SKY'S RESPONSE TO OFCOM'S 'WHOLESALE LOCAL ACCESS MARKET REVIEW' CONSULTATIONS

EXECUTIVE SUMMARY

1. In 2005 regulation of the UK's fixed communications market was failing consumers and businesses. The previous two decades of initiatives aimed at introducing competition had had limited success. BT continued to dominate, prices were high and viable investment was low. The only competitor to BT in wholesale local access markets was cable which, despite benefiting from a supportive regulatory regime designed to promote infrastructure competition, had only just emerged from bankruptcy. Consumers and businesses were missing out on the full benefits of strong competition.

2. Since then however there has been a transformation through appropriately-targeted regulation at the point in the value chain where competition is viable and sustainable – which entailed communications providers renting access to BT's local access network. It worked well because it avoided the uneconomic duplication of passive local access infrastructure such as ducts, poles and cables while offering scope for communications providers to innovate via the equipment they connected to BT's local loop. A cornerstone of this regulation has been cost-based charge controls for renting local loops from BT.

3. As a result, since 2005 retail competition in broadband and telephony markets has been vibrant with consumers and businesses benefiting from increased choice, low prices and product and proposition innovation. BT now competes with three large retail competitors and many other medium-sized and smaller operators each with distinctive offerings and brands able to meet a variety of consumer demands.

4. However, as the broadband market transitions from standard broadband to superfast broadband, these substantial gains are at risk of being unwound. BT controls the essential wholesale input for superfast broadband, i.e., virtual unbundled local access or, as sold by Openreach, fibre-to-the-cabinet – Generic Ethernet Access ("FTTC – GEA"). To date, unlike Openreach's charges for the local loop, Ofcom has not capped the price for this input which exceeds its costs by a substantial margin. As a result, competition is weakening in BT's favour and consumers are being harmed by insufficient choice and high prices.

5. It is essential therefore that Ofcom introduces a GEA charge control that delivers significant wholesale price reductions. Only by removing the excessive returns that Openreach earns on this essential wholesale input, can retail competition operate more effectively to the benefit of consumers.

6. Introducing a cost-based charge control will not undermine BT's incentives to take on future investment risk because it will still earn sufficiently high returns on its FTTC investment. Sky therefore welcomes Ofcom's proposal to introduce a cost-based charge control on 40/10 Mbps GEA.

7. However, Ofcom's proposal to not cap the prices of faster GEA services such as 55/10 and 80/20 will merely transfer the locus of market distortion and consumer harm to these faster wholesale superfast broadband services. As BT can earn higher wholesale profits from these

services, it will now have a strong incentive to promote faster superfast broadband in a way that its rivals do not and the problems that Ofcom is seeking to solve through the new GEA charge control will not be adequately addressed. Ofcom's proposed fair and reasonable charging obligation on these services coupled with the pricing constraint exerted by the 40/10 GEA service is unlikely to weaken BT's incentive sufficiently. Therefore, there is a pressing need for Ofcom to also apply charge controls to these faster services alongside 40/10 GEA at this review.

8. Ofcom's caution in controlling the price of faster GEA services (and of GEA services more generally) is based on its concern that reducing these wholesale charges will discourage the building of ultrafast broadband networks – predominantly via fibre-to-the-premise ("FTTP"). In this respect, Ofcom considers that lower wholesale superfast broadband charges make the business case of a FTTP network weaker because: (i) the alternative of continuing to rely on wholesale access to GEA becomes cheaper; and (ii) lower wholesale charges will feed through to lower retail prices which will reduce the revenues and profits that can be earned from subscribers on any new FTTP network.

9. However, while we agree that there is a causal relationship between lower GEA charges and the business case for FTTP networks, Ofcom overstates its significance and has given insufficient weight to other more important factors in any investment decision which, if anything, necessitate lower GEA charges including for higher speed services. Sky is wellplaced to judge these issues because it has spent considerable time and resources over the last 8 years investigating the scope for building its own FTTP network.

10. Crucially, in Sky's modelling of an alternative FTTP network, it is clear that the price of GEA has only a marginal bearing on the business case and that there are far more important factors. For instance, the long pay-back periods on these substantial investments do not materially shorten if the GEA price is reduced from current levels to those proposed by Ofcom – irrespective of whether only the 40/10 GEA price is capped or whether the faster services are also capped. Far more important for the business case is the requirement to attract enough subscribers to the new network. This is best achieved by being a strong retailer with a large subscriber base – something which requires lower GEA charges.

11. While sustainable infrastructure competition could usher in de-regulation, such steps should only be considered where it is clear that infrastructure competition has become established and stable and of sufficient intensity. For instance, competition between cable and BT alone is unlikely to be intense enough and will likely harm consumers. Viable entry by a third large-scale access network may introduce sufficient competition to BT and cable for positive consumer outcomes but, given the huge amount of risk and capital outlay that such a network would entail, there is a realistic prospect that one will never be built (or if it was it would struggle to be economic). Requiring BT to allow communications providers to run their own fibre networks over its ducts and poles does not change this equation significantly.

12. It is strong competition centred at the most upstream point in the network where it is sustainable that delivers the most benefits to consumers. Therefore the importance of continuing, focused regulation of BT's significant market power ("SMP") is undiminished. With this in mind, some of Ofcom's proposals in the wholesale local access market review fall short of this requirement. In addition to the need for cost-based charge controls for higher speed GEA services – such as 80/20 – Sky considers that:

    - Ofcom's proposed charges for GEA and the local loop are too high;

    - shared local loop unbundling should continue to be subject to a charge control and a specific access obligation because it will remain an important wholesale input over the course of the market review period;

- any implementation of 'long reach very high bit rate digital subscriber line' technology – which can improve the speeds of the slowest broadband lines but is also incompatible with local loop unbundling – should not leave local loop unbundling operators and their customers any worse off;

- measures aimed at improving regulated access to BT's ducts and poles should not come at a cost to the other important services that also use that infrastructure; and

- while Ofcom's proposed minimum service levels for provisioning and repairing customer lines should deliver much needed improvements in Openreach service quality, this may not be enough to drive down fault rates – particularly of those faults that cause the most consumer harm (repeat faults and faults on newlyconnected lines).

13. It is important for competition and consumers that these issues are addressed properly.

INTRODUCTION

14. This submission comprises Sky's consultation responses to Ofcom's wholesale local access market review ("WLAMR") including its proposals for local loop unbundling ("LLU") and virtual unbundled local access ("VULA") charge controls, minimum quality of service levels and access to BT's ducts and poles. The remainder of this paper is made up of the following sections:

- **Section 1** – Significant reductions in VULA charges are necessary to maintain retail competition and to benefit consumers;
- **Section 2** – Capping GEA charges would not materially reduce incentives to invest in FTTP;
- **Section 3** – Ofcom's proposed charges for full LLU (metallic path facility, "MPF") and GEA are too high;
- **Section 4** – It is premature to de-regulate shared LLU (shared metallic path facility, "SMPF");
- **Section 5** – The implementation of long reach very high bit rate digital subscriber lines ("LR-VDSL") should not come at a cost to consumers and competition;
- **Section 6** – Duct and pole access ("DPA") remedies should be proportionate and not unduly disadvantage other important services; and
- **Section 7** – Ofcom's quality of service proposals are welcome but the rates of the most harmful faults may remain too high.

In addition to these sections, Sky provides further detail and supporting documentation in the following annexes:

- **Annex 1** – 'GEA charge control – Sky submission' (previously submitted prior to the publication of the WLAMR);
- **Annex 2** – Ofcom's treatment of common costs;
- **Annex 3** – Ofcom's estimates of GEA costs;
- **Annex 4**– The scrap value of copper cables;
- **Annex 5** – Sky's detailed response to Ofcom's proposed DPA remedies; and
- **Annex 6** – Sky's detailed response to Ofcom's 2017 consultation on its proposed quality of service remedies for WLR, MPF and GEA.

Sky also submits, under separate cover, a **report** prepared for Sky and TalkTalk by Frontier Economics on 'WLA market review – cost of capital for regulated services'.

SECTION 1 – SIGNIFICANT REDUCTIONS IN VULA CHARGES ARE NECESSARY TO MAINTAIN RETAIL COMPETITION AND TO BENEFIT CONSUMERS

15. Ofcom has correctly identified as a key objective of the WLAMR the requirement to "*protect consumers against the risk of high prices and protecting retail competition, where necessary,*

based on access to BT's network".[1] Ofcom is justified therefore in introducing a charge control on Openreach's 40/10 Mbps GEA service that reduces significantly its prices. However, while this move will go some way towards addressing the serious harm being caused by BT's high VULA charges, it does not go far enough because the prices of other important Openreach GEA services will not be capped. The combination of a charge control on 40/10 GEA and a fair and reasonable charging obligation on other GEA services – as proposed by Ofcom – is likely to be insufficient to protect retail competition and consumers.

16. Sky has become increasingly concerned that high GEA prices are distorting competition and that consumers are being harmed as a result. Sky explained these concerns and why they necessitate the introduction of large regulated reductions to Openreach's GEA charges in its submission to Ofcom prior to the publication of the WLAMR ("GEA charge control – Sky submission", January 2017[2]). Sky's GEA charge control submission is a key part of Sky's WLAMR response and, as such, it is important that it is read in conjunction with this response. In summary however, the GEA charge control submission explained that:

- BT continues to hold SMP in WLA;
- as the market moves to superfast broadband ("SFBB"), GEA has become an essential wholesale input;
- current GEA prices are significantly above their costs;
- the high profits that Openreach earns on GEA are distorting competition because they give BT a far greater incentive to promote fibre to its retail customers than other communications providers ("CPs") who rely on the Openreach network;
- the resulting weak competition and high retail prices are harming consumers;
- significant reductions in GEA prices are necessary to remedy this harm and competitive distortion;
- the 'fair bet' is now over with BT making a more-than-adequate return on its investment in FTTC; and
- imposing a cost-based GEA charge control now will not materially reduce the incentives to invest in FTTP and, in fact, is the only way in which CPs other than Virgin Media and BT will have enough subscribers to even consider investing in a scale third network.

Imposing significant reductions in 40/10 GEA prices is a step in the right direction

17. The significant cuts in Openreach 40/10 GEA charges being proposed by Ofcom are an important step in the right direction.[3] Making Openreach's charges for this service more cost-reflective goes some way towards equalising the incentives for all of its customers – not just for BT – to move to SFBB. This is because removing excessive GEA profits at Openreach reduces the scope for BT Consumer to adopt SFBB pricing strategies that are highly profitable

[1] Page 1 of the WLAMR – Volume 1.

[2] The submission can be found in Annex 1 of this response.

[3] Sky outlines its views on Ofcom's proposals for the precise level of the VULA charge control later in Section 3 of this submission.

overall for BT Group but which would be either margin-dilutive or lossmaking for its retail competitors.[4]

18. As such, competition for SFBB customers would be on a fairer, more equal footing and based on lower input costs. As a result competition would be expected to intensify and SFBB adoption to increase to the benefit of consumers.

Ofcom also needs to impose charge controls on the prices of other GEA services

19. However Ofcom is not proposing to cap the prices of other GEA services – such as 55/10 and 80/20 Mbps GEA – which means that the prices of these faster services could still be too high. As a result, much of the harm and competitive distortions caused by high GEA prices to date[5] will persist but become increasingly concentrated around these higher speed services. In short, Ofcom's view of only controlling the price of 40/10 GEA is merely shifting the problems of market distortion and consumer harm arising from high GEA prices onto faster versions of SFBB.

20. BT will have a strong incentive to promote retail SFBB services based on these inputs in a way that cannot be profitably matched by its competitors and therefore competition will yet again become distorted and consumers will be harmed. As market demand moves to faster services these problems will become even more pronounced.

21. We acknowledge that Openreach's GEA charges for services other than 40/10 Mbps may also fall as result of the charge control, as 40/10 GEA prices are likely to exert a degree of constraint – although this will weaken over time. This will not however be enough to counter entirely the benefits to BT of promoting faster retail SFBB services while earning higher profits on the wholesale inputs.

22. As a result, BT Consumer can yet again be expected to be the dominant retailer of faster SFBB services on the Openreach network – in much the same way that it has achieved for SFBB more generally to date. The accompanying weakening competition for these higher value customers and high retail prices will result in further consumer harm.

23. Indeed, Ofcom actively seeks this outcome from its proposals because it considers this will incentivise other CPs to invest in their own FTTP networks.[6] We explained in the GEA

charge control – Sky submission why this incentive will not be strong enough to induce CPs to invest and, in fact, the proposals make investment less likely.[7]

A fair and reasonable charging obligation will provide insufficient protection from the risk of consumer harm and market distortion

24. In Sky's view, a fair and reasonable charging obligation on these faster SFBB services – while providing some additional protection – could not prevent competition being weakened and

[4] Paragraphs 22 – 28, GEA charge control – Sky submission.

[5] Paragraphs 29 – 31, GEA charge control – Sky submission.

[6] See for example, paragraph 8.43, WLAMR – Volume 1 where Ofcom states *"A charge control on the 40/10 service may allow somewhat increased prices for higher speed wholesale services than would be likely if a charge control across all the VULA services was imposed. However … as higher bandwidth services become more important, the business case for competitive ultrafast investment is likely to strengthen, and with that the prospect of greater network competition delivering benefits to consumers, and most likely in particular those consumers who are among the early customers of higher bandwidth services."*

[7] Paragraphs 52 – 75, GEA charge control – Sky submission.

consumers being harmed entirely (something Ofcom also acknowledges[8]). We do not agree with Ofcom that the combined effect of the 40/10 GEA charge control and a fair and reasonable charging remedy on the other GEA services strikes the right balance between protecting consumers and maintaining investment incentives and that therefore there is no justification for a charge control on these faster services.

25. The basis for Ofcom's view is that:

- there is fairly strong substitutability between different SFBB services (including between different speed variants) such that the price of the 40/10 GEA service will constrain the price of other GEA services;[9]

- competition amongst most external providers over the review period will be largely centred around the 40/10 GEA service and similar products, with little demand for faster services;[9]

- "*BT's competitors are not dependent on cost effective access to the higher bandwidth GEA services to the same degree that they were on the VULA services overall at the time of the 2014 FAMR*" [10] (where Ofcom considered it appropriate to impose the VULA margin condition); and

- margin squeeze as a result of raising wholesale charges – not high wholesale charges *per* se – is the primary cause for concern.[11]

26. Therefore Ofcom argues that it can tackle any residual risks of margin squeeze on faster SFBB services through a fair and reasonable charging obligation on GEA services other than the 40/10 service.[12]

27. Sky considers that there are substantial flaws with this assessment because it is likely that over the course of the market review period competition will become increasingly focused around higher bandwidth GEA services and any constraint from 40/10 GEA will diminish.

28. Ofcom presents little evidence in the WLAMR of 'fairly strong substitutability' between different GEA speed variants or of limited demand for faster GEA services. The evidence that is presented is based on forecasts (presumably informed by the forecasts of CPs) and data points that are predicated on current conditions including existing regulation, consumer demand and retail and wholesale prices. The obvious problem with relying on this limited data set is that Ofcom's assessment of the appropriate suite of remedies to apply should be forward-looking, anticipating likely market developments which, naturally, should also take into account the likely effects of the regulation that Ofcom imposes.

29. In this respect, it is apparent that moving to a cost-based charge control for 40/10 GEA augurs the end of Openreach earning high wholesale profits on this (and similar speed) service(s), which limits the scope for BT to gain – in a way that its retail competitors cannot – from promoting strongly retail SFBB services at this or similar speeds (noting that BT Consumer uses

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[8] Paragraph 8.43, WLAMR – Volume 1. [9]

Paragraph 8.39, WLAMR – Volume 1.

[9] Paragraphs 3.51 and 8.42, WLAMR – Volume 1.

[10] Paragraph 8.50, WLAMR – Volume 1.

[11] Paragraph 8.45, WLAMR – Volume 1.

[12] Paragraph 8.52, WLAMR – Volume 1.

the 55/10 GEA service). As a result the significant financial and competitive advantage BT has from pricing flexibility on GEA 40/10 today will no longer be available to it in the future.

30. Therefore the best response from BT in this instance would be for its retail divisions to shift focus towards the promotion of 80/20 GEA – where upstream wholesale profits will be higher as wholesale prices are less cost-reflective. In effect, Ofcom's proposals to control only the price of 40/10 GEA merely pushes the centre point of competitive distortion and accompanying consumer harm to the 80/20 GEA service.

31. This illustrates the key flaw in Ofcom's argument that it only needs to cap prices of 40/10 GEA because this is the focal point of SFBB competition today and will remain so over the course of the review period. In fact however the likely response of BT to the 40/10 GEA charge control is to shift the focus of competition to faster SFBB services.

32. Moreover the latest efforts by Ofcom and BT to make Openreach more independent have little bearing on these incentives. The profit-maximising course of action for Openreach remains likely to be to set prices for its SMP services far in excess of their costs, while the promotion of faster SFBB by BT Consumer does not require any coordination (undue or otherwise) with Openreach. Responsibility for preventing the competitive distortion and consumer harm that arises from these incentives lies firmly with Ofcom and, specifically, with the suite of SMP remedies it applies.

33. In this respect, it is wholly unsatisfactory to rely on a fair and reasonable charging obligation. BT retains a far stronger incentive than its retail competitors to sell these faster services – because of the high wholesale profits it can earn – but a regulatory investigation and examination of margins after the fact will take considerable time and be concluded long after any (often irreversible) harm has arisen and competition has been irreparably damaged as the market moves to faster services. We discuss in paragraphs 39 to 44 below why these concerns are more appropriately countered by the continuation of the *ex ante* VULA margin condition instead alongside a comprehensive GEA charge control.

