CityFibre

Wholesale Local Access Market Review and Duct and pole Access

Response submitted by CityFibre Infrastructure Holdings PLC

21st June 2017

Contents

CityFibre's response to Ofcom's Strategic Review of Digital Communications

Published 16th July 2015

1 Introduction

1.1 About CityFibre

1.1.1 CityFibre provides fibre connectivity services through designing, building, owning, and operating fibre optic network infrastructure. The Group is a wholesale operator of fibre networks in towns and cities outside London which provide open access, shared fibre infrastructure that enables gigabit-capable connectivity for service providers and mobile network operators, who in-turn deliver digital connectivity solutions to their end customers spanning the public sector, business, mobile operator and residential markets.

1.1.2 CityFibre operates across the UK, and currently has full fibre optic metropolitan area networks in 42 towns and cities including: Aberdeen, Bristol, Coventry, Edinburgh, Glasgow, Manchester, Milton Keynes, Peterborough, and York. Furthermore, the Company owns and operates a long-distance fibre-optic network that interconnects 24 of its current towns and cities. In York, we are a partner in a joint venture that has constructed a Fibre to the Premises (FTTP) network connecting homes, small businesses and public buildings.

1.1.3 CityFibre is a provider of 'full fibre' infrastructure, meaning there is no copper or co-axial cable used for the provision of data connectivity services in CityFibre's networks. This sets it apart from other infrastructure competitors, who rely heavily on legacy copper and co-axial cables connecting to premises on all but a small percentage of their networks.

1.1.4 CityFibre's network is constructed to provide high capacity fibre infrastructure that serves four primary market verticals:

- Public sector – fibre connectivity to council buildings, schools, hospitals, CCTV;
- Business – fibre connections to enterprises and SMEs;
- Mobile operators – fibre connections to mobile base stations and small cells for 4G and future 5G mobile services; and
- Consumers – fibre connections to homes. The York trial, referred to above, is a first step in what we expect to be a substantial expansion of our networks to deliver 'full fibre' (FTTP) in a growing number of the towns and cities where we have physical presence (see below).

1.1.5 As at 31 December 2016, CityFibre operated 2,244 kilometres of metro local access duct and fibre networks across 42 towns and cities, as well as a 1,139 kilometres national long

distance network connecting 22 towns and cities to data centres in London and the UK regions, as illustrated in the map below.

1.1.6 [✂]

The structure of this response

(1) Executive Summary

(2) Ofcom's policy objectives and the impact on FTTP investment and take-up

(3) Ofcom's proposed market definition and market power assessment

(4) Ofcom's proposed remedies

(5) Switching issues

(6) Ofcom's approach to remedies

(7) The PIA remedy

(8) VULA pricing and cost recovery

(9) PIA pricing and cost recovery

2 Executive Summary

2.1 Introduction

2.1.1 CityFibre welcomes Ofcom's consultations on the WLAMR and the associated consultations on DPA and quality of service (QoS). This response addresses all of those consultations together as they are all close interrelated.

2.1.2 As one of the largest investors in fibre networks in the UK, CityFibre welcomes Ofcom's clear policy statements of support for investment in fibre networks across the country. CityFibre also recognises that Ofcom has to balance measures that promote longer term goals such as investment in new fibre networks with some degree of consumer protection in the short term until competition becomes effective.

2.1.3 CityFibre is, however, very disappointed by the specific proposals in the WLAMR, in particular by the charge control proposals which, if implemented, would result in setting the price level for the 40/10 VULA product at a level that could harm the prospects in FTTP network roll-out in the UK.

2.1.4 We welcome Ofcom's proposals to improve the currently weak PIA product and thereby create a remedy that can support FTTP network roll-out at scale. CityFibre's PIA trial in Southend has provided useful insight into how the remedy works today and how it should be changed to create a fit-for-purpose vehicle for competitive network construction. Having said this, DPA is not a panacea. The existence of fit for purpose DPA will substantially improve the speed with which new fibre networks can be rolled out, but this is only one of a range of measures required to create a viable climate for large-scale FTTP rollout. We note that specific price regulation of PIA is to be the subject of a separate consultation. In general, the principles outlined by Ofcom now are sound, though care will be needed to ensure that regulation does not send inefficient 'build/buy' signals to service providers.

2.1.5 As CityFibre is not currently a user of BT's active wholesale services, it does not comment on Ofcom's detailed proposals of how to ensure that Openreach's quality of service is improved. Ultimately, CityFibre agrees with Ofcom that the best way of addressing quality of service issues is to facilitate competition at the deepest possible level in the network. CityFibre is however surprised to see that Ofcom proposed to mandate significant quality of service improvements for Openreach, but proposes to allow no capital expenditure to achieve this and also proposes to set BT's operational expenditure at a level that could only be achieved once the quality of service improvements have been implemented.

2.2 WLAMR Proposals

2.2.1 At first glance, the WLAMR promises to deliver tangible action to support investment in and roll-out of competitive FTTP networks across much of the UK. The specific remedies set out later in the document and the detailed assumptions made by Ofcom in calculating the appropriate cost level for the VULA charge control, however, are not consistent with the overall policy messages in the document.

2.2.2 Ofcom has seriously misjudged what regulatory actions are required to support the FTTP 'revolution' in the UK and also the impact of the remedies actually proposed:

(1) First, Ofcom has judged that substantial price reductions for the 40/10 VULA product should be imposed. [✂] A non-binding stated intention to not impose price regulation on higher speeds in the future is a very minor step, and has had little apparent effect on market sentiment, including that of the communications providers to whom this message is presumably directed.

(2) Second, to promote the construction of competitive FTTP networks, Ofcom needs to create a regulatory environment where those operators that invest in and construct the FTTP networks are protected to a certain extent against anti-competitive behaviour by the incumbent, but Ofcom has not addressed this point at all. The tools are readily available to Ofcom to address this, which makes this omission particularly surprising.

2.3 Construction of the charge control

2.3.1 Ofcom's modelling assumptions are biased towards achieving the lowest possible 40/10 VULA price. For example, considering the assumptions used for FTTP rollout, common cost allocation and quality of service we have identified that:

(1) total FTTP rollout by CPs in 2020/21) [✂];

(2) common costs are shared evenly between copper and fibre products using an EPMU method which fails to take account of the future mass withdrawal of copper, which will result in VULA having to take a significantly increased share of common costs;

(3) Ofcom have excluded the capital investment needed for Openreach to achieve the assumed efficiency gains and quality of service targets.

2.4 The charge control is inconsistent with Ofcom's stated strategy

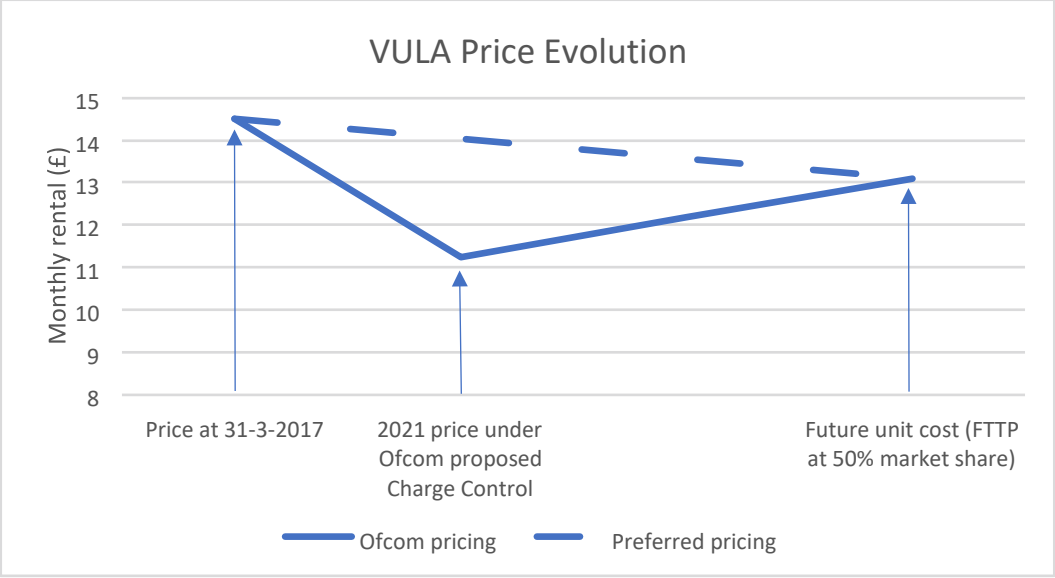
2.4.1 Ofcom needs to re-assess its approach to setting the 40/10VULA charge control to ensure that it does not actively harm network investment instead. If substantial FTTP roll-out starts during this charge control then it will be despite Ofcom's WLAMR regulations (if left unchanged), not because of them.

2.4.2 Further, by aggressively regulating the 40/10 VULA price down, Ofcom maintains the incentives of downstream operators to use the Openreach platform and reduces the likelihood that they will actively commit to the use of competitive FTTP platforms.

2.4.3 Ofcom's focus on ensuring that 'today's customers do not pay for tomorrow's network' is misguided. It assumes a significant period of time will elapse between this price control period and the start of substantial FTTP construction (something also reflected in Ofcom's Openreach cost-modelling assumptions). In fact, with the right regulatory environment, the market is primed to begin substantial FTTP construction now. Hence,

there is no question of one generation of customers paying for benefits that accrue to future generations of customers. Rather, the vast majority of today's customers will be direct beneficiaries of the FTTP/UFBB investments about to be made. Regulating the 40/10 pricing down to a level that is the lowest possible on a network with > 60% market share is not compatible with promoting network investment and a target market structure with three scale networks. Although Openreach has some pricing freedom for higher speed VULA services, the 40/10 service is by far the most popular service at the retail level and is therefore a critical benchmark for competitive providers of wholesale broadband services, including builders of FTTP networks.

