clearly critical to the provisioning of a service to CDD. Appointments are only necessary for a subset of installations, and Ofcom quotes this to be the case for 30% of orders.

Ofcom proposes a leap from the current 80% MSL to 90% in the first year yet then leaves the MSL unchanged for the remaining period. However, in the 3 year Ofcom reduces the number of days before an appointment is given from 12 days to 10 days presenting a trade-off reduced time rather than increased appointment certainty.

The consultation does not explain clearly the trade off between retaining the 12 day appointment with a far higher regulated minimum service level versus a faster 10 day appointment period with the lower minimum service level for the 3rd year of the control. We would like to fully understand this trade off. Absent the full data, our preference would be to retain the 12-day appointment requirement for the final year of the control and the accompaniment of this by a service floor approaching 100%. We consider this outcome would better support the proposals for retail automatic compensation which demand performance to promise 100% of times.

Question 6.3 Do you agree with our proposals regarding compliance? Please provide reasons and evidence in support of your view.

Transparency of performance is an important part of the incentive regime. Ofcom sets out at the start of its consultation document that overall regime relies on transparency, the MSLs and SLGs together to set a compelling incentive regime. Furthermore, there will be the retail automatic compensation regime although Ofcom does not attempt to scope the impact of that regime.

We greatly value the monthly KPI data we obtain from Openreach concerning its performance to MSLs for our installations. It is always difficult to determine if we are being treated with non-discrimination that Ofcom prescribes and therefore it would be beneficial if Openreach added to the CP report a comparison against the average CP performance.

Question 6.4 Do you agree with our proposals to minimise installation delays and improve the customer experience? Please provide reasons and evidence in support of your views.

We fully support the proposal to ensure that far more customers are able to enjoy their installation at the time they were originally promised it.

At present 1 in 10 customers fail to receive adequate service during the installation phase.

Ofcom's proposals for retail automatic compensation illustrate the harm to customers that can occur from service failure.

Installation is an important first step of the customer's relationship with their supplier and therefore such early service failure puts that new customer relationship on an immediate bad footing. Service installation is relatively standard activity and should be executed to plan consistently. In addition to the consumer harm relating to the delay there are additional consequences for competition with suppliers suffering from related reputational damage and increase to barriers to switching that tardy installation poses.

Question 6.5 Do you agree with our proposals newly installed lines not working? Please provide reasons and evidence in support of your views.

We consider that newly installed lines that are not working or shortly faulty should be marked as having failed there CDD until they are properly functional. It is important that Openreach has the incentives to ensure its work is of both requisite speed and quality. An installation that fails to work is simply not a competed installation.

Question 7.1 Do you agree with our proposals relating to the KPI reporting obligations set out above? Please provide reasons and evidence in support of you views.

Ofcom uses three strategies to incentivise Openreach to improve its service performance: the MSLs, SLGs and transparency. The KPI reporting delivers the transparency portion and it is essential that sufficient data is provided so that transparency is able to act as the incentive mechanism it is intended to be. On the basis that transparency is core to incentivisation we consider that Ofcom should err on the side of caution when removing metrics and only remove metrics that are proven to offer no performance insight.

Of the proposed changes we only highlight where we have a differing view point. The report to CPs on performance of their orders should also include a comparison against the average CP so that CPs can see their performance in context aiding overall transparency.

It is necessary to have measures for dialogue services availability. These are they systems that CPs require access to in order to manage sales. When one or more of these systems becomes unavailable CPs are unable to trade and liable to loose sales.

Ofcom proposes to remove reporting that shows the:

- number of orders submitted,
- completed, the installed base
- completed faults
- total appointed orders
- timing of first appointment
- timing of appointed orders not provisioned on time

We disagree with this proposal. The information provided under these headings are important to understanding the overall performance in context e.g. where performance rises of falls in relationship to order volumes changes and in order to provide up to date information on expectations to the end customer.

We consider that appointed orders that did not become completed orders will provide information relevant to the retail automatic compensation proposals.

Question 7.2 Do you agree with our proposal to require BT to submit a quarterly report on late repairs and installation and the reasons for their delay? Please provide reasons and evidence in support of your views.

Question 7.3 Do you have any further comments on our proposals for transparency around Openreach's service performance? Please provide reasons and evidence in support of your views.