34. In summary, Ofcom should ensure that there is a direct cap on the prices (and hence returns) of faster GEA services. Introducing a cost-based charge control on faster VULA services is the only way to ensure that the harm currently being caused at the 40/10 level is not simply transferred to 80/20 GEA.[13]

GEA 55/10 & 80/20 should be subject to separate price caps

35. In terms of the exact form of any charge controls to be applied to faster GEA services, Sky considers that the best approach is to set individual cost based controls for 55/10 and 80/20 GEA services (or in the alternative peg them in accordance to their current pricing differential to 40/10 GEA so that the current bandwidth pricing gradient is preserved going forwards).

36. Further, as Ofcom in its GEA charge control modelling has allocated common fibre costs to each of the GEA speed variants on the basis of the current relative prices of these services,[14] applying cost-based charge controls for the faster GEA services would result in an inbuilt bandwidth pricing gradient which would have allocative efficiency characteristics. This is because, despite some weaknesses with Ofcom's proposed approach to common fibre cost mark-ups to GEA services,[15] it does at least aim to reflect the principle that efficient prices for

[13] We do not consider that moving to cost based charges for 80/20 GEA would materially alter the assessment of whether the 'fair bet' is over given the relatively low contribution this service would have been forecast to make to overall project returns and the offset to lower unit charges that would be derived from the resulting higher volumes.

[14] Paragraph 2.1, WLAMR – Volume 2.

[15] Ofcom argues "*Current FTTC charge differentials are likely explained by differences in the retail customer's willingness to pay ...*" (paragraph 2.39, WLAMR – Volume 2) but as BT has SMP, its pricing gradients may not reflect this. Even if

services that offer greater levels of utility are higher. We consider a charge control on higher speed GEA services should reflect this principle.

37. However, given the risks of distortion and harm that arise from BT being able to promote SFBB services that generate high wholesale profits, Ofcom should guard against a common fibre cost mark-up that can lead to substantial cost over-recovery (which would occur under Ofcom's current approach if the proportion of 80/20 GEA lines increases significantly from current levels – as is likely).

38. Sky recommends therefore that Ofcom also sets charge controls on Openreach's 55/10 and 80/20 GEA services. If it were to do so and based upon Ofcom's approach to common fibre cost allocation, we would anticipate prices similar to those illustrated in Table 1 below.

TABLE 1: Illustrative charge controls for GEA variants based on relative pricing[16]

GEA variant	2018/19	2019/20	2020/21
GEA 40/10	£66.28	£55.61	£50.38
GEA 55/10	£75.56	£63.39	£57.44
GEA 80/20	£88.82	£74.52	£67.51

The VULA margin condition remains appropriate alongside the GEA charge controls

39. Sky also recommends that Ofcom retains the VULA margin condition as a more appropriate response to the risk of margin squeeze during this important time as the market transitions to SFBB and increasingly moves to higher speed variants. The introduction of cost-based charge controls does not obviate the requirement to protect CPs from margin squeeze – this risk still prevails even if upstream wholesale profits are constrained by the charge control.

40. The VULA margin test was introduced in the 2014 Fixed Access Market Review.[17] At that time, Ofcom noted that:

- the upcoming market review period (2014 to 2017) would be an important period in the transition from standard broadband ("SBB") to SFBB and it is important to ensure effective retail competition is maintained in SFBB services as this transition occurs;[18] and

- there was a relevant risk of adverse effects arising from a price distortion as BT had the ability and incentive to impose a price squeeze, there were no other factors in the market which would remove the risk of a price squeeze and that if realised there would be adverse consequences for consumers.[19]

they did, as demand for higher speed services evolves over time, relying on the current wholesale pricing differences would become progressively allocative inefficient.

[16] Assumes CPI-X charge control with no assumed inflation and relative pricing as set out in Table 2.2, WLAMR – Volume 1.

[17] Ofcom statement, Fixed Access Market Reviews: Approach to the VULA margin, 19 March 2015 ("VULA margin statement") and Ofcom statement, Amendment to the VULA Margin Control, 29 July 2016.

[18] Paragraphs 3.53 – 3.56, VULA margin statement.

[19] Paragraphs 3.57 – 3.92, VULA margin statement.

41. Ofcom now proposes removing the VULA margin condition because:[20]

- the proposed 40/10 GEA charge control means that CPs will have access to costbased wholesale SFBB services, thereby mitigating the risk of a margin squeeze; and
- the 40/10 service will be a "*fairly strong substitute*" for other fibre based services, mitigating the concern of margin squeeze across all SFBB services.

42. A charge control on the 40/10 GEA service however is not a panacea and the factors leading to the introduction of the VULA margin test in 2014 still prevail today. Consumers are still transitioning to SFBB products delivered using all variants of Openreach's VULA services with SFBB as a proportion of all broadband lines forecast by Ofcom to increase from 54% to 73% over the market review period.[21] It remains essential therefore that effective retail competition is not undermined. During this period BT's retail position in SFBB will remain strong. In 2015, Ofcom estimated that BT had a 36% share of all SFBB subscribers.[22] This is broadly similar today.

43. Moreover, there remains a real risk of BT engaging in a price squeeze where, in relation to 40/10 GEA and other VULA services, it will continue to have the ability to influence the retail margin available to competitors. While it will not be able to do this by increasing its wholesale price for 40/10 above the charge controlled rate, BT will be able, and will have the incentive, to engage in a price squeeze by reducing its retail prices for SFBB or by including other services in its retail product, such as BT Sport, BT TV or BT Mobile.

44. Overall, Sky considers that removal of the VULA margin test could seriously disrupt the ability for efficient operators to compete effectively with BT in relation to the provision of SFBB, notwithstanding the existence of a 40/10 charge control.

SECTION 2 – GEA CHARGE CONTROLS WILL NOT MATERIALLY REDUCE INCENTIVES TO INVEST IN FTTP

45. In this section we explain why introducing cost-based charge controls on Openreach's GEA services – including faster speed variants – will not reduce the incentives for CPs to invest in FTTP networks materially and, in fact, is essential for there to be any chance at all of investment in a third access network of any scale. Sky's full reasoning can be found in the GEA charge control – Sky submission made in in advance of the publication of the WLAMR.

We then discuss Sky's overall position on the appropriate deployment of de-regulation and pricing forbearance (or flexibility) in order to promote investment in FTTP.

46. Ofcom explains that it is aiming to:

> "*… strike an appropriate balance between encouraging network investment, yet protecting consumers and competition*."[23]

47. Elsewhere Ofcom also argues:

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[20] Paragraphs 8.46 and 8.47, WLAMR – Volume 1.

[21] Figure 1.2, WLAMR – Volume 1.

[22] Paragraph 3.55, VULA margin statement.

[23] Paragraph 4.27, WLAMR – Volume 1.

"*In general, the tighter we regulate VULA, the more likely it is that we undermine the incentive for telecoms providers to build new networks as opposed to relying predominantly on buying access from BT. There are a number of reasons for this:*

- *the cost of buying VULA affects the build or buy cost comparison; the lower the cost of VULA, the less attractive it is to build an alternative network;*

- *the price of VULA is likely to affect the retail prices that can be charged for services, and therefore the ability to generate margins from the services supplied using the new network;*

  […]

- *our approach to regulating VULA will also affect the gains that come from being the 'first-movers'. If rivals to those who choose to invest have to rely on less tightly regulated access to Openreach's network, there will be a greater incentive to invest first."*[24]

48. The problem with this view is that while Ofcom correctly identifies some of the theoretical influences VULA prices may have on incentives to invest in ultrafast broadband ("UFBB") networks, there is no subsequent analysis of the significance these factors are actually likely to have in the real world investment decisions made by CPs.

49. As explained in the GEA charge control – Sky submission,[25] we find in practice that there are a number of reasons why cost based VULA pricing – even for the higher speed variants – does not significantly alter FTTP investment cases:

- the move to cost based VULA charges has a marginal effect on the build-buy aspects of the investment case because it triggers only immaterial reductions in pay-back periods (Sky has extensively modelled the business case for investing in a FTTP network);

- lower wholesale charges are unlikely to be fully passed through to lower retail prices (in any event, lower retail prices drive the necessary scale to even consider FTTP investment); and

- relative to the overall retail revenues and profits earnt from retail broadband customers – who are increasingly quad and triple play – the reductions in retail prices that may result from reductions in GEA charges (even if fully passed through) are small.

50. Moreover, the capacity of SFBB services (including 80/20 GEA) to constrain demand for UFBB services should not be exaggerated. The constraint will weaken over time as demand for FTTP based services increases because consumers derive greater utility from the superior speeds (e.g., 1 Gbps), performance, operational efficiency and quality offered by 'full' fibre networks.

51. With respect to the decision to cap the price of 40/10 GEA but not to cap the price of 80/20 GEA, Ofcom has not explained clearly why such a delineation of the remedies applied between the two services is warranted. However in Sky's view, the impact on a FTTP investment case is unlikely to be materially affected if 80/20 GEA was subject to a cost-based charge control

[24] Paragraph 4.25, WLAMR – Volume 1.

[25] See, e.g., paragraphs 52 – 75, GEA charge control – Sky submission.

(or included in a basket) alongside 40/10 GEA. In Sky's modelling of its own investment case, it would make no difference at all.

52. There are parallels here with Ofcom's current approach of regulating the prices of wholesale inputs to SBB – i.e., WLR and LLU – while offering pricing flexibility for wholesale inputs to SFBB. This approach has not inhibited in any way the rollout of FTTC which has gradually become less constrained by the prices of SBB. We consider that a similar approach of controlling VULA charges but allowing BT pricing flexibility on its wholesale inputs to UFBB – such as FTTP and G.Fast – would similarly strike the right balance between protecting consumers and promoting network investment.

The use of de-regulation and forbearance to promote fibre investment should be appropriately applied

53. Ofcom's lighter touch approach to regulating faster GEA services is indicative of its planned shift towards, what can loosely be described as, a policy of 'de-regulation' – in anticipation of and in relation to greater levels of infrastructure competition in the future.[26] We assess the indicative approach to de-regulation that Ofcom says it intends to deploy in the future and explain that, given the potential for such steps to cause significant harm if inappropriately applied, it is essential that there is a robust, evidencebased assessment of the case for de-regulation – something which is absent from the WLAMR.

54. There are a number of de-regulatory policies including: (i) pricing forbearance where the price of a SMP service is not subject to a cost based charge control; (ii) full or partial deregulation whereby regulation is removed from SMP services; or (iii) no new regulation which entails not applying new regulation to SMP services.

55. Sky acknowledges that these policy tools can play an important role in promoting investment. For example, a policy of pricing forbearance since 2009 has supported the wide-scale rollout of FTTC by BT. However, at the heart of these policies is a trade-off that allows a SMP operator to set prices significantly above its forward-looking efficient costs as a 'reward' for its investment which in turn can lead to a weakening of competition and high retail prices. This loss in consumer welfare is considered worthwhile if there are offsetting benefits to consumers in the long term as a result of the increased investment – for example, via greater levels of infrastructure competition.

56. Given the potential for significant consumer harm to arise in the short run (or even longer) for uncertain future benefits, it is essential that Ofcom's principle-based approach to (and timing of) forbearance and de-regulation is properly defined and applied. In effect, there are number of important considerations.

57. First, where pricing forbearance is applied to encourage the SMP operator to undertake risky investments which it would not do if it thought that any above-WACC returns would

be appropriated through the introduction of a charge control (i.e., the so-called 'fair bet'), then it is clear that once the 'fair bet' is over substantial harm will be caused if prices are allowed to remain at their elevated level. In such circumstances and in the absence of further infrastructure competition, pricing forbearance can only be a temporary measure and the subsequent introduction of a charge control may be necessary (as Ofcom is proposing with respect to GEA).

58. Secondly, where a de-regulatory approach is being adopted in order to encourage entry and investment by third parties in competition with a SMP operator (perhaps by allowing the price of the SMP service to remain high), the hope is that competition will increase in the future

[26] Paragraphs 1.42 – 1.45, WLAMR – Volume 1.

such that no operator has SMP and regulation is no longer required at all. Here, prior to deciding whether to adopt a de-regulatory approach, Ofcom will need to assess whether:

- there is entry or a realistic prospect of entry. It is not sufficient merely to speculate that entry may occur. Any assessment should be based on strong, thorough analysis of the actual investment cases that market players would consider;

- any investment is likely to be viable and sustainable. Failed and wasted investment can be as harmful as a lack of investment. As with NTL's bankruptcy fifteen years ago, the casualties of inefficient investment not only include consumers in markets where an inappropriate de-regulatory approach was taken but also employees, bondholders and shareholders of the failed companies; and

- entry will be at sufficient scale to counterweight the harm caused by de-regulation to consumers where such entry will never occur. The consumer benefits from piecemeal, low level entry are unlikely to warrant a sustained de-regulatory approach.

59. While Ofcom repeatedly relies upon its view that there is a strong case for investment in new networks in order to propose a de-regulatory approach, it does not present any evidence to support its view. For example, it states:

"We think there are good prospects for investment in new networks. The evidence we have seen suggests that the investment case has improved in recent years to the point where it now appears to be commercially viable in more geographic areas." [27] and

"We believe that in parts of the UK there could be a change in the business model for those providers who currently use VULA and LLU, as they shift away from relying upon those services to competing on the basis of their own networks. Increased network competition may also reduce the need for VULA and LLU access obligations on those areas, with a greater reliance on PIA." [28]

60. Given the profound impact that the decisions Ofcom makes now will have on consumers and competition, it is important that Ofcom can support its approach with strong evidence. This holds true for all types of regulatory decisions that affect investment but even more so in relation to FTTP investments given the huge sums involved. The decision Ofcom is making now is an order of magnitude more significant than the one it made in

relation to promoting LLU-based entry in 2005 (where the investments – while substantial – were much less and the risk far lower).

61. Once an evidence-based decision has been made to adopt a de-regulatory approach in order to support market entry, it is essential that any permanent removal of regulation is only made if there is sufficient intensity of competition. In this respect, the co-existence of two networks – for example, cable and BT – is unlikely to be enough (as acknowledged by Ofcom and in keeping with its approach to the regulation of WLA to date). The presence of a viable, strong third network is a prerequisite for a permanent removal of regulation.

62. Similarly, should forbearance or de-regulation support the rollout of a viable co-invested network between Openreach and another operator, this may still offer insufficient network competition to warrant full de-regulation. Ofcom's position is not clear on this issue:

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[27] Paragraph 4.9, WLAMR – Volume 1.

[28] Paragraph 4.19, WLAMR – Volume 1.

"*One of our goals of the reform or Openreach is to facilitate new models of investment in the industry, for example, where Openreach co-invests with other telecoms providers than BT. We believe that our proposals in this consultation, including requirements for equivalence of inputs, provides flexibility for co-investment opportunities, with specific cases to be considered on their merits.*"[29]

63. From this it is not possible to ascertain whether Ofcom considers that: (i) a co-invested network by Openreach and another telecoms provider can remain closed to other providers because of the existence of other wholesale products from Openreach which are offered on an equivalence of inputs ("EoI") basis; (ii) the co-investment opportunity has to be open to other CPs on the same terms; or (iii) wholesale access to the co-invested network has to be offered on an EoI basis to all CPs.

64. Either way, given the potential lack of infrastructure competition it may be inappropriate for Ofcom to relax permanently the regulation of the SMP network – i.e., Openreach's network and potentially including the co-invested network. Some of the benefit to coinvestors – in exchange for the risk that they take on – is that they expose themselves to network ownership economics which offer the prospect of high returns if sufficient end users are attracted to the new network. This does not necessarily require a permanently closed or unregulated network because the co-investors still have an advantage over wholesale customers on the network who do not enjoy network ownership economics.

65. An appropriate consideration however is that, where the co-investors in the network have SMP, when is it appropriate to control excessive wholesale returns by imposing a cost based charge control while still preserving the 'fair bet'? Whatever the exact timing, there could be a point where further regulation is necessary.

66. In summary, given the potential substantial risks and rewards from using de-regulation to support investment, it is important that Ofcom conducts a thorough analysis of the case for adopting such a policy. For instance, it is not enough to rely on theoretical causal relationships between de-regulated prices and investment incentives – regulatory decisions should be predicated on the real-world investment cases of market participants.

SECTION 3 – OFCOM'S PROPOSED CHARGES FOR MPF AND GEA ARE TOO HIGH

67. Sky considers that the levels of Ofcom's proposed charge controls for MPF and GEA are too high because in some cases Ofcom has either made errors or adopted an approach which is clearly inferior to alternatives. Correcting for these errors and adopting a more appropriate approach would result in lower charge controls. We estimate the cost impact of these errors in Table 2 below.

TABLE 2: Impact of errors in approach on LRIC+ estimates for MPF and GEA

Error in approach to charge controls	Impact on MPF LRIC+	Impact on GEA LRIC+
Starting charge adjustment	-£4.38	
Common cost allocation[30]	-£1.07	-£5.21
FTTC DSLAM asset life[31]	-£0.49 Copper scrap valuation	-£0.20

[29] Paragraph 4.48, WLAMR – Volume 1.

[30] This includes the net impact of reallocating service-specific fixed costs, which are currently allocated as common costs, to the service that incurs them. It includes service-specific costs that are specific to both MPF and WLR services.