2.4.4 Ofcom's strategic goals and its tactical regulatory approach are incompatible. If Ofcom proceeds with its current proposals, then the 40/10 VULA price will inevitably have to be increased in the next charge control period – this is illustrated below[1]:



Switching

2.4.5 CityFibre is surprised and disappointed to see that Ofcom has not attempted to address switching issues related to the FTTP roll-out, including issues arising from the PIA interfaces and processes. Demand-side problems, in particular switching issues where there are no transparent gaining provider led one-stop interfaces for consumers to switch from the Openreach platform to an alternative platform (here particularly FTTP,

[1] See section 8.6.13 of this document for more details.

whether using PIA or not) have been recognised by Ofcom over the past many years as critical to the success of competition in a market such as electronic communications.

2.4.6 In electronic communications markets, customers typically enter into complex contracts and their ability to choose between different services is often affected by lack of transparency regarding service characteristics and pricing. The absence of such proposals

makes sense only if Ofcom considers that FTTP construction in scale will not take place for many years: CityFibre urges Ofcom to rectify that significant deficiency in its package of WLAMR proposals.

Ofcom's FTTP deployment assumptions

2.4.7 As noted above, Ofcom's modelling assumptions for FTTP network construction in the review period are unduly conservative. [✂] appears that Ofcom has substantially underestimated the scale of FTTP construction that is likely in this review period. Adjusting that assumption alone would result in a significant change in the proposed 40/10 VULA price.

2.4.8 These assumptions also highlight a wide and worrying disconnect between Ofcom's expectations and those of the Government. At the 'Connected Britain' conference on 14 June 2017, Communications Minister Matt Hancock said that the Government's objective was to see 10m FTTP homes by 2022. He also made clear that he expects alternative FTTP build to account for a substantial part of that.

Period of the review and Ofcom's analysis horizon

2.4.9 Ofcom's perspective in developing the WLAMR proposals is unduly short-term, given the imminence of investments in FTTP. The build and growth phase of FTTP rollout will straddle this and the subsequent market review period. [✂] we recognise that three year reviews are hard-wired into Common Regulatory Framework, Ofcom could have attempted to get the European Commission to approve a review period of more than three years. As a move to five years (with scope to extend to 6 years) as standard is what is proposed in the forthcoming European Electronic Communications Code, and Ofcom has the ability to make such a request based on provisions of the current Framework Directive, CityFibre considers that Ofcom should have attempted to gain agreement for a 5 or 6-year review period.

2.4.10 Had Ofcom done so, then the review period would be covering the time when FTTP network deployment would be rapidly escalating, rather than only the first phase. Typical deployment profiles follow an 's-curve'. Ofcom's projections do not take this into account at all.

2.4.11 Even if Ofcom has not extended the formal period covered by the review, it could and should have modelled the market beyond the three-year period. For FTTP roll-out for example, Ofcom has simple made a straight-line extension from the level assumed at the end of the review period. This is particularly perplexing given that Ofcom itself acknowledges that a period of major investment and dynamic change to the market is in

prospect. Again, this seems to us to make sense only if Ofcom is assuming no substantial FTTP investment will in fact take place in this review period.

Ofcom's analysis gives insufficient weight to wholesale infrastructure-based competition

2.4.12 The essential features of CityFibre's offering are (a) its 'full fibre' character, and (b) that the networks we construct are offered on a wholesale only basis, substantially expanding wholesale infrastructure competition and reducing industry dependency on Openreach in the areas where our networks have been constructed.

2.4.13 Any analysis of the benefits of new wholesale competition is notably absent from the WLAMR consultation. In fact, taking various assumptions and statements together, it appears that Ofcom's expected outcome *even if its strategic goal of competitive FTTP deployment takes place* is that the market will be characterised by Openreach as a regulated access network flanked by two or more vertically integrated providers. Circumstantial evidence for this lack of interest in wholesale-only business models comes from the ongoing negotiation of the new European Communications Code where we understand that Ofcom, via BEREC, is seeking to strike out specific provisions from the Commission's proposal that look to support the wholesale only model.

2.4.14 In fact, investor sentiment strongly favours open access FTTP business models. The potential dynamic effects that would result from all wholesale customers, including in due course BT's own downstream retail businesses, having a choice of supplier should be factored into Ofcom's analysis of the benefits of competition. We fundamentally challenge the assumption, implicit in Ofcom's approach, that the telecoms market should evolve naturally to an equilibrium state characterised by competition between a small number of vertically integrated providers.

2.5 The DPA consultation

2.5.1 One of the most significant positive elements of Ofcom's WLAMR package of proposals is the substantial effort being made to turn the current ineffective PIA remedy into a fitfor-purpose vehicle to assist in the development of true network competition and the roll-out of FTTP/UFBB networks to large parts of the UK.

2.5.2 There are some specific areas which CityFibre believes Ofcom should investigate further and where Ofcom's specific proposals do not meet the requirements of CPs wanting to roll-out FTTP networks and services at scale:

(1) Usage restrictions: Ofcom states clearly that the current PIA usage restrictions are causing the remedy to be unusable and that its strong preference is a PIA remedy without any usage restrictions at all. CityFibre agrees that the imposition of PIA usage restrictions will reduce the positive impact of the PIA remedy overall encourages Ofcom to reassess the need for any such restrictions. If restrictions have to be included, CityFibre considers that Ofcom's two restrictions (the 'primary use' and the 'facilitation' requirements) are inappropriate, give Openreach much to high discretion to refuse PIA requests and to cause a series of disputes that will frustrate the use if PIA remedy. CityFibre proposes revised restrictions which it considers practical, fit-for purpose and significantly less likely to cause a large number of disputes.

(2) Lead-ins using Openreach's poles: Here CityFibre considers that Ofcom has not yet identified solutions that are scaleable and provide workable timescales. Any process that involves a period of several weeks between a customer agreeing to take service and the switching process concluding is not viable in our view. The proposals also give CPs insufficient autonomy to undertake overhead lead-in works, creating an undue level of reliance on Openreach. Leaving the current proposals unchanged could seriously affect the user experience when switching to FTTP, and as such could harm the successful deployment of FTTP networks and UFBB services.

(3) Allocation of PIA-related costs (productisation and network augmentation): CityFibre agrees with Ofcom that the PIA costs should be distributed across Openreach lines as well as lines used by other operators. CityFibre is concerned however that PIA-related costs should not generally be attributed to lines that use copper only, given that copper-

only customers will not generally benefit from PIA-related network augmentations. There may be some exceptions to this, of which telegraph poles might be one example. But in general CityFibre proposes that PIA-related costs should be recovered from lines using fibre (whether fibre only or a combination of copper and fibre).

2.6 The Quality of Service proposals

2.6.1 CityFibre's comments on Ofcom's quality of service proposals are limited to the likely impact on the resulting 40/10 VULA price. This is because CityFibre is not a user of BT's active services and thus is not directly affected by the majority of Openreach's quality of service performance issues. As a general point, the only really effective way to ensure that an incumbent delivers high levels of quality of service is to introduce competition, preferably at the deepest network possible as that exposes all elements in the value chain to competitive pressure.

2.6.2 CityFibre's specific concern with Ofcom's quality of service proposals is that it appears that Ofcom is proposing that Openreach must implement significant measures to improve its performance, but Ofcom is not allowing for any capital expenditure for this purpose. Additionally, Ofcom appears to be proposing that the operating expenses allowed in Ofcom's model for Openreach assumes that the quality of service measures have been implemented and thus the operating expenditure is reduced to reflect the expected improvements.

2.6.3 It seems here that Ofcom is attempting to 'have its cake and eat it' as the reduced operating expenditure can only be achieved as a result of the capital expenditure, which Ofcom has not allowed for. Yet Ofcom has actively chosen to set the charge control using BT's actual costs, not and REO or MEEO costing approach, and not using FTTP as the MEA. Ofcom should therefore follow this approach through consistently and not pick and choose where it thinks BT's actual costs should be used and where they should not.

2.7 Conclusion

2.7.1 CityFibre is disappointed with Ofcom's package of proposals. Whilst there are really good efforts to improve the PIA remedy, this does not offset the negative effects of Ofcom's

overall package of measures, both in terms of the harm caused by the charge control proposals to investment incentives (and the likely behaviour of downstream CPs) the puzzling absence of concrete measures to address switching between Openreach and alternative FTTP providers, and in the WLAMR's silence on the need to protect nascent FTTP competitors from anti-competitive behaviour. We do not believe that the subtle deregulatory message has been received and understood by CPs. And in general, we think the proposals would make sense only if Ofcom does not expect FTTP construction to commence in this review period or indeed the one beyond that.

2.7.2 Ofcom needs to revisit its modelling and cost allocation/pricing approach as a matter of urgency. Prices should be set at a level now where they will not need to be increased in the future and at a level that does not harm investment prospects.

3 Ofcom's Policy Objectives and proposed measures

The WLAMR proposal

3.1.1 Ofcom's stated objectives for this market review appear consistent with those expressed in its Digital Communications Review (DCR), published in February 2016, which concluded that Ofcom should enable and encourage a strategic shift to large-scale deployment of new ultra-fast broadband networks, including FTTP to homes and businesses[2].

3.1.2 Ofcom states specifically that its long terms strategy for promoting investment and competition in networks focuses on three main elements[3]:

1. Encouraging and enabling network investment;

2. Regulating access to superfast and ultrafast services to give BT and its competitors incentives to invest in new networks; and

3. Continuing to regulate access to BT's Openreach network and services where network competition is not effective in order to protect the interests of consumers, including in more remote and rural areas.

3.1.3 As one of the primary investors in fibre infrastructure in the UK, CityFibre agrees with these objectives and welcomes Ofcom's stated intent to implement the strategic conclusions of the DCR. CityFibre also recognises that Ofcom is required to consider the balance between the short term and longer term interests of consumers. (Investment in fit for purpose fibre networks is clearly in the interests of consumers, as Ofcom's DCR itself recognised.)