Question 8.4 Do you agree with our proposals to direct BT to provide the KPIs we have specified? Please provide reasons and evidence in support of your views.

Ofcom proposes to add reporting on SML4, with which we agree. We also consider that reporting should be available for SML2.5. Understanding the performance to SML will aid CPs in deciding which SML is best suited to their customers and product offering. We entirely agree with Ofcom's proposal for quarterly reporting. We believe that this will heighten the results achieved from the transparency objective which seeks to make transparency as key incentive on Openreach for service improvement.

Question 8.1 Do you agree with the combination of proposals we have made regarding quality of service and installations and regarding faults? Please provide reasons and evidence in support of your views.

As we set out in Section C, we consider that the proposals on their own present a relatively reasonable onward progress to service improvement. We would prefer that the trade against service improvement and service speed was not made and that Ofcom instead required higher performance to CDD.

We do not consider that the proposals are adequately joined up with the other Ofcom projects currently ongoing. There is a serious lack of detailed acknowledgement that: 1) retail automatic compensation costs will primarily fall with Openreach as the service issues targeted are the ones which Openreach as responsibility for and for which service issues continue to be permitted. 2) that Retailers will require clear legislated assurance that the pass through arrangements for automatic compensation will be dealt with by Ofcom and not left for commercial resolution at a future time. 3) that neither consultation considers whether superior outcomes could be achieved by enforcing a tougher MSL framework which would deliver improvements for all customers and the future.

Question 8.2 In Annex 7 we set out our analysis and estimates of the resource implications for quality standards, including the assumptions and results of the Resource Performance Model

that we commissioned consultants to develop. Please state whether you agree with our approach and estimates as set out in Annex
7.

It is important to consider that the SMLs offered, are voluntarily offered by Openreach. Essentially Openreach sells to CPs service levels that it knows in advance that it cannot attain. Ofcom has found it necessary to step in and set a regulatory standard to ensure that Openreach acts more often in line with its contractual promise. Within automatic compensation Ofcom considers setting aside Openreach's SMLs and setting its own for the purposes of repair to loss of service and consumers compensation. The WLA QoS proposals do not consider the automatic compensation proposals (and the repair chain in the supply chain). The proposals do not consider that if Ofcom enforces its own SML under automatic compensation that the number of faults passed to Openreach is likely to increase as Retailers will have less time to conduct tests before passing over to Openreach. There is no consideration of the costs to change the SML performance in line with the automatic compensation proposals.

As Ofcom does not consider the matter of the automatic compensation flow through from Openreach to retailers there is no account of potential higher achievement if this pass through was instead investment in earlier service improvement.

Question 8.3 Do you agree with our proposals to direct BT to comply with performance standards regarding installations and repairs? Please provide reasons and evidence in support of your views.

Yes, BT has SMP in the provision of these services for which Ofcom proposes QoS regulation. The extent of SMP is evident from the evidence that Openreach is able to continue year after year providing service that is not compliant with its own contractual terms. Lack of compliance does not lead to loss of sales as it would in a competitive environment as such retailers are left to deal with consumer dissatisfactions and the wider reputational issues such dissatisfaction can bring with it.

The prior set of QoS standards have been successful in improving the overall situation despite the fact that Openreach has only sought to meet the service floors rather than seek to exceed them. Ofcom is now cognisant that Openreach treats the floors as the necessary attainment levels rather than absolute service floors. This is an important backdrop to the setting of the regime.

Question 8.5 Do you agree with our proposals concerning the regulatory obligations for SLAs and SLGs?
Please provide reasons and evidence in support of your views.

Question 8.6 Do you agree with our proposals regarding the conduct of, and principles and criteria to be applied to, contractual negotiations concerning SLAs/SLGs. Please provide reasons and evidence in support of your views.

We disagree that Ofcom should no longer enforced the 2008 SLG Direction. The Direction contains important detail concerning the SLA and SLG framework which cannot be captured within a SMP condition. In particular, the Direction sets the basis for the costs to be recovered for service failure. This is particularly important and we consider that this framework detail needs to be retained.