[31] We illustrate the impact of a change in asset life on the LRIC estimate for GEA rental. We do not show the impact on Ofcom's LRIC+ estimates, as mechanistically within Ofcom's approach a lower LRIC for GEA attracts a lower allocation of

WACC	-£3.79	-£2.63

68. We summarise these issues here and, where necessary, we explain them in more detail in Annexes 2 to 4.

The need for a starting charge adjustment for MPF at the start of the charge control

69. Ofcom appears to have made an error in not imposing a one-off reduction to the MPF service maintenance level 1 ("SML1") rental charge at the start of the charge control period (or, preferably still, directed a lower fair and reasonable price for the lacuna period prior to the new charge control).[32]

70. A one-off reduction is necessary to correct for BT's past cost attributions which Ofcom has found are not causal or objective – as they are required to be. This means that today's MPF price is too high. Adopting a glide-path at the next charge control without a starting charge adjustment ("SCA") would mean that BT gains from its inappropriate cost attributions for even longer – something which Ofcom has said should not occur and justifies the use of a SCA.[33] Adopting a SCA in this instance would be consistent with the approach Ofcom adopted when setting the leased line charge control ("LLCC") during the last business connectivity market review ("BCMR").

71. We explain Sky's position on this issue in more detail in Sky's response to Ofcom's consultation on its 'proposed direction specifying the fair and reasonable charge that BT may apply for MPF rental provided at SML1'.[34] In short however if Ofcom applied a SCA, MPF SML1 rental at the start of the charge control in April 2018 – or more appropriately during the lacuna period from now – would be nearer to £80 p.a. compared to Ofcom's proposed price for the lacuna period of £84.38 (which BT has voluntarily adopted).

There are errors in Ofcom's approach to allocating common costs to MPF and GEA

72. As set out in Annex 2, Ofcom's approach to allocating common costs between services fails to identify whether fixed costs are common across services or service-specific. This has led to service specific fixed costs being incorrectly allocated across all services. The result of this error is that the proposed prices of MPF and GEA rentals are too high by approximately £1 and £5 p.a. respectively.

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common costs, which are offset by a higher level of common costs for MPF. We set out why Ofcom's approach to calculating common costs for GEA is inappropriate in Annex 2.

[32] We note that BT has now made a voluntary pricing commitment for 40/10 GEA which matches the level proposed by Ofcom for the lacuna period. See 'Update – MPF Rental at Service Maintenance Level 1', 31 March 2017, Ofcom – https://www.ofcom.org.uk/__data/assets/pdf_file/0020/102476/Update-MPF-Rental-at-ServiceMaintenance-Level-1.pdf

[33] See Ofcom's analysis of this problem at paragraphs 6.130 – 6.136, 'Business Connectivity Market Review: Leased lines charge controls and dark fibre pricing', consultation, 12 June 2015; and paragraphs 8.34 – 8.39, 'Review of BT's cost attribution methodologies', consultation, 12 June 2015.

[34] Paragraphs 17 – 23, Sky's response to Ofcom's consultation on its 'Proposed Direction specifying the fair and reasonable charge that BT may apply for MPF Rental provided at SML1', May 2017, available here: https://www.ofcom.org.uk/consultations-and-statements/category-3/mpf-rental-at-service-maintenancelevel-1?utm_source=updates&utm_medium=email&utm_campaign=MPF_update

There are flaws in Ofcom's bottom-up cost modelling of GEA

73. As set out in Annex 3, Ofcom's calculation of GEA prices are undermined by inappropriate assumptions regarding asset lives and the use of BT's Fully Allocated Costs ("FAC") estimates to set common costs.

74. In its bottom-up model of GEA Long Run Incremental Cost ("LRIC") costs, Ofcom assumes an asset life for Digital Subscriber Line Access Multiplexers ("DSLAMs") of 7.1 years, significantly below the useful economic life of the components. This is inappropriate because it is: (i) inconsistent with BT's anchor pricing approach, which assumes an ongoing network at steady state; and (ii) it is inconsistent with BT's actual network.

75. The result of Ofcom's asset life assumption is that there are unrealistically high levels of ongoing capital expenditure (and depreciation) from replacing DSLAMs that have not reached the end of their useful economic life. An asset life of at least 12 years is more appropriate for this calculation.

76. Ofcom also calculates common costs for GEA services by taking the difference between BT's FAC estimate and its own independent LRIC estimate. This undermines the effectiveness of the bottom-up estimate as any incremental costs incurred by BT through network inefficiency will be recovered through the common costs. Ofcom should instead independently determine the level of common costs included in BT's FAC estimates.

Ofcom has under-estimated the residual value of BT's copper cables

77. Sky fully supports Ofcom's long-overdue proposal to forecast the residual value of BT's copper cables in the access network once they are no longer required to provide communications services. The effect of this new approach is to reduce net costs and lead to lower regulated prices. However, as set out in Annex 4 we think that Ofcom has underestimated this residual value and as a result Ofcom's proposed charges are still too high.

78. First, Ofcom proposes to exclude all D-side[35] copper from its calculation due to uncertainty around recoverability and likely higher extraction costs than E-side[36] copper. This is inappropriate as the volume of copper in the D-side[37] means that BT could make a windfall

    gain even if only a small proportion can be economically extracted. Ofcom should include D-side copper in its calculation, albeit assuming a lower recoverability rate than for E-side copper.

79. Secondly, given publicly available data, there appears to be up to 140% more copper in the E-side than that estimated by Ofcom. Ofcom should clarify its method of estimating Eside copper volume to allow stakeholders to understand this significant disparity.

Ofcom has over-estimated the weighted cost of capital to be included in the charge controls

80. Sky, along with TalkTalk, commissioned Frontier Economics to assess Ofcom's approach to setting the appropriate cost of capital to be included in the MPF and GEA charge controls. Frontier Economics' report ('WLA Market Review – Cost of capital for regulated services') has been submitted under separate cover. We summarise its key findings below.

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[35] Distribution side copper which lies between Openreach's street cabinets and the customer distribution point.

[36] Exchange side copper which lies between Openreach's local exchanges and street cabinets.

[37] 152,600 tonnes, as estimated by Ofcom.

81. Ofcom's approach to determining BT's cost of capital will over-state the forward-looking costs of regulated services because it fails to reflect fully the established downward trend in the risk free rate ("RFR") and it places disproportionate weight on inappropriate metrics when estimating the asset beta for 'Other UK telecoms' (a key element of its approach to disaggregating BT's cost of capital in order to set regulated charges).

82. First, with respect to the RFR, Ofcom bases its estimate on long term average yield rates on index linked gilts, ignoring the relevant market trends apparent since the 2008 financial crisis that support a far lower rate. Ofcom implicitly assumes that the RFR will revert to a long term mean value during the charge control period, however this assumption is not supported by any of the evidence that Ofcom presents.

83. It is increasingly apparent that the approach of benchmarking the RFR on historical average rates is no longer appropriate because the long term averages are less relevant to the new economic conditions that have prevailed for many years. Ofcom's approach to the RFR therefore leads to an over-estimation of both the cost of debt and cost of equity for regulated services.

84. Secondly, Ofcom incorrectly uses movements in the BT Group asset beta and the betas of some non-regulated UK operators to justify an increase in the asset beta for 'Other UK telecoms' (which includes all non-copper regulated services as well as all BT's retail assets). Ofcom's proposal to increase the asset beta for other regulated services above the level used in its previous decision in the business connectivity market and above key comparators for this component are not justified because:

- the increase of the BT Group asset beta is unlikely to be driven by regulated services, given the lower inherent risk of regulated assets compared with its retail divisions, pay television and mobile; and

- while the asset betas of Sky and TalkTalk (which we would expect to be higher than BT's regulated services) have increased since the last determination, they are still well below the estimate proposed by Ofcom.

85. Taking these considerations into account and given the evidence provided by Ofcom, Sky considers an asset beta of 0.65 would be reasonable for non-copper regulated services.

86. The two issues outlined above result in the cost of capital used for setting charge controls being over-estimated by 1.1% for Openreach copper services and 1.7% for other regulated services.

87. In summary, Sky considers that Ofcom's proposed charges for MPF and GEA are too high and that Ofcom should correct its approach.

SECTION 4 – IT IS PREMATURE TO DE-REGULATE SMPF

88. With respect to SMPF, Sky considers that Ofcom's proposals to not impose a charge control and to remove the specific access obligation on BT to provide SMPF are not fully justified (for the similar reasons to those that Sky laid out in relation to WLR in its response to the 2016 Narrowband Market Review ("2016 NMR")).[38] Sky continues to rely on SMPF in a significant minority of cases and SMPF continues to be an important wholesale input for other operators

[38] Paragraphs 5 – 22, Sky's response to Ofcom's 2016 'Narrowband Marker Review', March 2017, available here: https://www.ofcom.org.uk/consultations-and-statements/category-1/narrowband-market-review

such as BT Consumer against whom Sky competes in downstream retail communications markets.

89. BT continues to have SMP in the WLA market. In the absence of a charge control on SMPF, BT has the incentive to set excessive prices by raising SMPF charges above their LRIC.[39]

90. Ofcom sets out three reasons for its proposal to remove the SMPF charge control: (i) it would not constrain the prices of WLR+SMPF, as BT could simply raise WLR prices instead;[40] [41] (ii) the prices of dual play packages using WLR+SMPF are likely to be constrained by the prices of similar packages based on MPF;[43] and (iii) the trend of migration from SBB to SFBB will reduce further the demand for SMPF, which will limit the potential consumer harm from above-cost pricing of SMPF.[42]

Sky does not support removing the charge control on WLR

91. In its response to the 2016 NMR, Sky argued that Ofcom's proposal to remove the charge control on WLR and to rely instead on a fair and reasonable charging obligation risks weakening competition and harming consumers.

92. Clearly Ofcom's first reason for removing the SMPF charge control is only valid if WLR is not subject to a charge control but Sky considers that a WLR charge control is appropriate.

MPF is an inadequate constraint on WLR+SMPF

93. Sky agrees with Ofcom's assessment that further new LLU investment at scale is unlikely. Sky does not have any plans to unbundle new exchanges and Sky's broadband profile is shifting from SBB to SFBB (but there will remain a significant proportion of SMPF based customers even by the end of the market review period).[43]

94. Despite this, in our experience, a significant proportion of consumers have little choice other than to rely on SMPF. Sky purchases SMPF from BT in conjunction with WLR to provide dual play retail broadband services to consumers. Around [redacted] of Sky's [redacted]

[39] Paragraph 9.1, WLAMR – Volume 1.

[40] In Ofcom's 2016 Narrowband Market Review consultation, Ofcom is proposing to remove the charge control on WLR and to rely instead on a fair and reasonable charging obligation.

[41] Paragraph 9.14, WLAMR – Volume 1. [43]

Paragraph 9.15, WLAMR – Volume 1.

[42] Paragraph 9.15, WLAMR – Volume 1.

[43] Paragraph 6.11, WLAMR – Volume 1.

[redacted] retail customers are dependent on SMPF from BT. Sky provisions, on average, over [redacted] new SMPF orders from BT each month. Reasons for this include that:

- [redacted]
- [redacted]
- [redacted]

95. These factors demonstrate that for a sizeable proportion of cases, MPF provides an inadequate constraint on WLR+SMPF.

A charge control can better address the risks of price squeeze and of excessive prices

96. Ofcom acknowledges that the constraint from MPF is an insufficient constraint on BT's ability to set excessive SMPF charges – this is why it proposes a fair and reasonable charging obligation to protect against the risk of BT raising its wholesale prices in order to engage in a price squeeze (where retail prices do not rise, at least in the short run).[44]

97. Not only does BT have an incentive to leverage its upstream market power in SMPF to engage in a price squeeze in some circumstances but it also has an incentive to raise wholesale prices for those consumers who depend on SMPF, even if that involves rises in retail prices. For the majority of these customers, BT has a high retail market share and, therefore, BT's profit-maximising strategy is not always to engage in a price squeeze but to instead charge both high wholesale and high retail prices.

Promoting efficient choices by CPs

98. A charge control on SMPF is also necessary to ensure Ofcom's policy that CPs competing in the same downstream retail market make efficient choices in regulated wholesale inputs is effective.

99. In Ofcom's 2014 Fixed Access Market Review statement ("2014 FAMR statement"), Ofcom maintained charge controls on <u>both</u> LLU (MPF and SMPF) and WLR *"in order to address BT's ability and incentive to fix or maintain prices at an excessively high level for these services."* [45] In addition to addressing the risk of excessive prices, Ofcom also considered that the charge controls were necessary to:[48]

    - allow CPs to make efficient choices between the substitute WLR+SMPF and MPF wholesale inputs, based on their LRIC differences; and

[44] Paragraph 9.17, WLAMR – Volume 1.

[45] Paragraph 16.1, WLAMR – Volume 1.

- reduce the wholesale charges for connecting to WLR+SMPF and switching between MPF and WLR+SMPF to better reflect their efficient costs.

100. Competition in retail markets will remain predicated on SMPF+WLR and MPF to a significant degree over the course of the market review period and, as a result, the objective of promoting productive efficiency and removing the risk of competitive distortions arising between those CPs dependent on SMPF+WLR and those who rely on MPF is still important. There is a real risk of adverse effects stemming from price distortion if BT is allowed to set the price of SMPF above or below the difference in LRIC between SMPF+WLR and MPF. This will undermine the level playing field between competitors using different wholesale inputs and distort competition.

101. Removing the charge control on SMPF now risks unravelling the gains Ofcom has achieved through strong, appropriately targeted regulation of LLU and will enable BT to act on its incentive to leverage its upstream market power to set excessive prices to the detriment of consumers.

SECTION 5 – THE IMPLEMENTATION OF LONG REACH VDSL SHOULD NOT COME AT A COST TO CONSUMERS AND COMPETITION

102. While Sky acknowledges the potential benefits that LR-VDSL could deliver to consumers who experience poor line speeds, its apparent incompatibility with LLU means that it is essential to consider carefully the appropriate approach when considering its deployment. LLU, and competition that is based on it, has been instrumental in delivering substantial benefits to consumers and its value – even as the market moves to SFBB – should not be discounted lightly.

103. In our view, as a point of principle, Sky and its customers should not be disadvantaged if it is considered appropriate to adopt LR-VDSL technology in carefully prescribed circumstances where LLU is also present in order to increase the speeds of the slowest broadband lines. Furthermore, this assessment of 'not being worse off' needs to be sufficiently wide to capture all of the negative consequences to LLU operators, their customers and consumers more generally – for example, including the knock-on effect closing LLU in an area has on the overall network economics of a LLU operator.

104. Given this, it is a positive step that Ofcom has laid out the principles which it considers should apply when assessing the case for adopting LR-VDSL. At the heart of the application of these principles should be an inclusive, consultative process between LLU operators, BT and Ofcom.

105. Beyond these two important principles – i.e., 'not being worse off' and a fully inclusive consultative process – it is not possible for Sky to comment fully on this issue because BT has not made clear the extent and scale of the possible deployment of LR-VDSL. We consider that BT knows this already – or at least knows the range of outcomes – given it will be in possession of the necessary line speed data. Despite requests it has not shared this information. This is entirely unsatisfactory and already undermines Sky's faith that its views will be adequately addressed by BT.

106. Notwithstanding this point, we comment below on the required information identified by Ofcom as being necessary in any request from BT to deploy LR-VDSL and to close LLU in a street cabinet area:[46]

[46] Paragraph 6.25, WLAMR – Volume 1.

- Affected cabinets – The pertinent information here is the distribution of D-side line lengths from each Openreach Primary Cross Connection Point ("PCP") cabinet. With this simple information, it is a straightforward analysis to identify lines which would not be expected to achieve a minimum acceptable broadband speed either from the exchange or the cabinet.

- The number of affected MPF and/or SMPF circuits for each affected telecoms provider – This is a necessary consideration in gauging the impact on LLU. *In extremis*, a significant number of LLU lines being forcibly migrated to GEA in order to accommodate LR-VDSL could sufficiently alter the economics of an unbundled exchange as to make it uneconomic (e.g., if the migrated lines are presented at a Layer 2 Switch in a different 'parent' exchange, fixed costs such as backhaul and co-location may make continuing with LLU uneconomic).

- The replacement wholesale service(s) to be offered at the affected cabinets – The price and functionality of these replacement services need to be provided in accordance to the 'not being worse off' principle.

- The general approach to migration to the replacement wholesale service(s) – Here it is essential that LLU operators and their customers are not unduly disrupted. Where this is not possible and additional costs are incurred by LLU operators or their customers, BT will need to provide compensation or offer improved commercial terms to ensure that the migration is fully effective.

107. Sky reserves its position with respect to the full set of issues and how they should be addressed until BT is far more transparent over its plans.

SECTION 6 – DUCT AND POLE ACCESS REMEDIES SHOULD BE PROPORTIONATE AND NOT UNDULY DISADVANTAGE OTHER IMPORTANT SERVICES

108. While infrastructure competition has the potential to deliver significant benefits to consumers in the long run, the likelihood of full end-to-end competition between three or more fully separate access networks in much of the UK is low.[47] The massive fixed investment costs of rolling out a third network – in competition with BT and cable – and the relatively finite demand for fixed lines make such a venture risky. Requiring BT to provide access to CPs to its ducts and poles can improve the investment case for alternative access networks by reducing the duplication of passive network components, i.e., ducts and poles – albeit it is likely that the investment case for a scale network will remain weak.

109. In short, there is only a marginal reduction in the forecast pay-back periods of a new scale FTTP network from being able to use fit-for-purpose, appropriately priced DPA. [48]

110. We consider that it is reasonable to take steps to improve BT's physical infrastructure access ("PIA") product which provides access to its ducts and poles in order to make it fitfor-purpose. However, given what is noted above, as the extent of DPA-based competition is likely to be fairly limited, the benefits it brings will be dwarfed by the benefits delivered by 'service-based' competition. Therefore, measures taken to improve DPA should not come at a cost to the other important services that also use the underlying BT infrastructure.

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[47] See Sky's response to Ofcom's consultation on 'Wholesale local access remedy: Initial proposals to develop an effective PIA remedy', December 2016 ("Sky's PIA response").

[48] See further Annex 1, paragraph A1.52.

111. With this principle of not unduly disadvantaging other services when making DPA more viable in mind, we outline Sky's position on the more detailed aspects of Ofcom's DPA proposals in Annex 5.