3.1.4 As set out in some detail in this document, however, CityFibre has found that on analysis, Ofcom's specific proposals fall substantially short of supporting the early and rapid deployment of fibre networks. The proposals neither create strong enough incentives for investment in FTTP nor do they contain the necessary range of enabling measures to

[2] Ofcom, February 2016, Initial Conclusions of Strategic review of Digital Communications.

[3] See WLAMR consultation Paragraph 1.5.

ensure the smooth and orderly transition to a primarily fibre-based broadband market. The proposals will, at a minimum for the period of this market review, maintain and possibly strengthen the status quo in which OCPs remain dependent on Openreach's legacy network to deliver an inadequate set of broadband products to consumers. Consumers may benefit to some extent from lower prices (though this depends on how much of the improved margins for OCPs created by the charge control are passed on to consumers), but at the expense of their long-term interest in seeing ultrafast broadband offered over FTTP networks. There is currently a window of opportunity for fibre investment in the UK, but this cannot be guaranteed to last forever not least given the uncertain medium-term prospects for the UK economy post-Brexit. 'Kicking the can down the road' in terms of FTTP investment is, in these circumstances, a high risk and arguably reckless approach.

3.1.5 There is an overwhelming consensus that it is in the broader public interest that a swift transition to a 'full fibre' future is effected. As Ofcom forms part of that consensus, and in the DCR set out the objective of seeing extensive FTTP rolled out across the country by the middle of the next decade, it is not our intention to rehearse the arguments in favour of that again in this response. But it makes the focus in the WLAMR on safeguarding the current status quo rather than paving the way for early rollout of FTTP puzzling.

3.1.6 CityFibre's conclusion is that the WLAMR proposals make little sense unless Ofcom has either concluded that the DCR objective in relation to FTTP is in fact unachievable (which seems unlikely given that if anything the prospects for FTTP rollout have strengthened since the DCR concluded), or more feasibly, that Ofcom thinks that FTTP rollout will not commence at scale until the period of the next market review period – i.e. after 2021 – and therefore Ofcom believes that it does not need to implement measures for its encouragement in this charge control period.

3.1.7 This latter interpretation is supported by the analysis we have conducted of Ofcom's modelling assumptions. Those assumptions include tiny quantities (150k) of competitive FTTP connections over the period of this charge control – well short of the publicly stated business plans of both CityFibre and other alternative fibre providers. *To be clear, such low numbers will be achieved only if the regulatory system actively frustrates alternative FTTP build*. [✂]

3.1.8 The deficiencies in Ofcom's approach are twofold:

(1) First, whilst it is recognised that Ofcom interprets its primary duty as requiring it to impose some form of near-term price control on Superfast Broadband prices, the relatively minor regulatory forbearance implied (by Ofcom's stated disinclination to extend that price control to cover prices above 40/10 SFBB products) is, far too subtle to actually effect a change in the behaviour of most of the CPs consuming Openreach products and increase their willingness to self-build or buy alternative FTTP.

(2) Moreover, this approach is compounded when we analyse the detailed methodology, as we find that the outturn numbers for the 40/10 charge control have been achieved by a variety of highly debatable modelling assumptions and attributions, the net effect of which is in all cases to push the charge control number as low as it could go. Even if

Ofcom were correct, that the market will correctly infer that price controls will not be expanded to other variants in the future, [✂] It cannot be seriously argued that this is in the long-term interest of consumers.

3.1.9 Ofcom's modelling assumptions are biased towards achieving the lowest possible 40/10 VULA price. For example, considering the assumptions used for FTTP rollout, common cost allocation and quality of service we have identified that:

(a) FTTP Rollout Assumptions - Total FTTP rollout by CPs in 2020/21) is less than half the rollout in CityFibre's approved plans;

(b) Common Cost Allocation - Common costs are shared evenly between copper and fibre products using an EPMU method which fails to take account of the future mass withdrawal of copper, which will result in VULA having to take a significantly increased share of common costs;

(c) Quality of Service Assumptions - Ofcom have excluded the capital investment needed for Openreach to achieve the assumed efficiency gains and quality of service targets.

These are illustrated below in relation to how they impact on investment incentives:

3.1.10 Second, building alternative FTTP, whilst offering the prospects of a sustainably competitive long-term market ecology [4] (where the need for constant regulatory intervention would be dramatically reduced), does necessitate a set of short-term enabling regulatory measures. The competitive rollout of the cable network in the 1990s, recognised by Ofcom to have led to considerable consumer benefits[5], required enabling activity from Oftel, notably conditions guaranteeing that only one company would build cable-TV infrastructure in any one local area, the facilitation of switching (number portability), and measures to prevent anti-competitive market responses by BT. If Ofcom is committed to encouraging FTTP rollout, it will need to recapture the mindset of focusing on protecting alternative infrastructure in its nascent stage of development. Two specific areas of attention will need to be:

(1) Cross-platform switching, currently both unaddressed in the WLAMR consultation document (along with other demand side remedies) and absent from the scope of the pre-existing cross-platform switching project, and

[4] For the majority of customers. CityFibre recognises that some geographic areas of the UK are unlikely to see infrastructure competition.

[5] See WLAMR consultation V1 paragraph 4.8 for an example of this.

(2) Protection against anti-competitive tactics by Openreach. As FTTP is deployed at scale and Openreach starts to lose customers to the FTTP platform, there will be a considerable temptation to engage in anti-competitive practices against the rival platform. This is likely to take the form of highly focused build activity to forestall competitive FTTP, something that other alternative fibre providers have already encountered in rural areas. In CityFibre's view, there is a strong case from first principles (given that available capital is finite and the scale of the task to fibre-up the UK vast), to prevent competitive overbuild altogether. However, if Ofcom feels unable or unwilling to contemplate such a rule, it should nonetheless be much more proactive in ensuring that tactical/pre-emptive overbuild (FTTP or G.fast build as a defensive measure) cannot be undertaken by Openreach until such time as the PIA remedy is considered fully functional and that any services (wholesale and retail) offered on those networks are fairly priced.

3.1.11 To implement measures to protect against anti-competitive behaviour by Openreach, it would be necessary to establish the cost floor that any FTTP/G.fast- based Openreach services should comply with. It would be wrong for Ofcom to leave such matters to be addressed only after the event under its competition law powers. It is well known that Ofcom's competition powers have hardly ever been successfully employed and, even if they were to be so in this instance, they would reach a conclusion only long after the damage was done and competitive investment evicted from the market.

3.1.12 Only if these omissions were rectified, and a stronger pro-FTTP investment signal sent in relation to charge control measures, could the WLAMR be said to be consistent with Ofcom's stated objectives, and indeed with wider Government policy.

The DPA proposals

3.1.13 Whilst the PIA remedy described in the DPA consultation could provide a significant boost to FTTP roll-out, the success of that remedy would be entirely dependent on two critical factors:

(1) That the currently proposed usage restrictions are removed or significantly amended, and

(2) That the current remaining scope for Openreach to frustrate the successful implementation of PIA is removed.

3.1.14 CityFibre considers that Ofcom has made good efforts towards the development of a functional PIA remedy, but has designed usage restrictions that (through lack of transparency and the resulting uncertainty) will likely significantly reduce the effect of the PIA remedy on the market.

4 Ofcom's proposed market definition and market power assessment

Ofcom's analytical approach

The time period covered by the review

4.1.1 Ofcom proposes that the WLAMR shall cover a period of three years. Three years is the period stipulated in the EC Framework Directive, but that Directive also allows for the national regulatory authority (NRA) to apply for an extension of up-to three years of the review period:
" [] *exceptionally, that period may be extended for up to three additional years, where the national regulatory authority has notified a reasoned proposed extension to the Commission and the Commission has not objected within one month of*" [6].

4.1.2 In discussions held with CityFibre during the consultation period, Ofcom has expressed frustration at being tied to the three-year term for this particular market review, because the investment cycle in fixed networks is much longer and a longer review period (perhaps five or six years) would enable Ofcom to capture better the impact of competitive network infrastructure build and the resulting changes to the competitive landscape and BT's unit costs. We share Ofcom's frustration. This is a particularly material issue given Ofcom's stated desire to see widespread FTTP rollout by 2025, as the eight years between then and now aligns closely to the anticipated period over which an FTTP city project would recoup its initial capital investment.

4.1.3 With that in mind, CityFibre considers that, given the importance of the investment in fibre infrastructure, Ofcom should have applied to the European Commission (EC) for an extension to the standard 3-year review period. Further, as it looks very likely that a change to a 5-year review period (extendable to 6 years) will be part of the changes implemented when the Directives are updated with the new European Electronic Communications Code (expected to be transposed into UK law before the UK's exit from the European Union in 2019), it is likely that the EC would have agreed to the exceptional extension in this case.

4.1.4 CityFibre is disappointed in Ofcom's simple acceptance of the 3-year term and urges Ofcom to contact the EC to request the extension. Should this result in a delay in the completion of this WLAMR[7], then that would be a worthwhile price to pay.

Ofcom's WLAMR model

4.1.5 CityFibre is further disappointed in Ofcom's approach to modelling the market under review. As far as we can determine, the modelling exercise conducted is incomplete. Alternative network operators' ('Altnets') competitive provision of FTTP has not been modelled and indeed is barely acknowledged at all anywhere in the document. Ofcom

[6] Framework Directive para 16.6(a).

[7] As Ofcom has informed CityFibre that a change from three years to five or six years would require extensive changes to Ofcom's models.

has simply modelled BT's network and incremental changes to that as a consequence of competitive activity and the implementation of Ofcom's regulatory remedies.

4.1.6 Ofcom's model does not present the market as it exists today. It does not show current market shares of competitors to Openreach including Virgin Media and the growing number of competitive FTTP and FWA providers who are rolling out networks in many parts of the country.

4.1.7 Whilst Ofcom may consider that its model does what is required – i.e. to calculate Openreach's costs – the fact that there is no attempt to include all the market players and take account of their projected investments is likely to have meant that Ofcom has been performing the market review with an unduly narrow perspective. It may not have been viable to reflect each of the emerging network competitors to Openreach, but it would certainly be feasible to present them at the aggregate level.