Ofcom proposes that the SLGs are potentially renegotiated to include the consequences of automatic compensations payments. Ofcom separately proposes that the payment of automatic compensation is transparent so that Ofcom can receive reports about the level of compensation payments made.
We consider that the automatic compensation pass through from Openreach reach should be maintained as a separate payment to the existing SLG payments. The pass through payments need to be made in a timely fashion to meet the retail payment requirements and also should be transparently traceable. We have identified in our response to the automatic compensation consultation that the large majority – some £164M pa of the annual £201M compensation due to customers will result from an Openreach failure and consequently require a pass through from Openreach in order to be made.

By keeping the automatic compensation payment separate from standard SLG payments industry is able to protect and insulate these payments from the prospects of SLG minimisation campaigns by Openreach such as the Ethernet Deemed Consent abuse.

We consider that Ofcom should properly regulate for its proposals to work. In other sectors we identify that the detail of the pass through is explicitly legislated for and we consider a similar approach is warranted in this situation to properly protect the payment intended for the consumer.

Consequently, we do not consider that it is appropriate for Retailers to negotiated changes to the existing SLG regime.

WLA Volume 1 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.

We believe Ofcom's definition of the Wholesale Local Access Market summaries the market at its highest level. The Copper bearers or exchange lines used to connect 80% of Broadband lines in the UK are under the control of Openreach and it is clear that this is a representation of market power. Superfast connections are even more dependent on Openreach input, with alternative CPs having far less opportunity to add value.

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.

Given the ubiquity of the BT network outside of Hull, there can be no doubt that BT has SMP in the supply of WLA in the United Kingdom.

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

We support the need for a charge control to support both standard and superfast broadband, as well as a range of other remedies to ensure no undue discrimination, price publication and transparency.

We believe the charge control on superfast GEA services needs to go further, eliminating any scope for over-recovery, taking a far more realistic view of the risk actually incurred by BT and the time already permitted to make a return without reference to any price controls.

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.

All three types of access are necessary to ensure plurality in the retail market for broadband in the UK and without appropriate remedies in place BT would have no incentive to offer these services into the wholesale market. We support Ofcom's proposal to reduce the maximum contract period for GEA to one month. This is more in step with the workings of the market, encouraging switching and adoption of superfast services. A longer contract period would hinder competition and have an adverse impact on consumers.

Co-location services are vital for CPs not just in this market, but for the BCMR, where the same co-location space can be used to serve enterprise customers. It is vital that co-location charges are regulated on cost based terms to prevent over-recovery. CPs can't avoid these costs and they are necessary facilities to offer services from. It is therefore vital that they are properly charge controlled in the next review period.

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.

After a prolonged Openreach service crisis that has had a profound and damaging impact on end consumers, and all communication providers, denting consumer confidence in our industry, QoS requirements are vital to protect the consumer interest.

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.

Please refer to Part A of our response. All GEA services up to and including 80/20Mbit/s should be subject to price regulation within the same charge control basket, with appropriate sub-caps to prevent individual prices varying too much within the basket. Without higher speeds charge controlled, BT will be left free to distort the retail market for superfast broadband.

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

We support the continuation of charge control on LLU and a basis of charges obligation on SLU. It is also clear that electricity charges need to be regulated to prevent additional margin being added to a utility service needed to power CP kit.

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.

Robust, reliable and consistent regulatory financial report information is vital to endure compliance, set future pricing, resolve disputes and assess the success or failure of any regulatory interventions. Given the SMP nature of this market, BT must be compelled to produce a reliable set of accounts that make clear internal and external costs and revenues. The information supplied to date around GEA is completely inadequate and leaves stakeholders in the dark. In respect of state aid contributions, we believe this information should be clearly set out in the accounts to ensure it is dealt with appropriately going forward.

Charge Control Questions:

Question 2.1: Do you agree with our proposal to impose an inflation indexed price cap, with CPI as the relevant measure of inflation? Please provide reasons and evidence in support of your views.

Vodafone agrees with this approach.

Question 2.2: Do you agree with our proposal to use CCA FAC to establish the cost base for WLA services and to use LRIC+ to estimate the costs of MPF services and 40/10 GEA services? Please provide reasons and evidence in support of your views.

Vodafone agrees with this approach.

Question 2.3: Do you agree with our proposal to apply the anchor pricing principle by means of an ongoing copper network with an FTTC overlay? Please provide reasons and evidence in support of your views.