SECTION 7 – OFCOM'S QUALITY OF SERVICE PROPOSALS ARE WELCOME BUT THE RATES OF THE MOST HARMFUL FAULTS MAY REMAIN TOO HIGH

112. Sky's strong focus on delivering the best customer service[49] provides Sky with the ability to differentiate itself from its competitors. Reliability and high quality customer service are important drivers for consumers when deciding whether to switch providers. Despite our extensive investment in customer service however, Sky continues to be let down by poor quality of service from Openreach. In Annex 6 we discuss in detail Ofcom's proposals for improving service quality at Openreach and, below, we summarise our key concerns.

113. Significant improvements in Openreach service quality are required in order to improve competition and consumer outcomes. In this respect, Ofcom proposals to increase the minimum service levels ("MSLs") for provisioning and repair that Openreach will be required to meet are welcome but Sky remains concerned that, despite these targets, the level of faults that are most harmful to competition and consumers (repeat faults, dead on arrivals ("DoAs") and early life failures ("ELFs")) will remain unacceptably high.

114. Sky strongly agrees with Ofcom that:

> *"… service outcomes are not sufficient to ensure that telecoms providers can compete effectively in the retail market and that customers do not suffer harm."* [50]

115. While Openreach's performance has improved from a very low base since Ofcom introduced minimum quality of service standards for WLR and MPF in the 2014 FAMR statement, there is still considerable work to be done. In our experience, poor quality of service continues to impact thousands of end users of broadband and telephony services on a daily basis and causes significant consumer harm.

116. To achieve a step change in quality of service, Ofcom must change Openreach's incentives to make long term investments in service quality.[51] For many years, Sky has explained to Ofcom that Openreach's failure to invest adequately in its network, systems and processes has had a significant impact on large numbers of UK consumers and businesses. Therefore, Sky welcomes Openreach's recent acknowledgement of this failure and its commitment to invest in the health of its network through its Fault Volume Reduction ("FVR") programme.[52]

117. Sky also supports Ofcom's proposals in the 'Quality of Service for WLR, MPF and GEA:

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[49] Sky has the lowest number of complaints for broadband and landline services and has the highest overall satisfaction and satisfaction with reliability of all CPs on the Openreach network (Pages 9 – 10, Ofcom 'Comparing Service Quality: The performance of broadband, landline and mobile providers' (12 April 2017) ("Comparing Service Quality report").

[50] Paragraph 1.12, Ofcom 'Quality of Service for WLR, MPF and GEA: Consultation on proposed quality of service remedies' (31 March 2017) ("2017 QoS consultation").

[51] See paragraphs 5.46 – 5.51, Ofcom 'Digital Communications Review – Initial Conclusions', 25 February 2016 ("DCR initial conclusions").

[52] The Telegraph 'Openreach chairman says BT should have invested more in better broadband', 1 February 2017, available here: http://www.telegraph.co.uk/business/2017/02/01/openreach-chairman-says-bt-should-haveinvested-better-broadband/

Consultation on proposed quality of services remedies' ("2017 QoS consultation") to introduce tougher and more comprehensive minimum standards for WLR and MPF and to extend these minimum standards to GEA-FTTC for the first time.

118. But, while Ofcom's proposed new minimum standards are a step in the right direction, they do not go far enough and, critically, do not address the underlying cause of the two most critical issues causing most consumer harm:

- the high level of new customer orders that develop a fault soon after installation (DoAs[53] and ELFs[54]); and

- the high number of repeat faults that occur within 28 (or 30) days of a previously completed fault repair.

119. These two problems alone cause significant consumer harm and affect a wide number of customers each month but Ofcom has not proposed a MSL for fault rates generally or specifically for these fault types.

120. Ofcom argues[55] that its proposed, narrower set of MSLs for provisioning and repair are sufficiently stretching that Openreach will have to reduce fault rates significantly in any event in order to meet the new standards[56] (although Ofcom has not presented any data to support this hypothesis in the WLAMR). Ofcom is instead proposing to deal with these fault types by introducing new Key Performance Indicators ("KPIs") to monitor the level of DoAs and ELFs and to retain the KPI on repeat faults. Ofcom also argues that should it be concerned at the level of repeats, DoAs and ELFs (or faults generally) it will be able to use its direction-making powers to introduce new MSLs if necessary.[57]

121. Sky is concerned however that Ofcom's approach does not go far enough, lacks clarity because it does not explain what would trigger it to direct an improvement in faults rates and, as it is reactive, would be slow to prevent the consumer harm caused by elevated fault rates.

122. Instead, Sky considers that a more effective mechanism by which to reduce the level of faults that cause consumers the most distress would be for Ofcom to introduce new MSLs which set out the number of DoAs, ELFs and repeat faults that BT is allowed to incur within each period of the market review. Alternatively, Ofcom could amend the current MSL for repairs completed within Service Level Agreement ("SLA") timescales by incorporating an allowance of repeat faults into that standard and amend the current MSL for on-time installations by incorporating an allowance for DOAs and ELFs into that standard. These new MSLs should come at no additional cost to CPs.

123. Currently, the gaps in Ofcom's proposed approach could continue to give Openreach the incentive and ability to shuffle resources towards more regulated parts of the customer service journey – i.e., those that have a specific MSL – at the expense of other parts. This

[53] Dead on Arrival means that a fault arises within 8 calendar days of installation.

[54] Early Life Failure means that a fault arises within 28 calendar days of installation.

[55] In relation to repeat faults, e.g., Ofcom notes at page 108, 2017 QoS consultation that it *"… would be concerned if the repeat fault rate for any access service rose as a direct consequence of higher QoS standards"*.

[56] We note that this improvement in faults does not come at any additional cost. See, e.g., paragraph 4.3, 2017 QoS consultation.

[57] Paragraph 8.56, 2017 QoS consultation.

would be an unsatisfactory outcome given that consumers demand high quality of service across the entire service journey and throughout the lifetime of their purchase. Ofcom

should ensure that any gaps in its proposed approach are plugged in order to improve Openreach performance for the benefit of consumers.

Sky **June 2017**

ANNEX 1 – GEA CHARGE CONTROL – SKY SUBMISSION

EXECUTIVE SUMMARY

A1.1 This submission sets out the reasons why it is both appropriate and critical for Ofcom to impose significant reductions on Openreach's charges for the fibre-to-the-cabinet ("FTTC") service, Generic Ethernet Access ("GEA") in its forthcoming Wholesale Local Access ("WLA") market review. Reducing GEA charges will help maintain strong retail competition in the transition to superfast broadband ("SFBB") which would be immediately beneficial to consumers while also providing the essential market conditions to support Ofcom's long term policy goal of promoting investment in fibre-to-the-premise ("FTTP").

A1.2 Ofcom's current approach of only capping LLU prices while allowing BT the freedom to set GEA prices itself has supported BT's successful roll-out of FTTC over the last seven years to 92% of the UK.[58] However, the benefits of this policy, in terms of promoting investment, have run their course, and currently not enough consumers are benefiting from this technology. BT now earns high profits on its modest FTTC investment but, crucially, SFBB take-up currently languishes at only one third of Openreach broadband lines.[59] The immediate focus over the next three year market review period therefore should shift towards driving greater penetration of SFBB services amongst UK households.

A1.3 Take-up is being held back by high GEA charges which provide LLU operators such as Sky and TalkTalk (who between them currently account for around [redacted] per cent of the residential retail broadband market) with little or no incentive to acquire or upgrade customers to SFBB, despite its superior quality. This significant weakening in retail competition caused by high GEA charges means that consumers have less choice and take-up of SFBB is inefficiently low. As a consequence, consumers are being deprived of the full benefits that Sky, as the clear market leader in customer service[60], could bestow by being able to promote strongly faster, more efficient broadband. There is a real risk that, if GEA charges remain high, the substantial consumer benefits of the last decade that have stemmed from LLU–based competition will be unwound with BT re-establishing a dominant position in the retail market.

A1.4 Weaker retail competition will also hinder Ofcom's longer term policy goal of promoting more FTTP investment – particularly, in the 'third network' which Ofcom wishes to see rolled out over the next decade. The prospects for this network – which are already challenging – would be severely diminished if the large broadband retailers that could make use of it (i.e., Sky and TalkTalk) have insufficient scale in terms of broadband subscribers to migrate to the new network. Scale is by some distance the single most important factor in the investment case for a new FTTP network. Ofcom should be mindful of this rather than focusing unduly on the comparatively marginal, and often theoretical, impact lower GEA charges could have on retail revenues and profits and hence investment incentives.

A1.5 In fact, the high profits that BT currently earns from high GEA prices and its consequential growing retail market share give it little reason to make material investments itself in rolling out fibre closer to homes. As long as BT is handsomely rewarded for FTTC, it will have little to gain from investing more – as is demonstrated by its modest G.Fast proposals which do not involve any additional capital investment over Openreach's current capex run rate.

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58 'Careers at Openreach' – https://www.btplc.com/Careercentre/Aboutus/Openreach/index.htm

59 In Q2 BT Financial Year 2016/17, BT reported that there were 20.12m Openreach fibre and DSL broadband lines of which 6.68m were fibre – http://www.btplc.com/Sharesandperformance/Quarterlyresults/20162017/Q2/Downloads/KPIs/q216-KPIs.pdf

60 For example, see 'Telecoms and Pay TV Complaints – Q3 (July to September) 2016', Ofcom, 20 December 2016 – https://www.ofcom.org.uk/__data/assets/pdf_file/0018/96021/Telecoms-and-Pay-TV-Complaints-Q3-2016.pdf

A1.6 Given Ofcom's aspirations for more investment in FTTP, it is far better for it to introduce significant reductions in GEA charges while conferring on BT the freedom to set its own wholesale charges for access to any further substantial investments it makes in installing fibre closer to homes and businesses, for example, via FTTP or a far more ambitious version of G.Fast.

A1.7 Consumers are being harmed now and matters will only get worse if Ofcom does not take action at the forthcoming market review. In fact, Ofcom should act even more quickly to address these issues by expediting the introduction of lower GEA charges in advance of its conclusion of the WLA market review – which is likely to finish sometime in 2018.

INTRODUCTION

A1.8 Strong, appropriately-targeted regulation of LLU and WLR implemented over a decade ago has been instrumental in transforming retail broadband and telephony markets in the UK from the moribund, BT-dominated, high priced environment in 2005 into the largely vibrant, more competitive situation consumers enjoy today. Entry and investment by LLU operators such as Sky and TalkTalk has increased innovation, widened choice and lowered prices. The substantial benefits that have accrued to consumers as a result should not be discounted lightly. The success of this policy is unparalleled in over three decades of regulatory initiatives to instil competition into fixed telecommunications markets and is the envy of other nations.

A1.9 However these gains are at risk of being unwound as the market transitions from standard broadband supplied over copper lines to faster broadband services such as SFBB that rely increasingly on fibre for some or all of the local connection to homes and premises. Today these SFBB connections constitute nearly half of all fixed broadband lines but, unlike competition in standard broadband, the supply of SFBB to consumers is dominated by just two broadband retailers – BT and Virgin Media – who account for around eighty per cent of SFBB lines (compared to around sixty per cent of the total broadband market). This market asymmetry has arisen because other communications providers ("CPs") such as Sky competing for SFBB customers have little alternative but to purchase Openreach's excessively-priced wholesale SFBB product, GEA, which has the effect of reducing retail competition and harming consumers.

A1.10 While Ofcom acknowledges that GEA is an essential wholesale input for many broadband providers and imposes on BT a number of regulatory remedies, crucially, it does not impose a price cap, or 'charge control' on Openreach's GEA prices.[61]

A1.11 In this submission, we explain why it is important that Ofcom puts in place at the next market review a GEA charge control which reduces charges significantly. Namely, that:

- BT has enduring significant market power ("SMP") in wholesale local access;
- as the broadband market moves to SFBB, GEA has become an essential wholesale input;
- the current GEA price appears to be significantly above its forward-looking costs;
- high GEA prices are distorting competition and harming consumers; and

[61] Ofcom has imposed a VULA margin condition on BT which requires it to maintain an appropriate margin between the retail prices of its SFBB bundles and its relevant costs but this does not directly constrain GEA prices and, unlike a formal charge control, does not ensure that BT's wholesale prices are cost-reflective.

- imposing a charge control would not materially lower the incentives to rollout FTTP networks and would in fact provide the scale needed to improve the potential for such networks.

BT HAS ENDURING SIGNIFICANT MARKET POWER IN WHOLESALE LOCAL ACCESS

A1.12 It is uncontroversial and long-recognised that BT's SMP in wholesale local access is entrenched. Described as an 'enduring economic bottleneck', BT's ubiquitous local access network – operated by Openreach – is non-replicable and non-contestable.

A1.13 While there could be significant benefits derived from full competition to BT in access networks, this is likely to emerge (if at all) only to a limited extent and over a relatively long period (even Ofcom acknowledges that this may take ten years).[62] This is because any operators rolling out competing access networks would incur high fixed costs, which in turn would require them to attract high volumes of end users to the new network to achieve the necessary scale and scope economies to make such investments profitable in the long run.

A1.14 This high barrier to entry is compounded further by the relatively finite demand for wholesale local access, where typically each premise requires just one local access line. In essence, this is a 'zero sum game' where any new access network needs to 'win' large numbers of end users from other existing local access networks (i.e., from Openreach or from Virgin Media's sub-national network) in order to make their investments worthwhile. This is a formidable task given BT's incumbency advantage of having a sunk, fully-built ubiquitous local access network with the largest economies of scale and scope underpinned by its vertical integration with the largest retailer in the market.

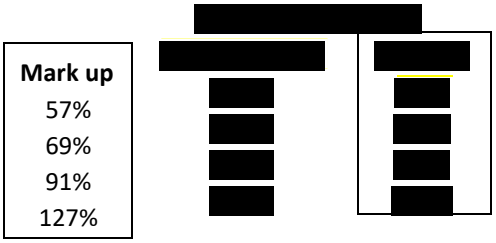
A1.15 There has been little, if any, material market entry since the last market review, reflecting these enduring economic realities. The prospects must be low that there will be the widescale efficient and sustainable entry by end-to-end operators over the next market review period and beyond that is sufficient to curtail BT's SMP. Therefore, CPs other than cable, have little choice for the foreseeable future than to rent access to the Openreach network in order to compete in downstream retail broadband and telephony markets. This is borne out by BT's persistently high market share in wholesale local access (around 80%).

A1.16 It is evident therefore that there is a continuing need for strong SMP regulation of BT over the next market review period. Thus far, Ofcom has focussed stronger regulation – in the form of wholesale price caps (charge controls) – only on those Openreach products that support standard broadband and telephony, i.e., LLU and WLR. However, as the market transitions to SFBB, CPs have also become increasingly dependent on virtual unbundled local access ("VULA") from Openreach (known as GEA) in order to offer these faster broadband services.

GEA PRICES ARE SIGNIFICANTLY ABOVE COSTS

A1.17 GEA is now an essential input into SFBB services for most providers but, while to date GEA is subject to certain SMP remedies, crucially Ofcom has not capped its price (unlike its approach to LLU and WLR). The lack of a GEA charge control allows GEA prices today to be substantially above their forward-looking efficient costs.

[62] Page 32, 'Making communications work for everyone – Initial conclusions from the Strategic Review of Digital Communications', Ofcom statement, 25 February 2016 – https://www.ofcom.org.uk/__data/assets/pdf_file/0016/50416/dcr-statement.pdf



A1.18 Moreover, as more consumers consider taking SFBB, they are increasingly less likely to choose standard broadband instead – even at lower retail prices. This means that the capacity for standard broadband retail prices to act as a constraint on SFBB retail prices is weakening. As a corollary, the capacity for the regulated prices of Openreach's wholesale inputs to standard broadband (LLU and WLR) to constrain the price of wholesale inputs to SFBB (GEA) is also reducing. Accordingly, the argument that a GEA charge control is unnecessary because of the constraint exerted by charge-controlled LLU and WLR services is less tenable.

A1.19 This lack of economic or regulatory constraint has led to current GEA charges being significantly above their costs. This is corroborated by [redacted] WIK [66] [redacted] on behalf of TalkTalk) who have estimated GEA ongoing costs using a variety of sources including BT's [redacted] public statements on its roll-out of FTTC and its published regulatory financial statements. cost estimates, which include an allowance for a reasonable rate of return, are substantially below current GEA prices.

TABLE A1.1: GEA rental prices and estimated costs

		WIK
GEA product	**Monthly rental**	**Cost estimate**
40/2 Mbps	£6.90	£4.39
40/10 Mbps	£7.40	£4.39
55/10 Mbps	£8.40	£4.39
80/20 Mbps	£9.95	£4.39

A1.20 Excessive margins of this order on essential Openreach inputs have the potential to cause significant harm and would typically trigger the introduction of a cost based charge control.

HIGH GEA PRICES ARE CAUSING CONSUMER HARM BY WEAKENING RETAIL COMPETITION

A1.21 While Ofcom's *ex ante* powers under the European Framework allow it to impose remedies such as charge controls without demonstrating that harm has occurred (as the risk of harm is sufficient in law), it is evident nonetheless that high GEA prices are weakening competition by distorting the rate at which CPs can profitably adopt SFBB. Not only does BT have an incentive to exploit its market power in order to raise the costs of its rivals in this way but it also appears to be acting on this incentive. As a result consumers are being harmed through a lack of choice and competition in SFBB.