4.1.8 Ofcom's model assumes very low levels of FTTP network roll-out during the charge control period. Ofcom states that its FTTP build assumptions are based on informal information from CPs:

> *"The potential impact of PIA is calculated by Ofcom's assessment of the likely rollout and penetration rate (based on data from both informal and formal information requests to telecoms providers)".*[8]

4.1.9 However, upon query from CityFibre, Ofcom has confirmed that it had no information from CityFibre about its FTTP roll-out plans, nor had Ofcom ever requested this information from CityFibre. CityFibre considers this to be a major flaw in Ofcom's approach to forecasting the market developments over the charge control period, never mind beyond that period.

4.1.10 The impact of increasing Ofcom's base assumption for PIA rollout on the VULA price is shown in the table below. It should be noted that the base price does not exactly match the number in the consultation document, due to the use of the non-confidential model and inputs.

[✂]

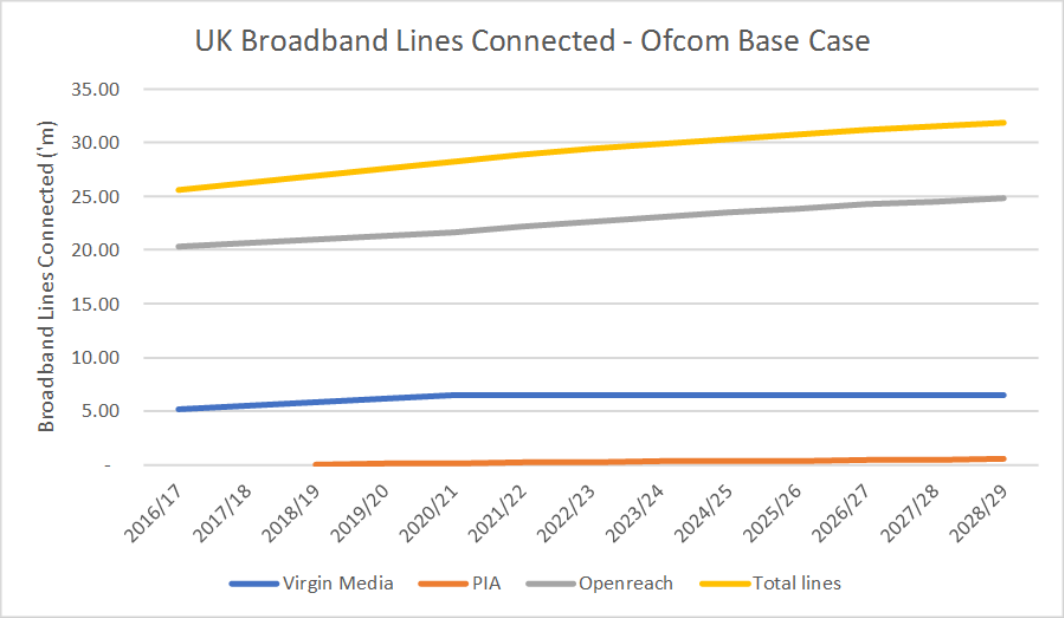
4.1.11 Ofcom's model includes demand for Openreach broadband lines until the year 2028/29, and CityFibre has therefore reviewed Ofcom's assumptions about FTTP build and market shares in the remainder of the modelling period after the charge control (while recognising that the volumes after 2020/21 do not have an impact on the proposed charge control). The model, however, does not attempt to assess the development of the total broadband market beyond the three-year market review period. From year three, the impact of competition on Openreach lines is simply a straight-line extrapolation of the assumptions Ofcom has made for the first three years[9]. This was highly surprising to CityFibre, as it is hard to understand how Ofcom can take a view of

[8] See WLAMR consultation Annex 10 paragraph A10.51

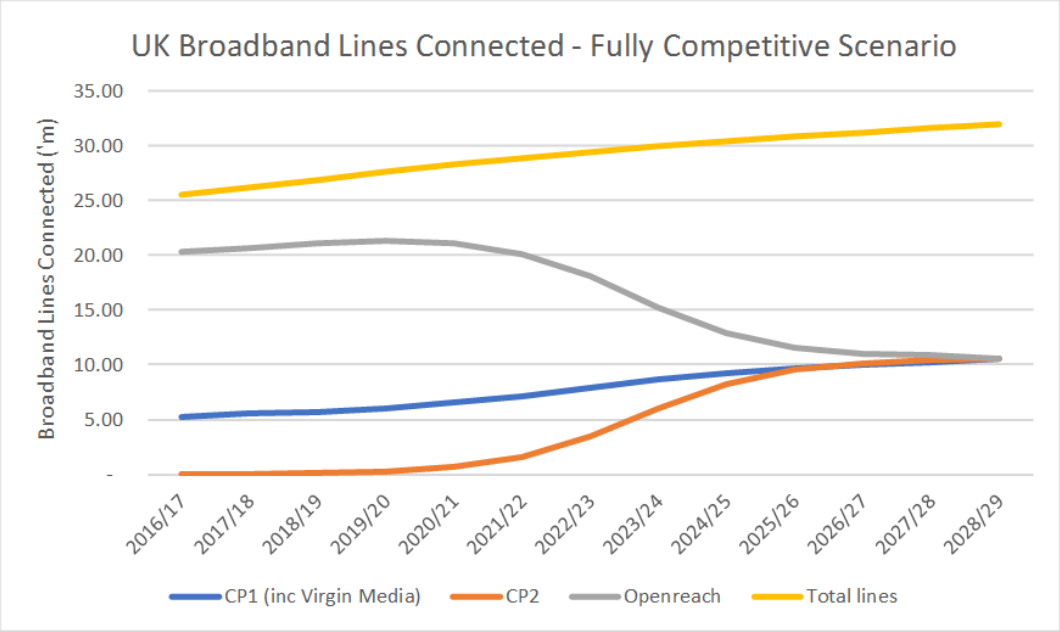
[9] See WLAMR consultation Annex 10 paragraph A10.53

the impact of its proposals, if it has no view of any market developments beyond the short three-year period.

4.1.12 Typically, one would expect the network roll-out and take-up of new infrastructure to follow an 's-curve'. That is, the initial period would be slow, but it would be followed by a period of high growth before tapering off again when the rollout reaches a competitive market share. The figure below shows the growth projections of connected broadband lines assumed in Ofcom's model. In order to show an estimate for the total market, this chart includes Ofcom assumptions for Openreach lines, and PIA; it also includes the current broadband lines of Virgin Media, plus the incremental lines added by Project Lightning (Ofcom assumption).



4.1.13 The figure below shows what CityFibre considers to be a more realistic assumption for the development of a fully competitive broadband market. In this case, it is assumed that the total market volumes are as shown above, but that by the end of the period, three operators (Openreach, CP1 and CP2) take equal shares of the market. CP1 is assumed to include Virgin Media lines (with expansion beyond their current footprint to include Project Lightning, but also additional expansion to enable the national market share of 33% to be achieved). CP2 is assumed to be one or more new FTTP entrants which may or may not use PIA. The graph shows connected broadband lines, not network coverage/homes passed.



4.1.14 As can be seen from the illustration, the period of rapid growth is likely to commence in the years immediately following the three years covered by the charge control. These rapid changes in the broadband market, which are a necessary step towards achieving infrastructure competition in the longer term, will have a high impact on Openreach's unit costs. Had Ofcom sought to extend the period covered by this review, the whole picture of market development would have been very different to that in the Ofcom base case. and this would have significant implications for the price control.

4.1.15 Even without extending the period covered by the review, Ofcom could and should have created informed projections of the likely future market developments, the level and pace of FTTH investment and network roll-out and the changes in market shares resulting from that. It would be entirely possible for Ofcom to determine a three-year charge control while being mindful of the likely evolution Openreach's costs over a longer period; there is nothing in the EU framework or the Communications Act that prevents Ofcom from doing so.

4.1.16 Further, Ofcom's model assumes that all new network rolled out in the UK during this charge control period will be based on using the PIA remedy. In a meeting with CityFibre, Ofcom explained[10] that the PIA remedy as specified in the DPA consultation will take time to implement given the need to promulgate detailed rules on many elements of the remedy and for legal due process to be followed. If PIA is assumed to be the sole determining factor in whether alternative FTTP is constructed or not, this might explain Ofcom's pessimistic assumptions about altnet market shares. But the net effect of ignoring pre-existing Altnet activity, assuming that competitive FTTP is solely reliant on the PIA remedy and taking a pessimistic view of the timescale for the latter's introduction is, as we describe below, to substantially underestimate the scale of FTTP build that will take place in this market review period.

[10] CF meeting with Ofcom 13 December 2016.

4.1.17 Even with a fully-specified PIA remedy available, it is not realistic to assume that all new networks will be entirely based on that remedy – a considerable amount of self-build will needed to complement the PIA use. It would be more realistic if Ofcom were to assume that all FTTP roll out during the charge control period (if it remains the current threeyear period) will be self-build. That change would impact on Openreach's costs as the model assumes a negative cost adjustment to Openreach due to the PIA rental fees. Ofcom is without any doubt significantly overestimating that negative cost adjustment in its current models.

4.1.18 Overall, CityFibre's review of Ofcom's WLAMR modelling approach is that it is not a model that reflects the market (but only incremental impact on BT), it contains a number of assumptions which suggests that Ofcom has little confidence that FTTP investment will happen at scale in the UK (in this review period or beyond), it makes no effort to project market development beyond the three-year review period, and it assumes that all of the (limited) FTTP network roll-out that will happen during the review period will be using the (currently not fit-for-purpose) PIA remedy.

Ofcom's approach to market definition and SMP analysis

4.1.19 In general, CityFibre agrees with Ofcom's conclusions in relation to the product and geographic markets defined relevant to this market review. That said, a number of Ofcom's assumptions and observations in this section (3) of the WLAMR consultation warrant analysis and comment.