Vodafone does agree with this approach in this case, but please note our broader views on technology choice of modelled networks in Section B of this response.

Question 2.4: Do you agree with our proposal to set charge controls for MPF and 40/10 GEA services that expire on 31 March 2021? Please provide reasons and evidence in support of your views.

Vodafone considers that Ofcom must put in place now a plan that details what will happen to charges after this period should the next market review and consequently charge control be delayed.

Question 2.5: Do you agree with our proposal to use a one-year glide path to align charges with costs in 2019/20 for these charge controls? Please provide reasons and evidence in support of your views.

We do not agree with the timing for the implementation of the VULA charge control. We agree that for MPF services prices should be brought into line with costs in the first year of the control.

Question 3.1: Do you agree with each of our proposals in relation to the design of charge controls for BT's LLU and GEA services? Please provide reasons and evidence in support of your views. Please see paragraphs xx to xx in relation to the proposed GEA modelling approach.

Please see Section B in relation to our views of Ofcom's proposed GEA modelling approach.

Question 4.1 Do you agree with our proposed conceptual modelling approach? Please provide reasons and evidence to support your answer.

Please see Section B in relation to our views in connection with the proposed conceptual modelling approach.

Question 4.3: Do you agree with our proposed top-down cost modelling for MPF services? Please provide reasons and evidence to support your answer.

Broadly Vodafone agree with this approach, although note our comments in Section B on Ofcom's approach to uplifting heavily depreciated assets.

Question 4.4: Do you agree with our proposed bottom-up cost modelling for GEA services? Please provide reasons and evidence to support your answer.

Please refer to Section B of this response.

Question 4.5: Do you agree with our proposed approach to calibrating the bottom-up model? Please provide reasons and evidence to support your answer.

We have concerns about Ofcom's approach. Please refer to Section B of this response.

Question 4.6: Do you agree with our proposed approach to estimating input price inflation? If not, what alternatives would you propose and why? Please provide reasons and evidence to support your answer.

Yes.

Question 4.7: Do you agree with our proposed approach to estimating AVEs and CVEs? If not, what alternatives would you propose and why? Please provide reasons and evidence to support your answer.

AVE's and CVE's have a significant influence on the level of projected costs included in the cost models, however it seems they have been based on BT's unaudited, unpublished, confidential LRIC

model. Vodafone would like to reiterate that if BT's prices are set based on outputs from their LRIC model then the model should at the very least be subject to a third party audit.

Question 4.8: Do you agree with our proposed approach to setting efficiency target? If not, what alternatives would you propose and why? Please provide reasons and evidence to support your answer.

Vodafone agrees with this approach

Question 4.9: Do you agree with our proposed approach to forecasting and attributing BT's cumulo costs? Please provide reasons and evidence to support your answer.

No, please refer to section B for further information.

Question 4.10: Do you agree with our proposed approach to the treatment of future profit and losses from the sales of copper? Please provide reasons and evidence to support your answer

Ofcom has (in summary) forecast the level of 'cost reduction' to include in the charge control model based on assuming copper will be sold in 2030 and including a constant real terms annual adjustment. This seems a complex way of including a benefit that BT enjoys, BT sells copper each year and as Ofcom notes has received £703 million of proceeds from the sales. This means that BT enjoy on average £100million of additional revenue to offset their costs, although BT claim they have incurred contractor and internal costs of £381million Vodafone questions the degree to which these costs truly are 'incremental'.

A simple way to include this benefit would be to divide the £700 million by 6 years to create an annual average and project this forward, making some allowances for actual incremental third party costs BT can prove they have incurred. Making the vast amount of assumptions and carrying out detailed analysis that rely on BT's data that is bias does not provide a more accurate answer. The only solid piece of evidence is that BT have gained £700 million from the sale of copper over the last 6 years.

Question 4.11: Do you agree with our proposed approach to the treatment of future profit and losses from the sales of property? Please provide reasons and evidence to support your answer.

Vodafone agrees with this approach.

Question 5.1: Do you agree with each of our proposals in relation to the implementation of charge controls for BT's LLU and GEA services? Please provide reasons and evidence in support of your views.

Please refer to section B of this response.

- END -