[66] 'Estimating the cost of GEA', WIK-Consult, March 2013 – https://www.ofcom.org.uk/__data/assets/pdf_file/0025/78190/talktalk_group_second_addit1.pdf

[67] 'The impact of a cost-based VULA price', Frontier Economics, September 2016

High GEA prices distort CPs' incentives to move to SFBB

A1.22 Retail competition is distorted by high GEA prices because, for BT Consumer, the 'costs' of upgrading its standard broadband subscribers to SFBB or acquiring new SFBB subscribers are largely internal transfer charges to Openreach whereas to its retail competitors they are a real economic cost. Accordingly, BT Group would rationally consider the case for acquiring BT Consumer's SFBB subscribers or upgrading them to SFBB from a group-wide perspective which effectively measures the incremental retail revenues earned from these activities against the incremental costs incurred. The internal transfer charges, or 'wooden dollars', that pass from BT Consumer to Openreach are not part of this calculation.

A1.23 If the internal transfer charges – or, in this instance, GEA charges – are cost-reflective then there is little scope for market distortion because the incremental costs incurred by BT Group and BT's rivals will be broadly similar and all players will face similar incentives with respect to SFBB. However, where the GEA charge significantly exceeds its costs, as it does today, then the market can be unduly distorted as not all players face the same incremental costs (the incremental costs to BT's rivals are far greater than for BT Group) and, as a result, market participants will have differentiated incentives to upgrade and acquire customers to SFBB.

A1.24 It follows therefore that in principle, from the perspective of BT Consumer, its SFBB upgrades and acquisitions could be notionally loss-making if incremental retail revenues are lower than the Openreach transfer charges and any additional retail costs. However, from Group's perspective this course could still be profitable if the additional retail revenues outweigh BT's overall incremental costs (which do not include transfer charges). For BT's retail competitors however, GEA charges have to be paid and are a real economic cost. Any loss-making upgrades or acquisitions by these providers are real – not notional.

A1.25 This point is best illustrated by a simple worked example. Imagine that for all CPs the incremental retail revenue from upgrading a subscriber to SFBB from standard broadband (or from acquiring a SFBB subscriber compared to acquiring a standard broadband subscriber) is £5 per month and that the additional retailing costs are £1 per month. In this example, Openreach charges an additional £5 per month for GEA. Now, consider two scenarios; (A) where Openreach's GEA charges reflect its ongoing costs (£5 per month) and (B) where Openreach's ongoing GEA costs are only £2 per month. Under scenario A, both BT Group and its retail rivals will face similar incentives to acquire and upgrade SFBB subscribers (it would not be profitable for any provider), whereas under scenario B only BT Group would have an incentive to upgrade or acquire subscribers to SFBB. For BT's rivals (and on a notional basis, BT Consumer) SFBB acquisitions and upgrades remain lossmaking in this stylised example.

TABLE A1.2: Example of incremental revenues & costs from SFBB upgrades & additions

	SCENARIO A		SCENARIO B	
	BT Group	**Rival**	**BT Group**	**Rival**
SFBB retail revenues	£5	£5	£5	£5
SFBB retail costs	(£1)	(£1)	(£1)	(£1)
GEA charge	-	(£5)	-	(£5)
GEA cost	-	(£2)	-	
Net position	**(£1)**	**(£1)**	**£2**	**(£1)**

A1.26 This issue is in fact most pronounced in the case of upgrades of existing standard broadband customers to SFBB. Here, the incremental revenues from SFBB are too low compared to the additional GEA charges and other upgrade costs. As a result, for BT's competitors, upgrades are often loss-making or are only made profitable by setting prohibitively higher retail charges for upgrades that stifle demand. While there is little or no incentive for its competitors to upgrade their broadband bases to SFBB, for BT Group however BT Consumer upgrades to SFBB are profitable overall.

A1.27 This is not to say that BT's rivals no longer make profits from customers that they upgrade to fibre. Such customers may still be profitable but margins are diluted and, rationally, as the upgrade itself is not profitable BT's rivals do not have an incentive to 'get behind' SFBB by promoting it strongly to their customers.

A1.28 We show below the current relative economics to Sky, BT Consumer and BT Group of upgrading customers from unlimited standard broadband to unlimited SFBB. From these, it is clear that while for Sky upgrades to Sky Fibre are loss-making, for BT Group upgrades to Infinity 1 pay back despite such upgrades being notionally loss-making for BT Consumer.

TABLE A1.3: Current relative economics of fibre upgrades for Sky and BT*

	Unit	**Sky Fibre**	**BT Consumer Infinity 1**	**BT Group Infinity 1**
Incremental SFBB retail revenue	£/mth	8.33	5.00†	5.00
GEA rental cost	£/mth	[redacted]	(8.40)	[redacted]
Other costs	£/mth	[redacted]	[redacted]	[redacted]
Contribution	**£/mth**	[redacted]	[redacted]	[redacted]

SFBB retail activation revenue	£	49.95	41.67	41.67
GEA connection cost	£	(49)	(49)	(40)**
New router costs††	£	[redacted]	[redacted]	[redacted]
Net connection revenue	**£**	[redacted]	[redacted]	[redacted]
Payback period	Years	[redacted]	[redacted]	[redacted]

* Ex VAT standalone headline prices as of January 2017

† Assumes BT Unlimited Broadband at £20 p/m upgrading to BT Unlimited Infinity 1 at £26 p/m

[redacted]

** Assumed cost to Openreach of providing GEA connection

†† Some upgrades require a new router, driving an estimated blended additional [redacted] in SAC per upgrade

Competition in retail broadband is weakening and consumers are being harmed as a result

A1.29 These differences in fibre economics for BT compared to Sky and TalkTalk are profoundly distorting the retail broadband market as it transitions to SFBB. While BT has upgraded and acquired a large proportion of its retail subscribers to SFBB, its competitors are lagging significantly behind.

TABLE A1.4: Broadband lines & shares of Openreach based CPs (November 2016, excl. cable)

	BT Retail*		Sky		TalkTalk†	
	Volume (m)	**Share**	**Volume (m)**	**Share**	**Volume (m)**	**Share**
All Broadband	9.2	46%	[redacted]	[redacted]	3.9	19%
SFBB	4.5	67%	[redacted]	[redacted]	0.8	12%

* BT Q2 2016/17 KPIs – includes EE, Plusnet and business lines

† TalkTalk Interim Results FY17 presentation – includes business and wholesale lines

A1.30 BT Consumer's high share of SFBB lines as the market transitions to these faster broadband services should be a cause for concern given it could lead to BT establishing a dominant position in retail broadband.

A1.31 The harmful effects of this market asymmetry have already emerged. With over half of standard broadband end users supplied by a provider with little or no incentive to upgrade to SFBB (i.e., Sky and TalkTalk), competition is weak and overall consumption of these services is inefficiently low. It is now over seven years since BT started rolling out FTTC but only one third of Openreach broadband lines are superfast even though it is available to around 92% of homes. If operators like Sky and TalkTalk had similar incentives to BT with respect to SFBB, a similar proportion (c.50%) of their broadband subscriber bases could be on SFBB. On this basis, consumption of SFBB in the UK could be too low by more than three million SFBB lines.

A1.32 Under such circumstances, it is appropriate to ensure that GEA charges are not excessive and that they reflect efficient, forward-looking costs in order to minimise harm to competition and consumers. Sky considers that market conditions now necessitate the introduction of a GEA charge control – otherwise there is a significant risk that competition is severely weakened and that consumption of SFBB remains inefficiently low.

IT IS IMPERATIVE THAT OFCOM INTRODUCES A GEA CHARGE CONTROL AT THE NEXT MARKET REVIEW

A1.33 Given the consumer harm and erosion of competition arising from high GEA charges, it is essential that Ofcom – at the upcoming wholesale local access market review – implements a GEA charge control that reduces charges significantly towards their cost. This would ensure that all CPs and BT Group face similar costs when moving subscribers to SFBB, unlike today, and the market would be less distorted. Only then would all market participants have similar incentives to promote faster, better quality fibre-based broadband with the effort that only BT and cable do currently.

A1.34 The result of this constrained level of competition is that consumers overall are underserved and market-wide take-up of SFBB is significantly lower than it should be.

A1.35 There is nothing surprising about this outcome. BT is acting rationally by leveraging its upstream market power in order to maximise profits both at Openreach and across the group as a whole. While high wholesale prices may result in foregone Openreach GEA line volumes, this is more than offset by the higher margins earned on existing Openreach GEA lines. Combining these profits with the greater retail profits stemming from BT Consumer attracting more high value fibre subscribers and growing its market share in the long run, demonstrates that pricing GEA excessively is highly lucrative.

A1.36 It is evident that it would be profitable for Openreach to forgo three million more wholesale SFBB lines from its external customers such as Sky and TalkTalk by maintaining high GEA charges (£7.40 per month) and not charging a more cost oriented price. In order to illustrate this point, we assume here that the forward-looking, cost oriented price is £4.30 per month (similar to WIK Consult's GEA cost estimates) and that this price point includes a £0.30 return on capital (based on an assumption of £3.00 per month per line in capex and 10% WACC).

TABLE A1.5: Illustration of Openreach profits from high and low GEA pricing strategies

	Monthly rental price	Monthly profit per line	External GEA volumes (m)*	Total external annual profits
High GEA price	£7.40	£3.40	2.2	£90m
Mid GEA price	£5.85	£1.85	3.7	£82m
Low GEA price	£4.30	£0.30	5.2	£19m

* Assumes there are no forgone BT Consumer line volumes at the current GEA price because, from a BT Group perspective, internal SFBB penetration is driven by the GEA cost to Openreach, not the price.

A1.37 As the table above shows, Openreach could lose around £70m in annual external supernormal profits if it lowered its GEA price to £4.30 per month. In effect, BT would be worse off from charging a cost oriented GEA price – and this is even before any consideration of any subsequent reduction in the greater retail profits that BT earns as a result of Openreach's high GEA charges.

A1.38 This is exactly the type of outcome that ex ante telecoms regulation was designed to address by providing national regulatory authorities ("NRAs") with a full toolkit of remedies – including the use of cost based charge controls – with which to prevent SMP operators from acting on these profit-maximising incentives to the detriment of competition and consumers.

A1.39 While lowering GEA charges does not entirely resolve the 'wooden dollar' issue, i.e., GEA charges – albeit lower – are still only transfer charges to BT Consumer, the closer GEA charges are to their costs the less likely it is for a BT Consumer retail pricing strategy that is notionally loss-making to be profitable overall for BT Group.

A1.40 A strong GEA charge control on the other hand could transform the current inadequate level of SFBB take-up because all market players would have a more equal incentive to upgrade and acquire customers to SFBB. Sky estimates that up to [redacted] more of its broadband base could be on SFBB if there were significant reductions in GEA charges. [redacted] If both Sky and TalkTalk had the incentives to upgrade the same proportion of their respective bases as BT Consumer and to compete more strongly for new acquisitions, then there could be over three million (or 25%) more SFBB subscribers today. Moreover, if competition in SFBB was far stronger during the transition to fibre then it would provide an appropriate market foundation for the viable rollout of FTTP networks.

None of this is controversial – it is competition that drives take-up and improvements in consumer welfare, not network building. As the rollout by Openreach of its FTTC network is largely complete and profitable, the focus of regulatory policy should now shift to promoting competition and take-up through lower wholesale charges.

A1.41 In summary, on any straightforward assessment the harm caused by high GEA prices would merit the urgent introduction of a charge control which would reduce wholesale charges significantly. We urge Ofcom to take such a step and, in the following section explain why to do so would not materially harm Ofcom's objective of promoting the rollout of FTTP – quite
A1.42 the contrary in fact, it would provide a more robust foundation for fibre rollout.

[redacted]

NEITHER OF THE TWO POTENTIAL ARGUMENTS AGAINST A CHARGE CONTROL ARE COMPELLING

A1.43 Ofcom has suggested two reasons why it may not be justified to impose a charge control on GEA:

- to ensure that risk-taking investments by Openreach have a fair opportunity to earn returns in excess of its regulated cost of capital given that BT also bears the risk of losses on these investments – by affording BT a 'fair bet' such that any profits on its risky investments are not immediately capped by Ofcom, it is encouraged to take risks which is in the long term interests of those CPs and consumers who are dependent on the Openreach network; and

- to improve the investment case for new FTTP networks by making them appear relatively more cost-competitive and by shoring up retail broadband prices – promoting FTTP rollout is a key objective now emanating from Ofcom's Digital Communications Review ("DCR").

A1.44 Sky considers that neither of these putative reasons for not requiring GEA price cuts are particularly strong and that, in fact, maintaining high GEA charges is likely to undermine significantly Ofcom's new policy goal of promoting FTTP rollout. We outline our reasoning with respect to each of these issues below.

The 'fair bet' is now over

A1.45 Sky appreciates the danger in imposing charge controls on new investments too soon. Depriving a regulated firm of the chance to earn higher returns on risky new investments than would typically be possible under a standard, cost of capital based charge control can stifle investment and risk-taking by that firm. In short, BT could face all the risk of making losses while having only a truncated opportunity to make profits. A failure by BT to take network investment risks is unlikely to be in the long term interests of consumers or the CPs that are dependent on wholesale access to Openreach's bottleneck assets. Therefore it can be appropriate to forbear from imposing charge controls on risky investments, at least for a period.

A1.46 While this is an important principle, it does not mean that all investments are risky or that all risky investments necessitate permanent pricing forbearance by Ofcom. Each instance needs to be assessed on its merits at the time including the weighing of the risk of harm from any under-investment engendered by imposing a charge control with the risk of harm from weakening competition, high prices and restricted consumption that could result from high prices for access to the new investment.

A1.47 In the case of BT's investment in FTTC, while it may have been appropriate to forbear from imposing a charge control initially, Sky considers that the risks of harm from not imposing a GEA charge control now far outweigh any residual risks that BT may not take similar risks in the future. In fact, if a GEA charge control was imposed now, BT will still earn sufficiently high profits on its FTTC investment to ensure that it continues to take investment risks going forward.

A1.48 Ofcom acknowledges that both BT's FTTC investment risk is now being rewarded with above-WACC returns and that there is a concern that high GEA prices have inhibited availability and choice in SFBB:

> *"BT's Regulatory Financial Statements show that, with take-up of superfast broadband increasing, returns in this market are now above its cost of capital, and the company is no longer losing money on the investment. Ofcom has previously decided against controlling the wholesale prices BT charges to competitors for superfast broadband, to allow the market to grow and encourage further investment by BT. As we have previously said, we will consider whether regulating BT's wholesale fibre prices is now appropriate, to promote choice and availability of these important services."*[69] (Emphasis added).

A1.49 Frontier Economics, on behalf of Vodafone, has calculated the high profits now being earned on GEA based on BT's regulatory financial statements. This shows that in 2015/16, BT made an additional £155m in profits on GEA (supplied to internal and external customers) over and above its cost of capital which equates to a high return on capital employed ("ROCE") of 22%.[70] With the FTTC investment now sunk and ongoing costs largely fixed, continued growth in the number of SFBB subscribers means that GEA returns will be significantly greater still in 2016/17 and beyond without the introduction of a charge control.

A1.50 It is also important not to exaggerate the level of risk that BT took on during its FTTC rollout. In 2009 when BT started its rollout there clearly was some investment risk, particularly on the demand side where there was uncertainty around consumer take-up. However, there were a number of other factors at play that substantially reduced the level of risk for the investment:

- BT's FTTC investment was not sunk on day one of the rollout and was instead invested in stages over seven years with BT being able to stop investment at any point in the project without stranding assets. Investment in years subsequent to 2009 would have become progressively less risky as demand and supply side uncertainty subsided to the extent that it would be impossible to argue that BT's investment in FTTC in, for example, 2015 was risky at all;

- BT Consumer committed in 2009 to promote SFBB strongly hence reducing demand side risks;[71]

- High GEA charges – which represented 'wooden dollars' to BT Consumer – provided BT with the opportunity to raise the costs of its rivals, attract higher value broadband subscribers and grow its retail market share;

- The FTTC investment itself was relatively modest. We estimate that the capital investment was [redacted] over seven years which represents only about [redacted] of Openreach's capex over the period, while BT's overall FTTC spend including opex is estimated to be around [redacted] sales in comparison to its £12.5bn purchase of EE; and

- The investment itself was not incremental to Openreach's overall annual capex (which stayed broadly the same as it was before the rollout and since) and was instead funded by cutting capital investment in other activities – such as in preventative maintenance – but without any concomitant reductions in revenues elsewhere.

69 'Statement regarding BT's regulatory accounts for 2015/16', Ofcom, 31 October 2106 – https://www.ofcom.org.uk/about-ofcom/latest/media/media-releases/2016/statement-regarding-btsregulatory-accounts-for-201516?subject=

70 'The Profitability of BT's Regulated Services, A Report for Vodafone', Frontier Economics, 28 November 2016 – file:///C:/Users/highot/Downloads/frontier-bt-regulated-profitability-2016-281116-vfinal.pdf%20(1).pdf

71 'Feature: The UK broadband market – a retrospective by John Petter, CEO BT Consumer.' BT Newsbyte, Issue 37, May 2015 – http://www.btplc.com/Sharesandperformance/Industryanalysts/Newsletter/Issue37/Feature/index.htm

A1.51 It is clear therefore that imposing a GEA charge control now, while being beneficial to consumers and competition, would not undermine BT's incentives to make future risky investments. BT will have been more than adequately rewarded for the risks it took in rolling out FTTC.

Lower GEA charges would not unduly undermine FTTP investment

A1.52 While the expiry of the 'fair bet' coupled with the significant harm being caused by high GEA prices would typically be sufficient to warrant the introduction of a charge control, Ofcom appears to be equivocating over this important step as it considers the potential negative repercussions this could have for investment in FTTP. Sky considers that in practice any negative effects of reductions in GEA charges are marginal and are far outweighed by the

benefits that stem from the ensuing underscoring of strong retail competition – which is an essential basis for the viability of any new fibre networks.