Ofcom's market review processes

4.1.20 Ofcom has set out its market review processes in Annexes 5 and 6 of the WLAMR consultation document CityFibre has observed that Ofcom's processes appear to be rooted in a number of historical concepts, which are to varying degrees not necessarily appropriate when conducting forward-looking market reviews now, given the current state of market development and specifically the prospect of both extensive alternative infrastructure deployment and a transition from one technology state to another. CityFibre therefore urges Ofcom to undertake an in-depth review of its market review processes, including a public consultation process of these.

4.1.21 Annex A sets out CityFibre's high level review of Ofcom's current market review processes and presents a number of questions Ofcom should use when undertaking the review. In addition to those points on the conduct of market investigations, we also urge Ofcom to start to commence the transition away from (retail) market-by-market 'siloed' regulation towards an approach that looks at competition and access holistically, recognising that at both infrastructure and services level, there is increasing convergence now taking place as a result of the widespread rollout of competitive fibre networks. The move towards passive remedies at the highest level possible in the value chain makes the current market reviews (focusing on retail markets) inappropriate and creates mixed (and sometimes contradicting) make or buy signals to CPs. This is illustrated by the inconsistency in how the current and proposed DPA remedy can be applied in the BCM and WLAM.

Retail product market definition

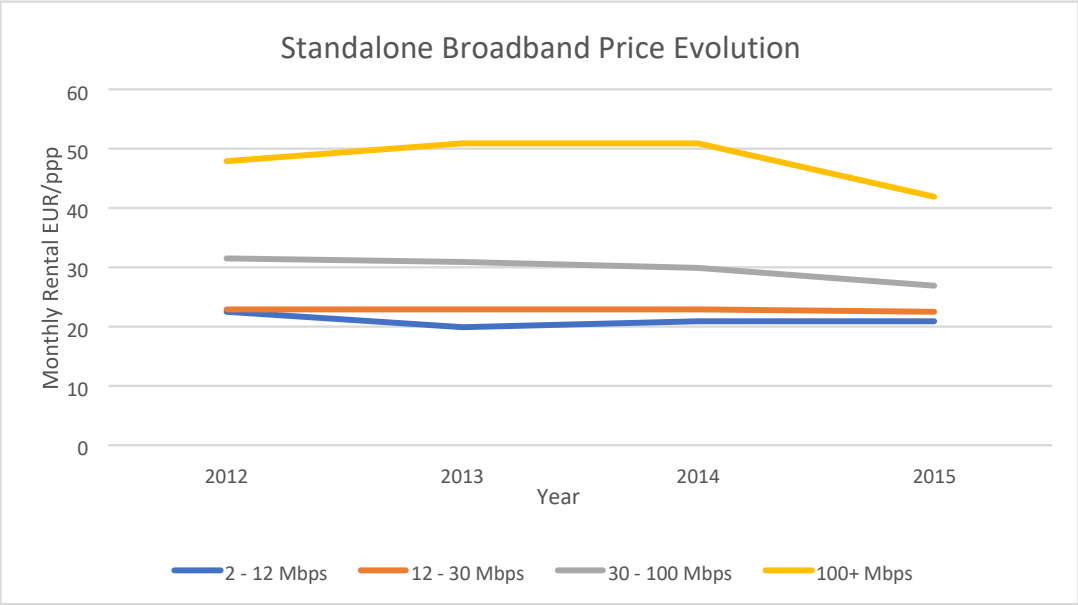
4.1.22 CityFibre agrees with Ofcom that voice and broadband products are in separate markets and that there is a rapidly developing market for ultrafast broadband (UFBB) services which can serve both business and residential needs. It should, however, be noted that as voice will increasingly be provided over IP, as part of a broadband service package, the two markets will likely merge again.

4.1.23 CityFibre also agrees that, whilst there are substantial differences between the SBB and UFBB products, they are likely linked through a chain of substitution and should be considered as part of the same relevant market from the point of view of regulation.

Ofcom's assumptions on UFBB price premium

4.1.24 Ofcom assumes[11] that, based on evidence of the development of the price premium of the SFBB services over the SBB service, whilst it may not be possible for FTTP providers to charge a significant price premium over the SFBB service initially, the price premium for the FTTP service is likely to increase over time.

4.1.25 This assumption, however, is not supported by Broadband Internet Access Costs (BIAC) study prepared for the European Commission and published in 2015[12]. That study shows a declining premium for >100Mbps services, below is a simple representation of the data presented in the BIAC report[13]:



[11] Ofcom has made this statement to CityFibre at several meetings. Ofcom also presents evidence of an increasing price premium for the SFBB product over the SBB product + see WLAMR consultation V1 paragraphs 3.4+ to 3.44.

[12] https://ec.europa.eu/digital-single-market/en/news/broadband-internet-access-cost-biac-study

[13] This graph was produced using the stand-alone tariffs for each speed as set out on page 17 of the BIAC report. The result would have shown the same trend, if we had used double or triple play prices.

The significance of Ofcom's assumption of an increasing UFBB price premium over time[14] is that it leads Ofcom to conclude that, whilst investors in FTTP networks may not be able to charge a sufficiently large premium over the 40/10 SFBB anchor product initially, this is a temporary phenomenon. *Ofcom therefore assumes that FTTP investment should be made based on the expectation of a growing UFBB price premium over time*. As demonstrated by the data presented above, that is not an assumption that can be safely made. Ofcom therefore needs to carefully reconsider the impact of the proposed regulated 40/10 wholesale price. This is discussed further in the VULA pricing section below.

Mobile and fixed broadband services are not yet in the same market

4.1.26 Likewise, CityFibre agrees with Ofcom's conclusion that fixed and mobile broadband services are not in the same relevant markets. It is however likely that this will change in the medium term once 5G networks and handsets become generally available. If a longer market review period were adopted as we recommend, this assumption would need to be revisited and more detailed evidence gathered.

The exclusion of FWA from the WLA market

4.1.27 As set out above, CityFibre believes that Ofcom should use its ability to extend the market review period beyond the standard 3 years [15] to perhaps 5 or 6 years. It is CityFibre's firm belief that, had Ofcom extended the period, Ofcom's conclusions on a number of issues in this market review would have been different. Of particular relevance to the market definition section is Ofcom's conclusion that fixed wireless access (FWA) is not part of the WLA market. Whilst that may be true (just) in the 3-year period, it is unlikely to be true beyond that period. A longer review period would, therefore, have resulted in a different market definition.

4.1.28 The reason CityFibre considers the exclusion of the FWA from the WLA market worth specific mention is that it is unclear how Ofcom's current usage restrictions for the proposed PIA remedy would be interpreted. Whilst FWA without doubt delivers broadband services to end customers (and therefore should qualify under Ofcom's proposed 'primary use' restriction), Ofcom is also saying elsewhere[16] that it considers it does not have the powers to apply the PIA remedy in such a manner that it could be used outside the WLA market (or markets downstream of the WLA). As FWA is presently not considered part of the WLAM, it is thus unclear whether the PIA remedy could be used for backhaul from FWA deployment. If that is not the case, then CityFibre considers this to be a perverse outcome.

4.1.29 Ofcom's justification for excluding FWA from the WLA market is that some of the current FWA products are not comparable with the services offered over copper, cable and fibre.

[14] Which Ofcom has reiterated to CityFibre in several meetings.

[15] See: Ofcom's analytical approach

[16] See DPA consultation paragraph 4.57.

Ofcom does not consider whether, in the case of a SSNIP, FWA providers would enter the market with offers that are comparable to the current wireline services. CityFibre does not consider that Ofcom's analysis in this area is robust and we are aware of potential developments, both in terms of market participants' strategies and the evolution of technology, that might render Ofcom's conclusion rapidly redundant. We note, for example, that H3G's recent acquisition of UK Broadband Ltd[17] means that it has acquired the capability to rapidly expand the footprint of the 'Relish' FWA-enabled broadband offering. At least some of the planned uses of 5G technology would also blur the boundary between fixed and mobile broadband applications. In light of the perverse outcome that could result from the exclusion of FWA from the WLA market, CityFibre strongly encourages Ofcom to reconsider that specific conclusion.

The merging of broadband and leased lines markets

4.1.30 With regards to whether fixed broadband services and leased lines services are in the same market, however, CityFibre considers that the two markets are converging, with substantial substitution from leased lines to high quality UFBB services targeted at businesses.

4.1.31 [✂]. Whilst the BCMR concluded by Ofcom in May 2016 concluded that broadband and leased lines services were in separate markets, it is not at all certain that this can be considered the case by the expiry of the period covered by this review – 2020/21.

4.1.32 Where FTTP infrastructure is available, it would be unrealistic to assume that the two markets would not rapidly merge. Whilst Ofcom refers to current significant price differences and that users are not currently substituting fast broadband connections for leased lines, there is clear evidence that this situation is a result of BT not having rolled out FTTP networks in scale. It is in fact widely suspected that one of BT's motivations to not roll out FTTP services to SMEs and other businesses, is that the cannibalisation of leased lines revenues would be significant.

Retail geographic market definition

4.1.33 CityFibre agrees that at present the relevant geographic market is all of the UK, except Hull.

4.1.34 It would (in theory) be possible to identify two separate submarkets of that national market, reflecting the parts of the country that are prospectively competitive (i.e. in which it would be economically and technically viable to build competing infrastructure to compete with Openreach). CityFibre considers that the market will in due course (and assuming appropriate regulation) evolve to a structure where a substantial proportion is either competitive or evolving towards competition as a result of alternative infrastructure rollout, with a geographically significant remainder (remote and rural areas) remaining non-competitive, at least barring some game-changing technological innovation. In subsequent market reviews this might necessitate a different approach. Ironically the proposed obligation of CPs requesting DPA to declare their intended use –

[17] http://www.threemediacentre.co.uk/news/2017/ukb-completion.aspx

something we oppose – would at least create a mechanism for determining in advance the likely scope and extent of alternative network rollout. But at this moment (assuming

that Ofcom retains its three year time horizon for this review) with FTTP rollout at an early stage and DPA not yet available in its fit for purpose form, the noncompetitive/prospectively competitive distinction would be speculative.