A1.53 In principle, the price of GEA can affect fibre investment in two ways:

- the direct effect whereby the 'competitive' price that any FTTP network operator can charge for wholesale access is constrained by the GEA price. Lower GEA prices have the potential to reduce the wholesale access price to the new FTTP network which, if this leads to lower total wholesale revenues for the new network, can prolong the payback period for the sunk investment; and

- the indirect effect whereby lower wholesale (GEA) prices can feed through to lower retail prices which, if this results in lower overall retail revenues, can further extend payback periods for any new FTTP network which is also dependent on these revenues – for instance, for a vertically integrated operator.

A1.54 There are significant weaknesses with these arguments. First and foremost, lower wholesale and retail prices do not necessarily lead to lower revenues and in fact can drive the additional volume, scale and overall revenues that are necessary to make investment in FTTP networks viable.

A1.55 Secondly, the potential for lower GEA prices to have a constraining effect on new fibre investment should not be overplayed. The scope for slower speed SFBB to constrain ultrafast services is not unlimited – in much the same way that standard broadband progressively exerts less constraint over SFBB. In this respect, implementing low LLU prices via a cost based charge control has not restricted the scale of Openreach's rollout of FTTC which now covers 92% of the UK. This should be the blueprint for Ofcom's approach to GEA charges and promoting FTTP investment at the next market review, i.e., to set a cost-based charge control for GEA while acknowledging the risk associated with rolling out fibre closer to end users by allowing more pricing freedom on these new investments.

A1.56 It would therefore be counter-productive to its newfound goal of promoting fibre investment for Ofcom to jettison the substantial competitive gains of the last decade (from the moribund, dysfunctional market conditions that prevailed before then) by allowing GEA prices to remain high. These high charges risk reducing the competitive influence of 'service-based' competitors such as Sky and TalkTalk, while concentrating more market power in the two vertically integrated operators, BT and Virgin Media. Rather than this new market concentration acting as a catalyst for further investment, the
weakening of retail competition will reduce the scope for the market-wide demand and scale required to make new fibre investments viable.

A1.57 These points become self-evident when considering the effect lower GEA prices would have on the potential investors in FTTP networks in the UK, namely BT, Virgin Media and, especially, 'the third network' which Ofcom aspires to establish for much of the UK. The prospects for this third network are already particularly precarious given the huge fixed costs of building such a network but are made worse still given that BT's and Virgin Media's consumer bases are tied to their own networks. Therefore it is left to rely only on the scale of the rest of the market which is largely accounted for by TalkTalk and Sky and whose combined scale is at risk of decline as a result of high GEA prices.

<u>The third network</u>

A1.58 Sky is better placed than most to judge the viability of an alternative fibre network in the UK, including the effect of reductions in GEA prices. For the last [redacted] years, Sky has invested considerable time, money (over [redacted]) and effort in investigating the scope for a third network. It has conducted many trials – often in conjunction with TalkTalk – culminating in its joint venture with TalkTalk and CityFibre Holdings in rolling out a FTTP network in York.

Sky has used its learnings from these ventures to model the case for a third network covering a significant proportion of the UK. This model assumes that Sky is essentially a vertically integrated network operator and retailer who [redacted] can ensure that around [redacted] of the retail broadband market within the new network's footprint is

A1.59 hosted on the network. The business case measures the resulting cash flows against those of the counter-factual of continuing to rent access to Openreach's network and, in particular, continuing to take its GEA service which is purchased with LLU (i.e., "MPF") or WLR (the combined price of which is currently around £14.50 per month).

For a network passing ten million homes or c.40% of the UK, the investment takes around [redacted] years to pay back. This inordinately long time to generate profits is a key barrier to a viable third network and is far in excess of the likely payback periods for BT and Virgin Media extending their networks with FTTP.

A1.60 Against this backdrop of high deployment costs and long payback periods, changes in GEA prices have a relatively minor impact on the investment case for the third network because the improvement in the counter-factual against which it is measured is only relatively modest. For example, if the GEA charge was reduced to £5.00 per month as opposed to £7.40 today

A1.61 the counter-factual costs of continuing to use Openreach improve overall from £14.50 per subscriber per month to £12.10. When compared to the monthly broadband contribution from subscribers on the new network, these GEA price movements are relatively small. As a result, the payback period for a ten million homes passed FTTP network would not materially lengthen beyond [redacted] years – perhaps by only [redacted] – which is unlikely to be a factor in the investment decision.

If these lower GEA charges also induce lower retail prices, there would be no further impact on the investment case for the third network because there would be no change in the <u>difference</u> in the per subscriber profits of the third network and those in the counterfactual i.e., retail price reductions would affect both equally.

A1.62 In any event, it is far from certain whether reductions in GEA charges would be passed through into lower retail prices and, if so, to what extent. However, if there was some passthrough to lower retail prices there would be an increase in market-wide demand for faster broadband services and hence higher subscriber volumes. This underlines the far more important

A1.63 consideration (and sensitivity) for the business case for a third network, namely, scale. The amount of end users that the new network can attract has a far greater impact than movements in the GEA price – as would be expected given the high fixed costs associated with rolling out the network. It is this factor above all others that makes investment in a third network so risky. Any failure to achieve the target market penetration would have a significant impact. For example, in Sky's modelling of the third network if the retail market share did not increase beyo[redacted]al level of just over then the payback period could increase by [redacted].

A1.64 Given the pressure that high GEA charges are placing on the market shares and volumes of Sky and TalkTalk and the considerable length of time that a third network would take to rollout, the prospects for Ofcom's flagship policy look bleak (irrespective of Ofcom's latest efforts to improve access to BT's ducts and poles). Therefore, it is essential that TalkTalk and Sky remain strong in the meantime – this is best achieved by lowering GEA charges.

<u>Cable</u>

A1.65 For cable, which is currently extending its network by around 30% to pass a further four million homes ("Project Lightning"), the knock-on impact of lower GEA prices on its investment incentives has even less effect.[63] Cable's investment case for extending its network is dependent on the full profits it can earn from the subscribers it attracts to the new, extended network. Lower GEA charges would only have a small effect on these profits.

A1.66 The way in which cable would assess this investment case is entirely different to how Sky would consider the case for building a third network. This is because the counter-factual to the third network against which the investment case is measured is to continue to purchase wholesale services from Openreach in order to supply its broadband subscribers. For Virgin Media's Project Lightning on the other hand, the counter-factual is to do nothing because it does not have subscribers in non-cable areas where it plans to rollout. Therefore, there is no direct impact of GEA pricing on the investment case for Virgin Media's network expansion.

A1.67 The only influence GEA pricing can have on the business case for cable network expansion is if it has an effect on retail pricing and competition. Here, the effect of lower GEA prices is relatively small given it has only the potential to cause a minor reduction in the profits available to Virgin Media from attracting new subscribers to its expanded network.

A1.68 By way of illustration, Virgin Media has announced that its investment in Project Lightning will amount to £3bn and will pass four million premises. We estimate that this project would take [redacted] years to pay back, assuming prudently that Virgin Media achieves [redacted] market share in these areas (compared to c.40% in its pre-Lightning footprint) and that it achieves a gross margin per Lightning subscriber of [redacted] per month.

A1.69 While it is highly unlikely that the full wholesale price reduction would be passed through to retail prices, if monthly GEA prices fell from £7.40 today to £5.00 for example and there was full pass-through, this would only reduce the monthly gross margin that can be earned from cable's Lightning subscribers from [redacted] to a little under [redacted]. The impact of this reduction on the Lightning investment would be to extend the time it takes to pay back by about [redacted] from [redacted] years to [redacted] years. This does not represent a material reduction in Virgin Media's investment incentives on what would remain a highly attractive business case.

BT

A1.70 We have already explained that now the 'fair bet' is over it is appropriate to impose a GEA charge control and that this would not undermine BT's incentives to take investment risks in the future. In the context of BT's investments in faster broadband services, the aboveWACC rewards it will have earned on its FTTC investment (even if a GEA charge control is applied now) should act as a sufficient incentive for it to undertake further risky investments – for example, in extending fibre closer to end user premises.

A1.71 We have also explained that lower GEA prices would (i) only marginally impact cable's network expansion programme (Project Lightning) and (ii) on balance, would increase the prospects for a third network by ensuring that the likely retailers on this network have scale. Accordingly, the level of network competition to Openreach is at least maintained and BT may consider it is necessary to make further network investments to defend its market power.

[63] 'Virgin Media and Liberty Global announce largest investment in UK's internet infrastructure for more than a decade', 13th February 2015 – http://www.virginmedia.com/corporate/media-centre/press-releases/virginmedia-and-liberty-global-announce-largest-investment-in-uks-internet-infrastructure-for-more-than-adecade.html

A1.72 A further important problem caused by high GEA prices is that the benefits that accrue to BT as a result of high wholesale margins and retail market gains distort its investment decisions. By being unduly rewarded for investing in FTTC, it has a continued incentive to invest in this form of technology (including modest forms of G.Fast) at the expense of other more risky investments e.g., FTTP. For now, FTTP cannot offer the same guaranteed above-WACC returns that Openreach now enjoys on GEA. Accordingly, as opposed to incentivising fibre investment, high GEA prices could actually lead to less investment in fibre, particularly by BT.

A1.73 There are parallels between the current situation and BT's rollout of FTTC from 2009. BT's investment in FTTC was not dependent on pricing forbearance on standard, copper broadband which was subject to tight LLU charge controls that had been in place since 2005. This situation did not stymie BT's FTTC rollout and, in fact, may have contributed to BT's decision to make such a risk-taking investment in pursuit of higher returns.

A1.74 It was sufficient for BT's FTTC rollout for there to be no charge controls imposed on GEA initially and clearly the same approach could be appropriate with materially risky investments that BT make elect to make in FTTP.

A1.75 In Sky's view, Openreach's proposed approach to G.Fast investment however may not warrant a similar approach of pricing forbearance. This is because, in its current proposed form whereby G.Fast equipment is installed into or alongside existing street cabinets, it merely represents a relatively modest network upgrade which bears little risk of underrecovery. It is only once Openreach G.Fast deployment begins to resemble FTTP – i.e., where fibre is extended from street cabinets further towards end user premises ("distribution side") potentially with additional equipment such as G.Fast cabinets placed in this part of the network – that it may be appropriate to not impose any charge controls on those services for a period.

IT IS IMPORTANT THAT GEA CHARGES ARE REDUCED QUICKLY

A1.76 High GEA prices are weakening retail competition, harming consumers and reducing the scope for new investment in fibre networks. BT will have earned sufficiently high returns on its FTTC investment to maintain its own incentives to take future investment risks. Therefore it is imperative that Ofcom moves to reduce GEA prices now in order to drive take-up in SFBB.

A1.77 With the publication of the wholesale local access market review still some months away (spring 2017), it could be mid-2018 before Ofcom has finally concluded its review and its price control remedies become effective. This is too long to wait to address the current market failures being caused by high GEA charges. We recommend that Ofcom looks to expedite the introduction of lower GEA charges either by discussing with BT the introduction of voluntary price cuts to start from April 2017 or by exercising its powers to regulate GEA charges in advance of the conclusion of the market review.

A1.78 These are necessary steps whatever the outcome of Ofcom's assessment of the scope for end-to-end infrastructure competition. There will always be large swathes of the UK where such competition is never likely to materialise and who will be dependent on regulated access to Openreach's GEA service for some time to come.

Sky **January 2017**

ANNEX 2 – OFCOM'S TREATMENT OF COMMON COSTS

Ofcom's approach to common cost allocation inappropriately inflates the price of regulated services

A2.1 In its calculation of charge controls for regulated services, Ofcom estimates the long run incremental costs ("LRIC") of providing the service. It then adds a mark-up which is intended to account for the significant fixed costs that are common to all services. These include costs for items such as ducts and poles, which are used to provide both regulated and non-regulated services.

A2.2 However, when adding a mark-up Ofcom's approach appears to include incorrectly both fixed common costs and fixed service-specific costs. It appears that Ofcom has failed to establish whether the fixed costs it distributes across services are actually common across services, or are specific to particular services. Ofcom has therefore incorrectly allocated service-specific costs across multiple services, as common costs.

A2.3 Ofcom calculates the incremental and common costs of service components by applying a ratio of LRIC to the estimated Fully Allocated Cost ("FAC") of each component ("LRIC:FAC ratio"). The problem with this approach is that, while the LRIC:FAC ratio determines the proportion of the cost that is fixed (and would be incurred at zero service volume) and the proportion that is incremental to service volumes, it fails to specify which fixed costs are common as opposed those related to a specific service. The difference between FAC and LRIC – the fixed portion of the cost – is then treated as both a fixed and common cost and allocated over multiple services.

A2.4 Ofcom's approach is flawed as it does not identify whether the fixed component of each cost category is actually common to all services, or incremental to a specific service. An example is the cost category 'Analogue line cards', which has a LRIC:FAC ratio of 55%.[64] This means that 45% of the cost of 'Analogue line cards' is treated as both fixed and common and therefore spread over both WLR and MPF services. However, the fixed proportion of this cost is not common as MPF services could be provided without the minimum configuration of analogue line cards. In this case, the cost should therefore be recovered solely from WLR services as opposed to Ofcom's proposed approach.

A2.5 By failing to identify whether fixed costs are common or specific, the fixed component of a number of cost categories that are not required for the provision of MPF or GEA are incorrectly treated as common costs and therefore allocated to MPF and GEA.

A2.6 The overall impact of this error is to incorrectly inflate the charges for MPF and GEA rental services by c£1 p.a. and c£5 p.a. respectively.

ANNEX 3 – OFCOM'S ESTIMATES OF GEA COSTS

A3.1 Ofcom has developed an independent bottom-up LRIC model to calculate the costs of an efficient GEA network, according to an anchor pricing approach. However, Ofcom's approach is inappropriate and leads to inflated charges for GEA services because it assumes asset lives for GEA equipment that are too short, and fails to determine independently the common costs of GEA services and instead uses BT's FAC estimates.

Ofcom assumes asset lives for GEA equipment that are too short

A3.2 Ofcom bases the asset lives in its bottom-up model on those used by BT in its statutory and regulatory accounts. These asset lives, for network components, are used as an input to both the calculation of depreciation and to the timing of asset replacement capex.

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64 Ofcom CPI-X Model, Non Confidential.

A3.3 Ofcom and BT assume an asset life of 7.1 years for Digital Subscriber Line Access Multiplexers ("DSLAMs") in its GEA network. This assumption is inappropriate for two reasons:

- First, it is inconsistent with Ofcom's approach of modelling the costs of a hypothetical ongoing network ("HON"). This approach estimates the cost of a network that is at steady state and is ongoing, i.e., the network operator is assumed to undertake capital expenditure only to replace assets as they reach the end of their useful life. It does not include capital expenditure for network expansion or upgrade. Carrier grade equipment such as DSLAMs typically have long asset lives and, although they may have an asset life of seven years for accounting purposes, they would not reach the end of their useful life over this time period. In the context of a HON model, where capital expenditure is deployed to replace equipment rather than to upgrade it, an asset life of 7.1 years is too short.
- Secondly, an assumed asset life of 7.1 years is inconsistent with BT's actual FTTC network. This assumption implies that BT would already need to begin replacing the DSLAMs and cabinets it rolled out in 2010 and earlier. We have seen no evidence to suggest that this is the case. As a result of this assumption, Ofcom inflates forecasts of both capital expenditure and depreciation as an unrealistically high number of DSLAMs are assumed to be replaced within the model. Indeed in this case, most of the FTTC DSLAMs are replaced before the end of the charge control period in 2020/21. The leads to an over-statement of the LRIC of GEA services.

A3.4 Under a HON approach, it would be more reasonable to assume a longer asset life of at least 12 years for DSLAMs, to better reflect the technical life of the components.

Ofcom's should independently determine the common costs of GEA services, as opposed to using BT's FAC estimates

A3.5 Although Ofcom has used a bottom-up model to calculate the LRIC of GEA services, its forecasts for common costs to be recovered are based on the difference between BT's calculated FAC for GEA and Ofcom's estimated LRIC for GEA for 2015/16.

A3.6 This means that any differences in the GEA cost between the independently estimated LRIC model and costs implied by BT's FAC model will be simply negated. An independent LRIC model of a HON could imply a lower efficient LRIC cost through differences in modelled network dimension, differences in network costs, or different assumptions regarding cost recovery and asset lives. However, Ofcom's approach ensures that any reductions in cost output from the bottom-up model will be effectively lost by being offset by a corresponding increase in common costs, as Ofcom subtracts LRIC estimates from BT's FAC estimates.

A3.7 We consider that a more appropriate approach is to determine independently the level of common costs that are included in BT's FAC estimates, to avoid including inefficiently incurred costs.

ANNEX 4 – THE SCRAP VALUE OF COPPER CABLES

A4.1 Ofcom includes an adjustment in its charge control calculations to reflect the material value of copper in BT's network that will be realisable once it has reached the end of its useful life.

A4.2 BT currently includes the full value of copper cables in its depreciation charges (depreciation to zero with no residual value) which are an input into charge control calculations. If there was no adjustment to reflect the scrap value of copper in the network, BT would recover the value of the copper cables twice; through both regulated charges, and as a future windfall gain through selling decommissioned scrap copper.

A4.3 Sky therefore welcomes Ofcom's decision to include an adjustment in its charge controls for copper scrap value. However, in estimating the value of scrap copper, Ofcom makes a number of assumptions that seem unreasonable or unclear and lead to it underestimating the value of scrap copper. We set out these errors below.

Ofcom incorrectly excludes all D-side copper from its adjustment

A4.4 Although Ofcom considers whether there may be realisable value in the distribution side (D-side) and the exchange side (E-side) copper,[74] it excludes D-side copper from its estimate of realisable copper scrap value for three reasons:

- first, extraction of D-side copper may be less economically viable than for E-side copper;
- secondly, there is uncertainty about the recoverability of D-side copper as BT does not hold complete records of the materials in D-side cables; and
- thirdly, as long as FTTC is still in use, the D-side cable will still be necessary.[75]

A4.5 According to Ofcom's estimates, there are approximately 152,600 tonnes of copper cable in the D-side.[76] Although the proportion of realisable scrap may be lower in the D-side than the E-side and extraction costs may be higher, there is still likely to be significant recoverable value in the D-side, even if only a small proportion of the cable can be economically extracted.

A4.6 It therefore seems inappropriate for Ofcom to include no scrap value at all for D-side copper cables. It should instead include an adjustment that reflects its best forecast of the likely timing and recoverability of D-side cable. Without such an adjustment, BT stands to enjoy a windfall gain from any recovery of D-side copper scrap.

Ofcom's estimate of the proportion of copper in the E-side appears understated, given the available information

A4.7 BT estimates the split of copper weight between the D-side and the E-side to be approximately 3:2.[77] While the source and method of estimation is not provided by Ofcom in the consultation documents, this does not reconcile with information published by

74 D-side copper lies between Openreach's street cabinets and the customer distribution point, whereas E-side copper lies between Openreach's local exchanges and street cabinets.

75 Paragraph A18.10, WLAMR – Annex 18.

76 Paragraph A18.9, WLAMR – Annex 18.

77 228,600 tonnes in the E-side and 152,600 tonnes in the D-side. See paragraphs A18.9 and A18.28, WLAMR – Annex 18.

Openreach[65] which states that the ratio of line length for a typical pair between the D-side and E-side is 3.6:1. This suggests a much greater proportion of copper (140% more) in the E-side than estimated by BT.[66]

A4.8 The available evidence suggests that there is a significantly higher proportion of copper in the D-side than estimated by BT, and that the value of the D-side copper estimated by Ofcom is therefore understated. In the interests of transparency, the methodology for BT's estimate of D-side copper should be explained clearly to allow stakeholders to understand the significant disparity with publicly available evidence.

[65] Openreach, 'Next Generation Access – a Strategy for Volume Deployment', 9 March 2011. Available here: http://www.bcs.org/upload/pdf/sfisher-090311.pdf

[66] Although there may be factors that could reduce the proportion of copper in the E-side compared to the Dside, such as the proportion of aluminium in the network, which may be more prevalent in the D-side, Ofcom has provided no evidence or justification for BT's estimated ratio of 3:2.

ANNEX 5 – SKY'S DETAILED RESPONSE TO OFCOM'S PROPOSED DPA REMEDIES

A5.1 Sky acknowledges that, in principle, infrastructure competition can deliver substantial benefits to consumers and businesses by exposing more of the network value chain to investment, innovation and differentiation. In practice however there is a hard trade-off in that the more duplication of expensive passive infrastructure there is, the harder it becomes for competing networks to reach the necessary scale – in terms of end users – to make network investment viable. This issue is more pronounced in local access networks where the necessary capital investment is greatest and demand is finite.

A5.2 In principle therefore reducing network duplication – particularly of passive network elements such as ducts, poles and cables – can improve the viability of FTTP investment cases while still leaving scope for innovation and differentiation in the active network components that are connected to the fibre cables, e.g., network routers and customer premise equipment.

A5.3 However, it is doubtful whether the lower capital investment from sharing BT's ducts and poles infrastructure would be sufficient to result in large-scale deployment of new FTTP networks because: (i) the main risk to these investments relates to uncertainty over future returns from attracting enough end users to the new network which is not materially altered by being able to use DPA; and (ii) FTTP network deployment costs are still high. Given this enduring challenge to the DPA business case, Ofcom should also consider other options for stimulating full fibre network deployment.

A5.4 On balance therefore it is important that measures taken to improve the viability of DPA do not come at the expense of the other important services that also utilise BT's ducts and poles in its local access network and which are likely to deliver far greater benefits than sub-scale DPA based entry.

A5.5 We comment on Ofcom's detailed DPA proposals below.

The need for a non-discrimination requirement for the provision of DPA

A5.6 As Ofcom correctly acknowledges, it is important that some form of non-discrimination requirement is imposed on BT "…*ensu*[r]*ing that Openreach does not have an unfair advantage over competing network builders*." [67] For instance, ensuring that there is no undue discrimination is important in order to prevent BT from favouring its own FTTP investments or other competing services.

A5.7 Ofcom is proposing not to enforce strict equivalence of inputs ("EoI") but is instead considering that a 'no undue discrimination' obligation is more proportionate.[68] Clearly this is inconsistent with Ofcom's stated aim for the scale of DPA-based entry (c. 40% of the UK). At that level, EoI would be a more appropriate approach.

A5.8 However Sky considers the scope for DPA to be far lower and, on that basis, recognises that enforcing an EoI obligation may not be proportionate. In these circumstances, introducing KPIs and a non-discrimination obligation will go some way to alleviating Openreach's ability to give superior infrastructure access to its own FTTP builds.

DPA-based networks should be able to be deployed for 'mixed' usage

[67] Paragraph 5.28, Ofcom's 'Wholesale local access market review: Consultation on Duct and Pole Access remedies', 20 April 2017 ("Ofcom's 2017 DPA Consultation").

[68] Paragraph 5.48, Ofcom's 2017 DPA Consultation.

A5.9 In Sky's PIA response, we supported the proposal to enable FTTP builds over Openreach infrastructure to benefit from economies of scope, through allowing such networks to also provide business connectivity services – as long as those builds offered primarily broadband services – i.e., a 'mixed usage' rule. Ofcom is now proposing to allow DPA to be used for mixed purposes – a step which Sky supports.

A5.10 Given Ofcom's proposal[82] that Openreach is to judge whether deployments meet this criteria for network access, it is important that Ofcom provides a clear definition of mixed usage to ensure that: (i) Openreach is not permitted to withhold network access unless the mixed usage criteria are clearly not met; and (ii) that CPs do not 'game' the rules in order to use DPA primarily, or solely, for business connectivity services.

Ensuring there is sufficient DPA capacity when required

A5.11 Where a reasonable request is made for DPA and there is insufficient capacity, Ofcom is proposing to require BT to take steps to either free up existing infrastructure or to build additional DPA infrastructure. This is appropriate because:

- the approach mirrors the internal process that BT uses to provide its own network; and
- PIA users are unlikely to build *ad hoc* sections of non-contiguous network themselves, for risk that such assets may in future become stranded with little or no terminal value.

Capacity in the distribution network

A5.12 It is also reasonable for Ofcom to make a distinction between fixing or upgrading the capacity of the existing infrastructure and extending the network. Where a DPA user requests:

- the repair or upgrade of existing plant, strict SLAs with associated penalties will be required to ensure Openreach does not hinder the deployment of competing networks; and
- an extension to Openreach plant in order to provide access to premises that are currently not connected, Ofcom should issue clear guidance on Openreach's right to refuse such requests where unreasonable and require strict SLAs on provision where such requests are accepted.

Capacity in the lead-in network

A5.13 As a general point, Sky considers that Openreach should be responsible for providing a usable lead-in network and that DPA users should be able to request Openreach to provide a fibre final drop cable on a rental basis.[83] This is because if competing networks have to install their own final drops, there will be an additional cost when a premises churns off the network – either in the form of costs to remove the redundant in-situ drop, or an ongoing DPA charge if the drop is left in place.

[82] Schedule 1, condition 3.1, Ofcom's 2017 DPA Consultation.

[83] Paragraphs 25 – 29, Sky's PIA response.

A5.14 The DPA user's main rivals – Openreach and cable – would be at a further competitive advantage if this were the case because they do not incur the ongoing charge when customers churn. In particular, for Openreach providing downstream services, any underlying costs (such as depreciation of the final drop) are recovered as common costs across all of its lines.

A5.15 In the case of overhead drops, we remain supportive of Ofcom's 2016 proposal that Openreach should be obliged to replace copper drop cables with hybrid copper/fibre cables (or fibre-only, if Openreach prefers). However Ofcom is now considering a scheme whereby Openreach has some flexibility in selecting which method of overhead lead-in capacity is made available.[69] The risk with this is that Openreach can frustrate DPA users by choosing the least convenient option, rather than the most optimal physical or economic solution.

A5.16 In the case of underground drops Sky maintains that lead-ins would be most economically supplied by Openreach because the DPA user avoids the costs of either ongoing DPA rental or recovering lead-ins once a customer has churned. Accordingly, we disagree with Ofcom's view that "…*there is no obvious benefit to requiring Openreach to install a new leadin compared to competing telecoms providers building their own infrastructure*."[70]

A5.17 Notwithstanding the above, we support Ofcom's proposal[71][72] that where underground leadin duct is unavailable, Openreach should be obliged to install footway boxes to provide access to spine duct passing the target premises. From a DPA user's perspective this is preferable to the costly building of new lead-in back to the distribution point.

Cost recovery

A5.18 In our response to Ofcom's 2016 consultation,[87] Sky raised concerns about the risks of significant costs driven by DPA deployments mostly serving the business connectivity market being recovered across a wide range of Openreach products. Ofcom's proposals in the current consultation that PIA is only made available subject to a mixed usage condition should largely address this issue.

A5.19 Ofcom also suggests an additional layer of control through setting caps on the level of DPA-related expense that can be recovered through Openreach's common costs pool. Any costs in excess of this level would be recovered from the DPA user. While setting such a financial limit (per KM) on the distribution network or on per premises for lead-in network could be an effective way of ensuring costs remain proportionate, it is unclear how certain aspects may be implemented.

A5.20 If the permitted expense per KM that can be allocated to common costs is based on a national average, this may result in DPA take-up only in those network areas where the build cost is within the limit (allowing DPA users to avoid any excess charges). It is important that the methodology used to set the financial limit avoids distorting the incentives of where to use DPA.

[69] Paragraph 4.41, Ofcom's 2017 DPA Consultation. See in particular footnote 71.

[70] Paragraph 4.37, Ofcom's 2017 DPA Consultation.

[71] Paragraph 6.183, Ofcom's 2017 DPA Consultation.

[72] Paragraphs 7 – 12, Sky's PIA response.

ANNEX 6 – SKY'S RESPONSE TO OFCOM'S 2017 CONSULTATION ON ITS 'PROPOSED QUALITY OF SERVICE REMEDIES FOR WLR, MPF AND GEA'

A6.1 Sky has a long-standing and deep-rooted commitment to delivering the best customer service in the UK. This delivers good outcomes for customers and is an important way to differentiate ourselves from our competitors. Sky's focus on customer service continues to yield positive results. In the recent Comparing Service Quality report, Ofcom reported that Sky had the lowest number of complaints for broadband and landline services and has the highest overall satisfaction with reliability of all CPs on the Openreach network.[73]

A6.2 Good customer service depends on effective provisioning and Sky's ability to respond to issues – directly or via Openreach – and resolve faults efficiently when they arise. However Openreach's service quality has not been good enough – in part, because it has not invested enough in the health of its network – and while the more stringent MSLs proposed by Ofcom will go some way towards improving quality, Sky is concerned that they do not go far enough.

OPENREACH HAS FAILED TO INVEST ADEQUATELY IN THE HEALTH OF ITS NETWORK

A6.3 Since the last market review in 2014, Openreach has continually underperformed in relation to the quality of service delivered to end users.

A6.4 A key cause of Openreach's poor performance is its failure to invest adequately in its network, systems and processes over the last decade[74] which has resulted in persistently high fault rates on the Openreach network. According to Ofcom:[75]

- annual fault rates for lines that support SBB services (MPF and WLR+SMPF) have remained broadly stable at around 11% from 2011/12 to 2015/16;
- fault rates for WLR have remained around 8%; and
- while fault rates for fibre-based broadband (MPF+GEA-FTTC and WLR+GEA-FTTC) have reduced over the period, they have stabilised around 12 – 13%.

A6.5 Ofcom says that this under-investment means that Openreach's approach of favouring opex over capex has led to cash savings but has not resulted in excess profitability.[76] However, BT's failure to invest in the underlying network will also benefit BT Consumer (at the expense of other CPs operating on the Openreach network) as it has the largest retail customer base and, therefore, benefits from reduced switching brought about by poor quality of service.

A6.6 Sky welcomes Openreach's recent acknowledgement that it has failed to invest adequately in the health of its network and its proposed introduction of its Fault Volume Reduction ("FVR") programme. According to Ofcom under the FVR, "*Openreach aims to reduce the network fault rate from its current position of 110 faults/1000 lines p.a. by at least 10% (i.e., to less than 99 faults per 1000 lines).*"[77]

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[73] Pages 9 – 10, Comparing Service Quality report.

[74] See, e.g., paragraph 4.44, 2017 QoS consultation where Ofcom notes that *"…despite the increasing quality of service demands since the introduction of repair quality standards in 2014, it appears that Openreach has invested lower than expected capex in its network over the last five years … Instead, it appears that Openreach has opted to spend higher opex during this period. If Openreach maintains this approach, there is a risk that fault rates would increase. Even if Openreach spends sufficient opex such that it continues to meet repair quality standards, the outcomes for customers would be worse given the stress and inconvenience associated with faults."*

[75] Figure 4.3 and paragraph 4.24, 2017 QoS consultation.

[76] Paragraph 4.41, 2017 QoS consultation.

[77] Paragraph 4.49, 2017 QoS consultation.

A6.7 While this is a step in the right direction, it does not go far enough. In fact, at best Openreach's FVR will reduce the fault rate for SBB to just below 10% and the fault rate for WLR to just over 7%; still well in excess of the level achieved in 2009.

A6.8 We agree with Ofcom's proposals in relation to the recovery of FVR costs in the charge control. Ofcom must be guided by the principle that BT can only recover its efficiently incurred costs. Therefore, we support Ofcom's proposal to incentivise Openreach to improve the fault rate by incorporating that lower rate into the charge control and we agree that BT should not be given an additional cost allowance in the charge control to carry out network health improvements.

OFCOM'S PROPOSED REMEDIES FOR FAULT REPAIRS WOULD FAIL TO DEAL WITH THE MAIN SERVICE FAILURES

Repairs completed within SLA timescales

A6.9 Ofcom's proposal is to increase the repair within MSL to 93% at the end of the review period. However, Ofcom's proposed glide path unnecessarily delays these essential improvements to Openreach's service quality. Ofcom's proposed MSL for 2018/19 of 83% would be a retrograde step given that Openreach is currently meeting its LLU repair target approximately 85% of the time for MPF SML1 and approximately 87% for MPF SML2. Accordingly, Sky considers that the target for the first year should be higher.

Quality standards for faults repaired at +5 working days

A6.10 Sky supports Ofcom's proposal to set a 97% standard for repairs completed 5 working days beyond the MPF SML1 and MPF SML2 timescales. This is an important corollary to Ofcom's enhanced MSL for repairs completed within SLA timescales and will help reduce the consumer harm caused by the 'long tail' of repairs that are completed well beyond the contractually agreed timescales. Sky agrees with the linear glide path that Ofcom proposes.

Early Life Failures, Dead on Arrivals and Repeat Faults

A6.11 The three most significant causes of consumer harm for Sky are:

- DoAs – when a fault develops within 8 calendar days of installation;
- ELFs – where a fault develops within 28 days of installation; and
- repeat faults – where a second fault develops within 28 or 30 days of a previously closed fault repair.

A6.12 Ofcom recognises that these are causes of consumer harm and, in relation to DoAs and ELFs, suggests that "[i]*ncreasing DoA or ELF rates could be a signal of poor Openreach workmanship which, in turn, affects the provision of network access to telecoms providers.*"[93]

A6.13 Ofcom argues[78] that its proposed, narrower set of MSLs for provisioning and repair are sufficiently stretching such that Openreach will have to reduce fault rates significantly in any event in order to meet the new standards[79]. This constraint is inadequate. It is very similar to the view Ofcom expressed in the last market review[80] where, in relation to MPF, Ofcom imposed a MSL for repair completion within SLA timescales. This MSL increased from 67% to 77% over the review period. Nevertheless, Openreach's performance in relation to DoAs, EFLs and repeat faults for MPF was very poor over the market review period.

A6.14 In the absence of any specific evidence that Ofcom's proposed enhanced MSLs for repair will improve DoAs, ELFs and repeat faults, Sky urges Ofcom to introduce new specific MSLs which set out the number of DoAs, ELFs and repeat faults which BT is allowed to incur within each period of the market review.

Early Life Failures

A6.15 Sky strongly disagrees with Ofcom's suggestion that *"… the incidence of WLR and MPF installations that are or become non-operational immediately or soon after the installation has been completed has remained at a relatively low and stable state for a sustained period.*" [81] This is not borne out by either Ofcom's or Sky's evidence.

A6.16[82] In the last 12 months, close to Sk[redacted]mers reported a fault with their LLU product which occurred within 28 days of installation of the new line. This accounted for over % of all orders. Of th[redacted], over (around [redacted]%) reported a fault which occurred within 8 days of installation. Sky's FTTC customers had a similar experience with over [redacted] ([redacted]%) reporting a fault within 28 days and, of that, over [redacted] ([redacted]%) reporting a fault within 8 days (see Figures A6.1 and A6.2).

78 In relation to repeat faults, e.g., Ofcom notes at page 108, 2017 QoS consultation that it *"… would be concerned if the repeat fault rate for any access service rose as a direct consequence of higher QoS standards".*

79 We note that this improvement in faults does not come at any additional cost. See, e.g., paragraph 4.3, 2017 QoS consultation.