4.1.35 It is, however, important in terms of the design of the regulatory package to acknowledge that large parts of the UK are prospectively competitive and that several CPs, including CityFibre, have expressed interest in and are making plans and raising funding to build competitive networks.

4.1.36 Therefore, by defining a single market, without differentiation between areas that are prospectively competitive and those that are not, the presumption must be that the entire market is treated as if it were prospectively competitive. Not doing so would result in the regulatory error of over-regulation and would likely prevent or substantially reduce the level of infrastructure investment (and resulting competition) that can be achieved.

4.1.37 Ofcom has the right to apply its reasonable judgement in relation to the level of regulation to apply at any point in time, as well as whether to prioritise longer-term competition development over short-term price reductions for consumers.

4.1.38 The use of judgement implies the potential for errors. The types of error a competition or regulatory authority can make have been identified as Type I and Type II errors[18]. A Type I error is a 'false positive', analogous to mistakenly imposing liability on an innocent defendant. A Type II error is a 'false negative', equivalent to failing to punish a guilty party.

4.1.39 In the context of regulation, Ofcom needs to consider the appropriate level of regulation given the prospective level of competition in the future, not just the degree of competition today. The imposition of *ex ante* regulation based on a presumption that a market is not prospectively competitive amounts to a Type I error, whereas failing to regulate, or too weakly regulating a market where there is no prospect of competition is a Type II error, as set out below: Possible Costs of Forward Looking Regulation

Regulation	Prospective market structure	
	Workable Competition	Non-workable competition
No *ex ante* regulation, full reliance on antitrust oversight	Correct	Type II error

[18] This issue is recognised by BEREC ('Common Position on geographic aspects of market analysis' 5 June 2014) and has been discussed in McChesney, Fred S. "Talking'Bout My Antitrust Generation Competition for and in the Field of Competition Law." Emory LJ 52 (2003): 1401 and in Bauer, Johannes M., and Erik Bohlin. "From static to dynamic regulation." Intereconomics 43.1 (2008): 38-50.

Ex ante regulation (e.g. control of wholesale and/or retail prices)	Type I error	Correct

Adapted from Bauer and Bohlin.

4.1.40 Where there may be doubt as to the degree of regulation of prospective competition, a Type II error is better than a Type I error as the former can either be corrected by the normal working of the market or by later regulation. A Type I error, however, can only be corrected by regulation and may have already resulted in entrants exiting the market before that correction can be made.

4.1.41 Ofcom clearly acknowledges that some locations could attract competitive infrastructure investment and other would be unlikely to do so and proposes that future WLAMR processes may well define sub-national markets on that basis[19].

4.1.42 Ofcom acknowledges throughout the consultation,[20] and in the DCR statements, the substantial value expected from competitive investment in new fit-for-purpose all-fibre networks, and notes specifically that FTTC infrastructure is unlikely to meet the future needs of the UK and its citizens[21]. It is important that Ofcom's approach in the review seeks to harness those benefits by creating an investment-friendly regulatory environment with the correct signals for future reviews. If geographic areas are revealed through the process of competitive infrastructure rollout to be *not* prospectively competitive, then it would be appropriate to define sub-national markets accordingly.

Wholesale product market definition

4.1.43 CityFibre agrees with Ofcom's conclusion, that the WLA market comprises "services supplied over copper loops, services supplied using fibre (together with a supporting copper loop where necessary – i.e. in the case of GEA and cable"[22].Although CityFibre believes that FWA should be included in the retail market definition, it would not appear necessary to include it in the wholesale market definition as BT does not use this technology for the provision of broadband services and we are not aware of any current or planned use of FWA to offer wholesale broadband in scale.

Wholesale geographic market definition

4.1.44 CityFibre has no further comments in relation to the geographic market definition at the wholesale level, beyond those bade above in relation to the retail market.

[19] See WLAMR consultation Paragraph 4.34.

[20] E.g. see WLAMR consultation Paragraph 4.6.

[21] See WLAMR consultation Paragraph 3.13.

[22] See WLAMR consultation paragraph 3.92.

Wholesale market power assessment

4.1.45 CityFibre agrees with Ofcom's conclusion that BT has SMP across the entire WLA market. That said, however, Ofcom's market analysis appears to completely ignore the impact of any competitive providers, other than Virgin Media. Although Virgin Media is clearly the largest network operator in the UK, after Openreach, Altnets are actively rolling out networks including FTTP and FWA networks. For Ofcom to completely ignore the existence of Altnets is remarkable. At the very least, Ofcom should have mentioned the market share held by these operators at the aggregate level. Ofcom makes one mention of Altnets, only to say that their activities will not significantly alter the competitive conditions in the review period[23]. Even were that to be true, they are the only vehicle by which Ofcom can hope to achieve wide-spread FTTP roll-out, and as such should be considered more fully across the board in Ofcom's analyses and models.

4.1.46 Not including the Altnets in the current market share assessment is perhaps defensible, but Ofcom does not recognise the impact that these operators will have over the period of the charge control either. This is inconsistent with Ofcom's own stated strategy to promote competitive FTTP and, as we have noted, is explicable only if Ofcom has either privately concluded that the DCR strategy is not achievable or that somehow a great deal of progress in competitive FTTP build will be achieved from a standing start some time after the current charge control period elapses.

[23] See WLAMR consultation paragraph 3.122.

5 Switching issues

5.1.1 CityFibre considers that Ofcom has not focused sufficiently on demand-side issues that will be material to the achievement of an early rollout of FTTP. Where there is a range of suppliers in a market and hence some choice, there are residual risks of market failure if barriers to consumer engagement exist. Such barriers might arise because consumers do not have the information necessary to make good choices about the best service for them, or because they are prevented from exercising their choice by barriers to switching. In relation to information, we are currently encouraging the Advertising Standards Authority to take action against what is in our view misleading advertising of FTTC-based products as 'fibre broadband.' Consumer research demonstrates high levels of customer confusion and anger about inaccurate advertising. Unavoidably this will create a climate of suspicion into which FTTP is launched, and this is relevant to Ofcom's view that consumers will rapidly assimilate and accordingly pay a price premium for the benefits pf FTTP-delivered broadband services.

5.1.2 As far as switching is concerned, CityFibre has commissioned a separate report from consultants Cenerva which is attached to this response [24]. CityFibre agrees with Cenerva's conclusion that:

> *"Switching is key to successful competitive and consumer outcomes in all electronic communications markets and hence is the principal focus of much of our report. Without regulation, it is likely that sub-optimal switching arrangements will damage competition and consumers.*
>
> *There is currently no process for switches involving ultrafast broadband (UFBB) networks. Ofcom should launch a review of arrangements for switching to and between UFBB networks and services now - including switching to UFBB networks from standard broadband (SBB) and superfast broadband (SFBB) networks - so that switching arrangements, and remedies, if needed, can be implemented alongside other outcomes from the WLAMR."*

5.1.3 CityFibre urges Ofcom to either bring forward specific measures on switching in the WLAMR, or to expand the scope of the existing cross-platform switching project to address this. The need for this is particularly strong given that Ofcom's proposals for the PIA remedy currently envisage a convoluted and lengthy technical switching process that constitutes a significant risk factor for FTTP rollout and take-up.

6 Ofcom's approach to remedies

6.1.1 Ofcom recognises that the UK competition model is in a period of transition, from service-based competition to network based competition. [25] The general backdrop to this WLAMR, and the DCR that proceeded it, is growing public and political dissatisfaction with the condition of the UK broadband market, in particular as regards the speed with which 'full fibre' networks are being rolled out relative to our key international

[24] See Annex B for a full discussion of switching issues

[25] See WLAMR consultation Paragraph s 4.4 and 4.17.

competitors. A subordinate strand of this argument is disquiet that the services competition model, as pursued since 2005 by Ofcom, is producing increasingly diminishing returns, particularly as regards the rate of progress towards truly effective and sustainable competition. On the positive side, the successful and profitable launch of fibre networks and services in other countries means there is no lack of willingness from the capital markets to invest in the UK's broadband infrastructure, with continued uncertainty about the direction and 'pro-fibre' aspect of the UK's regulatory regime being one substantial gating factor on the deployment of capital.

6.1.2 Ofcom describes the role of remedies as producing fair, reasonable, transparent and non-discriminatory access to BT OR's network and to protect against excessive pricing. No mention is made of the need to protect the nascent network competition from predation and exclusionary pricing (and other) practices. This is a major flaw in Ofcom's approach and belies its stated desire to see network investment and competition.

6.2 The role and benefits of network competition and the proposed DPA remedy

6.2.1 We largely agree with Ofcom's analysis that there are specific benefits that can only be achieved by infrastructure competition at the deepest level possible so as to expose as much of the value chain as possible to competitive effects. Regulation can effectively mimic some competitive benefits (e.g. prices) but poorly mimics others (quality of service) and cannot replicate some effects (disruptive innovation, customer-centricity) at all.

6.2.2 Infrastructure competition involves a degree of static inefficiency as a result of network duplication. Telecoms infrastructure markets are unusual in that they deliver strong rewards to scope and scale whilst at the same time being highly dynamic at the technological level. The former implies that, left to its own devices, the market will tend to monopoly as (at any moment in time) this would be the most statically efficient industry structure. The latter implies that there is realistic scope for market entry and expansion especially where, as in this case, entrants are entering the market with a superior technology. The dynamic benefits that result both from competition on price and quality of service but also the early achievement of a technology transition, can be expected to substantially outweigh the static costs of loss of economies of scope and scale to the incumbent.

6.2.3 The choice available to Ofcom is essentially between the promotion of a services competition model on the one hand, that exposes downstream markets to competition but leaves Openreach's upstream monopoly unchallenged except through the indirect constraint of Virgin Media; and full infrastructure competition on the other. There are

no classes of dynamic benefit achievable from a services competition model that are not also delivered by an infrastructure competition model, particularly when new FTTP networks such as that of CityFibre will be built on 'open access' principles implying a boost to, rather than a diminution of competition in downstream markets.

6.2.4 This latter issue is one where the consultation is silent, and this to our mind ignores an increasingly important debate taking place in regulatory circles but perhaps more

importantly at the level where investment decisions are made: Is the natural state of telecommunications markets that they will be characterised by competition between a small number of vertically integrated providers, retailing services across their own network? This has been the commercial model that has dominated the first twenty years of open competition under the Common Regulatory Framework, but there are strong arguments to question whether this model is sustainable or desirable. Consumer demand for choice of services and applications is increasingly breaking open the 'walled garden' model of integrated network and services delivery. Much of the tensions around regulatory issues such as net neutrality, exemplify the way that consumer preference is butting up against firms' preferences. On the supply side, investor sentiment is shifting towards 'open access' infrastructure, not least because the valuation of such businesses and the assessment of long-term risk is a great deal easier than it is for, say, a company that both builds and maintains telecommunications infrastructure and bets heavily on the value of accumulated pay TV sports rights.

6.2.5 For CityFibre, the WLAMR gives insufficient weight to the value of the 'open access' infrastructure model. A clue as to the underlying problem is revealed in BEREC's opposition to the inclusion of Article 77 (the so-called 'wholesale only' provision) in the draft Electronic Communications Code, a position which Ofcom, as a major participant in BEREC, presumably agrees with. In its paper calling for deletion of Article 77, BEREC states:

"*Vertical separation brings with it other inefficiencies…..Notably foregone economies of scope and double marginalisation. Double Marginalisation occurs in vertically related markets where upstream and downstream firms have their respective market powers and hence apply markups in their prices. Due to these markups a deadweight loss is induced at each vertical level, and the resulting sum of deadweight losses is larger than the single deadweight loss that would be induced by a vertically integrated firm with a comparable degree of market power. In a sense, double marginalisation is an externality between producers that makes everyone (producers and consumers) worse off.26* "

6.2.6 This is a somewhat glib and superficial account of a complex argument, but in any event where a wholesale only, open access infrastructure is being launched in competition with an existing vertically integrated operator, perforce the benefits of this – increased scope for competition at the wholesale level, both passive and active - outweigh any issues about deadweight losses from the absence of vertical integration. An open access infrastructure which does not pre-commit all capacity at the outset irreversibly to a single downstream operator also has considerably greater long term 'option value', and

[26] BEREC BoR (17) 88

this may be important given that the longer-term balance between different operating models and access technologies remains unresolved[26].

6.2.7 In the longer term, it is questionable whether the market will evolve to a stable equilibrium of multiple FTTP network providers. It is possible that, in its mature state, the market will be characterised by a single or at most two FTTP architectures in any given area. It may be useful to think about the market as evolving between a succession of different technology states. Once FTTP is widely deployed, the network competition beyond this point may be between FTTP networks and hybrid fibre/5G wireless networks. This however will be an issue to be addressed in subsequent market reviews. The balance of static and dynamic benefits, what this implies for optimal industry structure, and hence the appropriate regulatory model, will require revisiting once FTTP rollout has matured and 5G has launched in scale.

6.2.8 As discussed elsewhere in this response, we therefore agree with Ofcom's focus on introducing a passive remedy, fit for purpose PIA, that supports infrastructure competition. PIA will not, however, be a panacea solution and is an adjunct to end-toend infrastructure investment already taking place, and principally vulnerable to the negative effects of aggressive access regulation on the incumbent. In this context, we challenge whether the continued focus on supporting services competition, for instance in the VULA pricing proposals, is consistent with Ofcom's strategic goal.

Ofcom is unduly relying on indicative future regulatory policy

6.2.9 Ofcom seeks to strike the balance between protecting the short-term interests of consumers (and downstream CPs competing with BT Retail) and providing sufficient incentives for CPs to invest in competing, preferably full-fibre, networks[27]. It has chosen to apply a 'regulation as usual' approach to BT's VULA/GEA product, serving the retail market for the 40/10 SFBB product, but indicating that it will likely not apply similar regulation to higher speed VULA access products in the future[29]. ('Regulation as usual' in this context is, in fact a substantial tightening of regulation given the preceding decision not to price regulate VULA at its nascent stage.)

6.2.10 The signalling of intent in these proposals is so subtle that we believe it is lost on many of the actors who Ofcom is seeking to influence. It is notable that, whilst Ofcom launched the WLAMR with messaging that suggested the review was intended to pave the way for competitive FTTP rollout[28] journalists and analysts' reaction to the document focused almost entirely on the charge controls and the short-term harm they would cause

[26] for instance, it may be that the optimal network architecture will in the future be 5G wireless at the edge with fibre to the small cell.

[27] See WLAMR consultation Paragraph 4.27.

[29] See WLAMR consultation Paragraph 4.30.

[28] 'Encouraging investment in full fibre networks and promoting competition' https://www.ofcom.org.uk/aboutofcom/latest/media/media-releases/2017/encouraging-investment-in-full-fibre-networks

Openreach and conversely the benefit they would confer on large CPs. What has been noticeable is that no CP has reacted to the WLAMR by announcing that it is bringing forward plans to invest in FTTP [✂]

6.2.11 This reaction is not irrational, given that Ofcom's stated deregulatory intent is heavily caveated, both because 'fair pricing' conditions will remain in place even where there is no charge control, and because Ofcom makes clear that any intent to deregulate now would be subject to confirmation via the next market review. CPs might well take the view that continued pressure on Ofcom, either now in their responses to this consultation, or in that subsequent market review in three years' time, will weaken Ofcom's commitment to tapering off price regulation. It is a recognised structural weakness of price regulation and the ladder of investment model that firms are often reluctant to climb the ladder, and indeed may strongly resist efforts to end the regulatory interventions on which they subsist at lower rungs of the ladder. CPs currently dependent on BT's active services, but who may in the future either invest in new fibre networks or purchase wholesale access to a third-party full-fibre network such as that of CityFibre, may continue to defer that decision in favour of continuing to improve their margin on FTTC products. CityFibre recognises that some CPs argue that improving their current business margins is a necessary first step to allowing them to transition to FTTP. [✂]

6.2.12 The gulf between the stated aim of paving the way for mass market FTTP rollout and the reality that the WLAMR in fact reinforces CPs' adherence to the existing SFBB-over FTTC product set by its charge control is, as we have noted, difficult to bridge unless Ofcom considers that in reality no FTTP build in scale will commence until the next market review period and the aspiration set out in the DCR for 40% FTTP coverage by 2025 is unachievable. If the latter is in fact the case, in some respects it would be preferable for Ofcom to state this clearly now and allow investors and other stakeholders to draw the appropriate conclusions. Maintaining the illusion that Ofcom's policy approach is geared to early rollout of FTTP risks creating a false market.

6.3 Co-investment

6.3.1 Ofcom's position on the rules to be applied to a potential future co-investment involving Openreach are unclear and represent a considerable risk to potential investment. The draft European Electronic Communications Code (EECC) suggests that no access regulation should be applied to UFBB products delivered over networks resulting from co-investment between incumbent SMP providers and other CPs, but Ofcom states that EoI would apply with special cases to be considered on their merits[29].

6.3.2 CityFibre believes that some forms of co-investment could make a valuable contribution to the early rollout of FTTP, but has significant concerns regarding the specific coinvestment provisions proposed in the draft EECC which could result in CPs having no real alternative but to join the co-investment vehicle (as they would not get access to the new generation products if they do not), thus leaving no significant CPs to support the investment in and

[29] See WLAMR consultation Paragraph 4.49.

development of competitive network infrastructure. Further, it would likely lead to a considerable reduction in downstream competition as smaller CPs that

are unable to participate in the co-investment would be unable to compete and would likely be consolidated into the larger CPs which are in the co-investment 'club'.

6.3.3 Whilst that specific form of co-investment may lead to investment in new fibre infrastructure, it would therefore also be likely to lead to considerable market consolidation and freeze out the prospect of any competitive infrastructure investment. It is questionable whether that outcome is in the interests of consumers and citizens of the UK for the future. Ofcom's troubles in persuading Openreach to improve its quality of service suggests it would not be a desirable outcome.

6.3.4 Should Openreach participate in a co-investment initiative, then the network construction by that body should however be subject to full EoI and therefore use the external PIA products, services and processes.

6.4 Protecting alternative FTTP operators from anti-competitive behaviour by Openreach

6.4.1 Whilst Openreach retains a dominant position in access markets, Ofcom recognises that it has both the motive and the means to engage in anti-competitive behaviour to maintain that dominant position. The WLAMR however is entirely concerned with anticompetitive behaviour in the markets downstream of the WLA market (in particular on price and non-price discrimination between BT's downstream divisions and OCPs consuming access products from Openreach).

6.4.2 This is an area where the focus needs to be substantially shifted if Ofcom's stated goals to encourage widespread deployment of alternative FTTP is to be achieved. Put simply, Openreach will have both the motive and the means to foreclose competition in the WLA itself unless competitors are afforded a degree of protection in the initial build and rollout phase.

6.4.3 CityFibre has identified two main areas in which Openreach could deploy anticompetitive tactics to stifle the roll-out of competing access networks:

(1) Tactical construction (either pre-empting planned network build by competitive providers or over-building recently constructed FTTP network), and

(2) Pricing of higher-speed SFBB and UFBB services to lock in customers and decrease the likelihood of competing providers' successful launch of UFBB services.

Pre-emptive network construction

6.4.4 Where Openreach becomes aware of alternative operators' plans to construct FTTP networks in a given locality, it can foreclose this by selectively building in those areas. The form of such pre-emptive build could be either targeted FTTP or the rollout of enhanced FTTC (G.fast). Gigaclear submitted evidence to the Public Accounts

Committee that this was, in fact, exactly how Openreach has responded to its own activities[30].