80 See, e.g., paragraph 11.371, 2014 FAMR statement.

81 Paragraph 6.123, 2017 QoS consultation.

82 Page 107, 2017 QoS consultation.

[redacted]

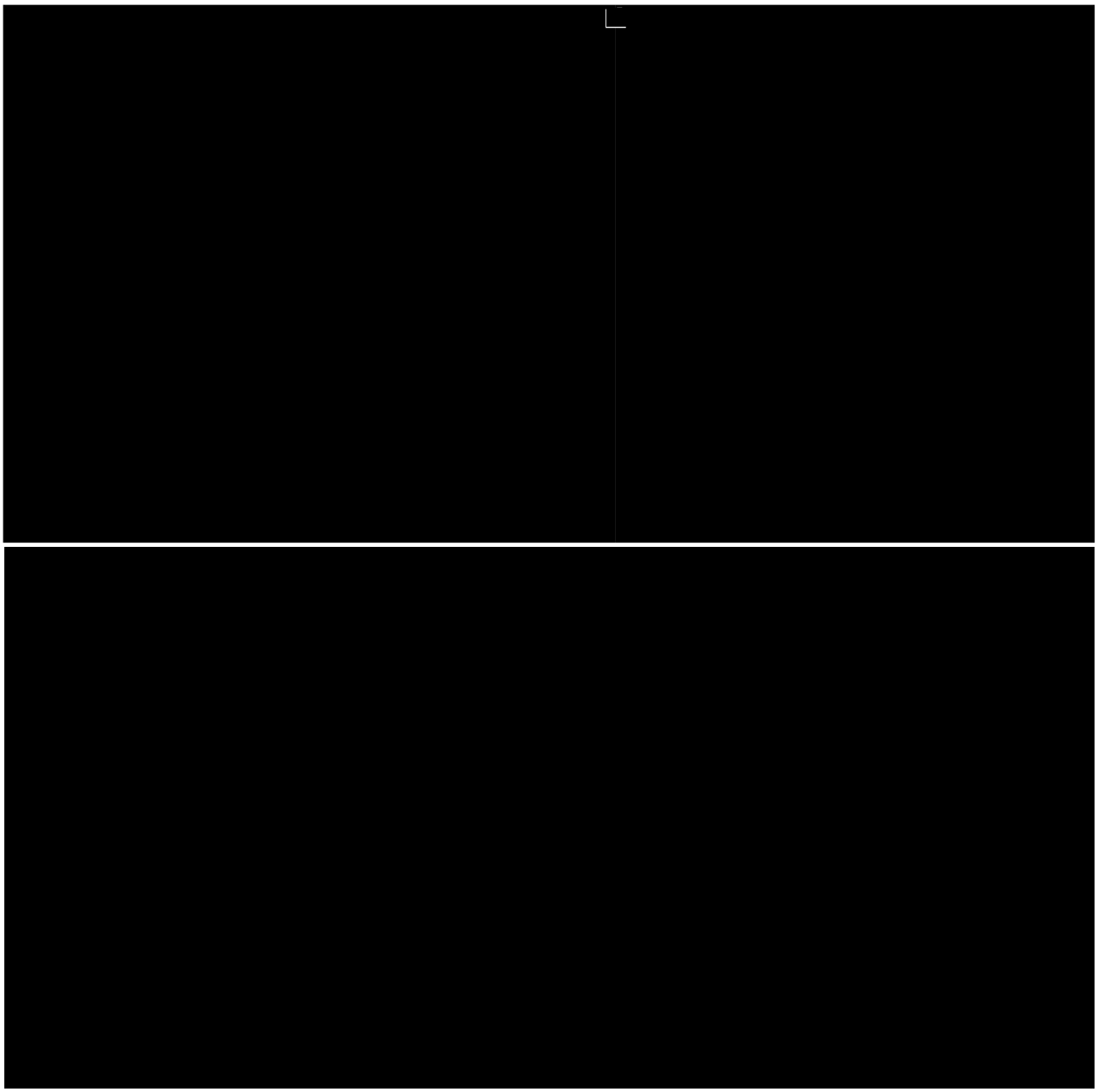
[redacted]

A6.17 This is also confirmed by Ofcom's own analysis (as set out in Figure A5.30 of the 2017 QoS consultation) which demonstrates that Openreach's performance in relation to ELFs since the last review has been poor. The annual ELF rate for MPF has increased from around 4% to over 5% and the annual ELF rate for MPF+NGA has almost doubled from 3% to close to 6%.

Repeat Faults

A6.18 In the last 12 months, over [redacted] Sky customers reported a fault with their landline or broadband service which we subsequently sent to Openreach. Around [redacted]% of customers require a second engineering visit during the 12 months from the first repair and over [redacted]% have such a poor fault experience that five or more engineering visits are required (see A6.3 and A6.4).

- [redacted]
- [redacted]



A6.19 In addition, Openreach's KPIs (as set out in Figure A6.32 of the 2017 QoS consultation) clearly demonstrate that Sky's experience is part of a wider industry trend. The incidence of MPF repeat faults has fluctuated around 11.5% while the incidence of FTTC repeat faults has increased from around 10% to over 12%. This is despite Openreach being subject to a MSL for MPF repair completion within SLA timescales which increased from 67% to 77% over the review period.

Ofcom's approach does not go far enough

A6.20 Ofcom proposes to:

- introduce a new KPI for orders classified as DoAs and ELFs and to retain its KPI on repeat faults rather than introduce specific regulation; and

- [redacted]
- [redacted]
- increase the MSLs for repairs and on-time installations.

A6.21 Ofcom has not however produced any evidence to explain why these proposals will have any meaningful impact on Openreach's ELF, DoA and repeat fault rate. In the absence of any specific evidence, Sky urges Ofcom to introduce new specific MSLs which set out the number of DoAs, ELFs and repeat faults that BT is allowed to incur within each period of the market review. This will help ensure that BT prioritises its resources towards fixing problems when they first arise and will help reduce the level of consumer harm caused by DoAs, ELFs and repeat faults.

A6.22 While Sky has a strong preference for Ofcom introducing additional MSLs, an alternative approach is to amend the current MSL for repairs completed within SLA timescales by incorporating an allowance for repeat faults into that standard and to amend the current MSL for on-time installations by incorporating an allowance for DoAs and ELFs into that standard. If Ofcom adopts this approach, the best way to incentivise BT to fix the problem caused by DoAs, ELFs and repeat faults – rather than maintain them at the current level – is to introduce a glide path which reduces the DoA, ELF and repeat fault allowances over the market review period.

A6.23 These new (or enhanced) MSLs should come at no additional cost to CPs.

A6.24 Finally, Sky welcomes Ofcom's suggestion that it will continue to assess Openreach's KPI performance and that, if it detects potential concerns, it may use its direction-making powers to set additional regulation.[83] Sky considers that Ofcom must be able to respond quickly to serious problems in relation to Openreach's quality of service as they arise, rather than waiting until the next market review.

A6.25 If Ofcom decides not to introduce new MSLs on DoAs, ELFs or repeat faults, or amend the current MSLs on repairs and on-time installations, Sky considers that Ofcom should provide more clarity about when it would consider using its direction-making powers. In the absence of a credible and specific threat of regulation, Sky does not consider that Ofcom's proposed approach will adequately incentivise BT to prioritise its resources to fix the problems caused by DoAs, ELFs and repeat faults.

OFCOM'S REMEDIES FOR INSTALLATIONS DO NOT GO FAR ENOUGH

A6.26 In the past 12 months, the vast majority of new line provides which required an Openreach engineer to attend a customer premise took 10 calendar days or longer to provide. A significant volume (63,700) took longer than 30 days. This sub-standard level of service quality has persisted over time.

A6.27 In addition to this, the date that Openreach commits to deliver the service (the Contractually Committed Date or "CCD") is often different to the date requested by a customer (the customer request date or "CRD"). From April 2016 to March 2017, for example, close to [redacted] 'New Line Provide' orders per month had a different CCD to the CRD.

[83] Paragraph 8.56, 2017 QoS consultation.

A6.28 This poor service is unacceptable and causes significant consumer harm. It results in long delays between the date on which a sale is made and the eventual date the service is delivered. It also makes it difficult for Sky to manage customer expectations about when a service will be delivered.

A6.29 On top of this, Openreach engineers fail to turn up to large numbers of appointments or fail to complete line installations. For example, in the year to March 2017 Openreach missed close to (on average) [redacted] appointments per month to install new lines ordered by Sky customers, and when an appointment was finally met, a further [redacted] jobs per month were not completed.

A6.30 To help improve Openreach's performance, Ofcom proposes to:

- increase the MSL on the percentage of WLR and MPF appointments completed on the date agreed between Openreach and the customer from 90% to 95% and to extend that MSL to GEA-FTTC. Ofcom considers that "… *higher levels of certainty that Openreach will complete orders … on the agreed delivery date are appropriate and necessary to sustain effective downstream competition and meet the rising demands of telecoms providers and their customers*" [84];

- increase the appointment availability MSL from 80% to 90% over the review period; and

- maintain a slightly amended KPI on the provisioning of all orders against the CCD.[85]

Ofcom should introduce a new KPI which tracks the CRD against the CCD

A6.31 While Sky supports Ofcom's proposal to increase the MSL from 90% to 95%, this fails to address all of the problems. Openreach has, for instance, no regulatory constraint or

[redacted]

[84] Paragraph 6.35, 2017 QoS consultation.

[85] Page 106, 2017 QoS consultation.

incentive to provide a CCD which matches (or is close to) the CRD. The overall impact of this is that Openreach can avoid paying Service Level Guarantees ("SLGs") for late delivery by 'playing safe' and pushing out the CCD as far out as possible.

A6.32 To manage this process better, Sky requests that Ofcom introduce a new KPI which tracks the CRD against the CCD (e.g., by requiring Openreach to provide the percentage of orders for which the CRD matches the CCD).

Moving appointment availability to 90% over the review period and shortening lead times to 8 working days

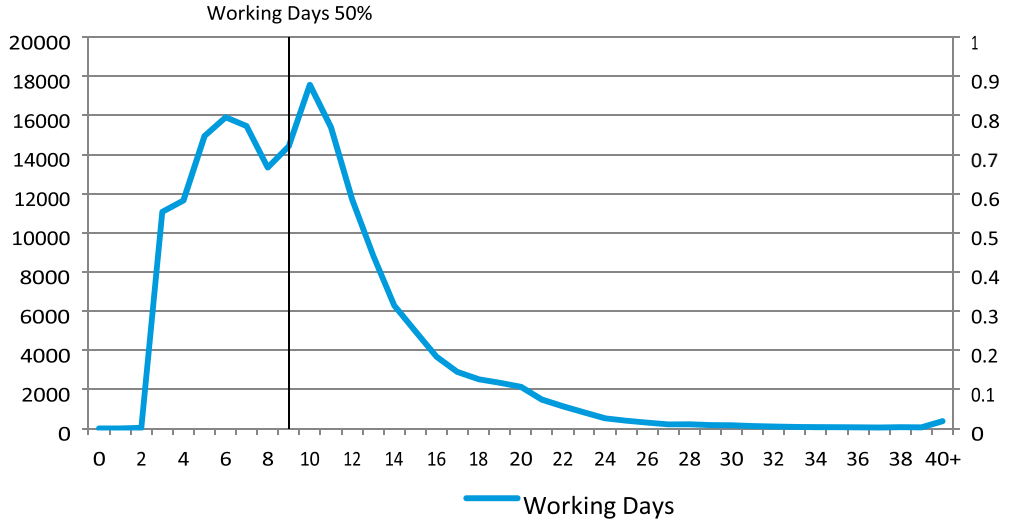
A6.33 Sky welcomes Ofcom's proposals to shorten the lead time for first available appointment and to increase the appointment availability MSL over the review period. Taken together, however, Sky does not consider that Ofcom's proposals go far enough.

A6.34 Ofcom's evidence demonstrates that, over the course of the majority of the previous market review period:

- Openreach offered a first available appointment for WLR and MPF generally below 10 working days; and
- Openreach performed in excess of the previous MSL requiring that it offer a first available appointment within 12 working days 80% of the time.

A6.35 Ofcom also reports that Openreach data shows that, when it offers an installation appointment within six working days of an order being placed, fewer than 50% of these appointments are accepted.[86] As demonstrated in Figure A6.6, Sky's own provisioning data demonstrates that there is significant consumer demand for shorter lead times (e.g., over the last 90 days, 50% of MPF orders accepted an appointed time of less than 10 working days from the order date).

Figure A6.6: MPF Appointed Lead Time Spread – Last 90 days[87]



A6.36 Sky's preferred approach, therefore, is that Ofcom adjusts its lead time MSL to 8 working days by 2020/21 to meet reasonable customer expectations. To support this adjustment,

[86] Paragraph 6.77, 2017 QoS consultation.

[87] Internal Sky provisioning data for the period up to 18 May 2017.

we also recommend that Ofcom adjusts its proposed glide path such that that Openreach must meet the 10 working days standard by 2019/20.

A6.37 Sky does not see the need to delay reducing the lead time until 2020 to allow *"a period in which telecoms providers might adjust their installation processes to seek to deliver services to their customers more quickly"*.[88] From an operational perspective, Sky does not need to adjust its systems to take advantage of shorter lead times unless the proportion of first available dates lower than 5 working days becomes significant.[89]

A6.38 However, if Ofcom only decides to lower the lead time MSL to 10 working days, then to help ease the transition from 12 to 10 working days Sky considers that the appointment availability MSL for 2019/20 should be increased to 12 working days at 95%.

A6.39 Importantly, however, a reduction in the lead time MSL to 8 working days by 2020/21 should come at no additional cost to CPs.

THE CIRCUMSTANCES WHERE BT CAN DECLARE MATTERS BEYOND ITS REASONABLE CONTROL SHOULD BE MORE CLOSELY PRESCRIBED

A6.40 Sky notes Ofcom's principle that an allowance will continue to be made for matters beyond Openreach's reasonable control ("MBORCs"). However, Sky considers that Ofcom's proposed approach to MBORCs affords Openreach too much discretion and insufficient scrutiny.

A6.41 Ofcom's proposed approach is to:

- make a 3% allowance for MBORCs for its MSL on repairs completed within SLA timescales. This allowance is *"based on a 'worst case' scenario in order to provide certainty to Openreach that extreme weather-related events do not have an unintended consequence in its ability to meet its regulatory obligations"*.[90] In addition, Ofcom proposes to retain high level exemptions to the repair MSL in up to two regions per year, for up to 8 weeks per event; and

- continue to allow a fixed 1% allowance for local MBORC events for its MSL on ontime installations and its MSL installation appointments, as well as continuing to maintain an allowance for time-limited high level MBORC events in two regions per year.

A6.42 In addition, Ofcom proposes to amend BT's KPIs in relation to the percentage of repairs and installations affected by MBORCs. These changes are designed to *"ensure that BT's use of MBORCs would be open to scrutiny and that any trends or biases in the declaration of MBORCs would be visible."* [91]

A6.43 Sky supports any proposal to improve scrutiny of Openreach's use of MBORCs. However, the appropriate use of MBORCs still needs to be:

- restricted to more closely prescribed *force majeure* circumstances;

- fully explained and justified at the time of declaration with evidence where available;

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88 Paragraph 6.81, 2017 QoS consultation.

89 Sky retains a lead time of five working days to enable it sufficient time to send equipment (e.g., a router) to new customers.

90 Paragraph 5.86, 2017 QoS consultation.

91 Page 107, 2017 QoS consultation.

- open to a dispute referral to Ofcom; and

- closed as soon as reasonably practical, to avoid BT benefiting from forbearance from its commercial requirement to pay SLGs for any longer than is appropriate and proportionate.

A6.44 In any event, if retail CPs are required to pay automatic compensation to consumers even if a MBORC has been declared (as is proposed in Ofcom's consultation on 'automatic compensation'), then it is essential that BT is also required to pay out SLGs even when a MBORC is in place.

SKY SUPPORTS REMOVING THE CAP ON SERVICE LEVEL GUARANTEES

A6.45 Sky agrees that removing the compensation cap on SLGs for installations and repairs that take more than 60 working days to complete is the best way of incentivising Openreach to address the problems caused by the 'long tail' of late installations and repairs.[92] The long tail causes considerable consumer harm and can disproportionately affect groups of vulnerable and disadvantaged customers. Removing the SLG cap removes the incentive on Openreach to avoid repairing faults and meeting orders that experience delays of 60 days or more over SLA and fits with Ofcom's (and Sky's) overall objective to improve the health and reliability of the entire network.

SKY IS WORKING WITH OPENREACH AND INDUSTRY TO DEVELOP A NEW BROADBAND STANDARD

A6.46 Openreach's current approach to diagnostic testing does not provide sufficient information to ensure that customers will receive the speeds promised to them when they purchase a broadband service. Currently, Openreach only assesses the suitability of a customer's copper line using an electrical test which classifies the line as Line Test OK ("LTOK") or Line Test Not OK ("LTNOK"). The test makes no allowance for two essential performance measures: speed and stability of the line.

A6.47 Under Openreach's 'big data' initiative, Sky has supplied Openreach with service layer data of the speed and reliability achieved by different ADSL2+ lines (at various different line lengths) from its broadband systems. From this big data initiative, Openreach:

- identified five different performance categories which allow it to define an acceptable speed for any given line length; and

- developed an instability index which attempts to define an acceptable level of stability for an individual line.

A6.48 The overall objective of the additional performance metrics is to ensure that lines that are underperforming in terms of speed or stability will not be considered to be acceptable even if they have passed the LTOK standard.

[92] Paragraphs 5.100 and 6.115, 2017 QoS consultation.

A6.49 Once these performance metrics are better developed, Sky and TalkTalk may submit a Statement of Requirements ("SoR") to Openreach, requesting that Openreach develop a new, future-proof diagnostic test for broadband. Sky remains concerned, however, that BT will not have an incentive to develop a new diagnostic test quickly, given that it may increase the amount of in-tariff repairs that Openreach is required to perform. Therefore, if Openreach delays commercial negotiations through the OTA2 process, Ofcom should remain ready and willing to intervene.