6.4.5 CityFibre urges Ofcom to investigate means by which such behaviour can be prevented. Whilst Openreach has the same right as other providers to invest in new network, this should be done to the benefit of consumers rather than as an anti-competitive tactic. As set out in a number of places in this response, CityFibre believes that Openreach will have access to information from other providers requesting PIA access that could enable it to engage in this kind of behaviour.

Openreach FTTP overbuild

6.4.6 Openreach could also choose to wait until the competitive provider either has completed or is part-way through its network construction and then start rolling out its own FTTP network as a disruptive tactic.

6.4.7 Such behaviour can be considered from a number of different perspectives:

(1) From the perspective of the broader public interest in accelerating FTTP deployment as fast as possible, there would be a strong case to prohibit FTTP overbuild altogether given that the finite available capital across the industry might best be used to extend the footprint of FTTP across the country as a whole. A similar approach was adopted when cable-TV operators were initially encouraged to build out their networks.

(2) From a competition policy perspective, competing FTTP network build might be seen as a positive development, provided of course that all parties start from a level playing field and Openreach does not enjoy material advantages over rival infrastructure builders. It might be argued for instance, that until there is a viable DPA remedy in place and proven to be working at scale, the inherent advantage to Openreach in deploying FTTP across its own, pre-existing civil infrastructure means that it would have an unassailable advantage were it to seek to stifle competitive rollout.

6.4.8 From a consumer policy perspective, Ofcom would need to explain why its regulation of the market was leading to intensive but ultimately unsustainable competition based on competing network rollouts in some parts of the country whilst in other parts of the country (those where Openreach faces no competition) it continues to defer FTTP investment indefinitely.

6.4.9 Taking these factors together, CityFibre considers that Ofcom should introduce a rule preventing Openreach from overbuilding FTTP networks (or constructing FTTP in areas where other providers have already started construction) until all providers have a sufficiently level playing field through the availability of a fully functioning PIA remedy.

[30] See paragraph 26 of the Committee Report:

https://www.publications.parliament.uk/pa/cm201617/cmselect/cmcumeds/147/147.pdf

Targeted G.fast rollout

6.4.10 Given that Openreach currently has only limited plans to overbuild existing networks with FTTP (and would likely continue to face capital constraints on going further), a plausible scenario might be that G.fast is rolled out in those areas that Openreach believes are susceptible to competitive entry. Using Ofcom's market nomenclature, G.fast and FTTP would both be means of delivering UFBB, albeit with likely substantially different performance capabilities. Given that FTTP-enabled broadband is likely to be an 'experience good' for many consumers, G.fast might be perceived as a sufficiently close substitute for customers (who have not yet experienced the FTTP service) migrating from SFBB to UFBB, to be a credible counter to competitive FTTP rollout, at least to the extent that it could undermine the rate of migration to the latter and hence harm the FTTP business case.

6.4.11 Nonetheless, it is difficult to see that a 'no overbuild of G.fast' rule could be justified, given that it is an incremental enhancement of the existing FTTC architecture present. The greater concern would be that the pricing freedom, being granted to Openreach under Ofcom's proposals, allows it to price G.fast at a price point that would undermine FTTP investment.

6.4.12 Ofcom has previously signalled its aversion to setting price floors and has argued that such matters should be considered through the ex post application of competition law. With respect, this constitutes an evasion of responsibility. There is no reason in principle why Ofcom could not determine price floors as well as price ceilings or place constrains on the prices for G.fast. It is necessary only for Ofcom to accept that identifying price minima is important when creating appropriate FTTP investment signals.

6.4.13 The reliance on competition law is no kind of answer at all in the context of encouraging investment. Ex-ante regulation was implemented in network industries like telecommunications to encourage competition, whilst competition law simply protects existing competition. Due to the different purpose of competition law, it would be inappropriate for the purpose of encouraging investment in new networks as, for example, it would typically not recognise the need to recover common and shared costs when determining the appropriate level of a cost floor. Further, action under the Competition Act would take considerable time to be pursued, by which time the damage in terms of harm to the prospects of competitive FTTP rollout would already have been done. Foreclosure of the market having been achieved with regard to current entrants, Openreach would also then benefit from the resultant reputational barrier to entry that would deter further waves of competitive entry in the future.

6.4.14 Finally, it is worth noting that the risks of this kind of anti-competitive foreclosure is increased if alternative operators submit detailed forecasts to Openreach for PIA. This provides Openreach with market intelligence that can then guide its decision on where to make counter-investments, whether to overbuild FTTP or upgrade FTTC to G.fast.

6.4.15 The DPA consultation suggests that this is not a concern because Openreach is required under general condition 1.2 not to use information obtained for one purpose for another purpose. This is a flimsy defence particularly when one takes into account the time and effort that has gone into designing constraints on information sharing between

Openreach and its downstream divisions. We remain concerned that whether through direct information sharing or tacit signalling, the DPA processes outlined will provide Openreach with valuable advanced warning of other operators' plans and hence equip it to seek to pre-empt them.

Conclusions and recommendations

6.4.16 To create the necessary protections against anti-competitive behaviour directed by Openreach at alternative FTTP operators, Ofcom should:

(1) Consider either a total prohibition on Openreach overbuilding alternative operators' FTTP with its own FTTP; or

(2) A prohibition on such overbuild until fit for purpose PIA is being used at scale – hence levelling the playing field between alternative FTTP builders and Openreach. In practice, given Ofcom's own view of the timescales for PIA being introduced and then deployed, this would mean a prohibition on FTTP overbuild for the duration of this price control.

(3) Proactive monitoring of Openreach's choice of locations to build FTTP and deploy G.fast. This might be assisted by asking Openreach to submit, in confidence, its planned list of deployments for a given period of time. If this list then appears to change as other operators announce their FTTP plans, that might direct Ofcom's intention to the motivation of Openreach in modifying its plans in this way.

(4) The establishment of a price floor for G.fast based on a fair allocation of common costs to that product and a prohibition on G.fast pricing at an exclusionary level

(5) The promulgation of developed rules and procedural protections against the sharing of information provided to Openreach as part of PIA forecasting for the purpose of guiding Openreach's own investment decisions.

VULA remedy

6.4.17 Ofcom proposes continued obligation on BT to offer VULA products (including future G.fast and FTTP products). Whilst this is reasonable across Ofcom's proposed 3-year regulatory time horizon, Ofcom should consider setting out a trajectory towards the elimination of VULA regulation altogether, at least for higher-bandwidth variants. If Ofcom's strategic conception of the market evolving towards a competitive state at the FTTP infrastructure level was achieved, this would strongly support the removal of VULA access regulation for UFBB services, for which variant offerings at both retail and wholesale level would be available. CityFibre notes that other national regulators operating under the CRF have taken the decision to remove access regulation altogether for UFBB.

6.4.18 CityFibre supports Ofcom's proposal of a minimum term for VULA services (not only VULA migration) of 1 month.[31]. It is important that consumers have the ability to make choices

[31] See WLAMR consultation V1 Paragraph 6.98.

at as frequent intervals as possible and the shorter wholesale contract period should help achieve that.

6.4.19 Ofcom proposes that, due to more uncertainty and higher up-front costs, there should be no restrictions on minimum contract periods for FTTP services[32]. CityFibre has real concerns in this respect. As mentioned in other parts of this response, CityFibre is concerned at BT's ability to foreclose the competitive FTTP market by tactical behaviour, be that pricing or consumer contract periods.

6.4.20 Additionally, consumers' right to choose provider should not be affected by the underlying technology used to provide the service. New market entrants offering FTTP services may be forced to offer relatively short contracts as consumers may feel that this helps overcome any perceived risk of moving from the incumbent to a new and untried provider on a new and untried technology. Allowing BT to offer very long FTTP contracts only would further tip the competitive see-saw in BT's favour.

Quality of service remedies

6.4.21 Ofcom proposes that, despite imposing significantly higher Quality of Service (QoS) targets, SLAs and SLGs on Openreach, there will be no increased capital expenditure (CapEx) allowance for investments in functionality to reduce faults and help repair them more quickly (and speed up installations and other aspects of QoS), and the amount of operational expenditure (OpEx) BT can recover will be below the current levels as Ofcom assumes that OpEx is lower because BT has to fix more faults and is not doing so efficiently[33]. It is however not entirely clear what QoS costs Ofcom has included in the CapEx budget (if any) as ofocm appears to assert that allowed CapEx is sufficient to cover any investments required:

> "*we are proposing the following..[]..not to increase the capital expenditure (capex) allowance in the charge control, as the steady state ongoing network approach provides sufficient funding for Openreach to implement its planned investment in 'network 'health'."*[34]

6.4.22 Ofcom's statements to not allow CapEx for network health in one part of its consultation document appear to be potentially contradicted later in that same document. This response assumes that Ofcom has not allowed for Openreach's planned network health investments.

6.4.23 Ofcom's choice of MEA when modelling BT's WLAMR costs, is the FTTC hybrid copperfibre network that BT operates today. In doing so, Ofcom has chosen to accept that BT's current network is not based on the most recent technologies and incorporates a number of inefficiencies (such as having to run parallel fibre and copper links to endusers' premises).

[32] See WLAMR consultation V1 Paragraph 6.99.

[33] See WLAMR consultation V1 Paragraphs 1.20 – 1.22.

[34] See Quality of Service consultation Paragraph 4.3.

6.4.24 Given the above, CityFibre considers it fundamentally wrong that Ofcom should be able to disallow costs actually incurred by BT, due to BT is using old technologies, and at the same time not allowing for BT investing in functionality that will allow it to improve its performance.

6.4.25 Whilst, it is understood that Ofcom had hoped that BT would make investments in functionality to improve QoS during the last charge control period, CityFibre does not consider the fact that BT did not do so to be a justification for setting a charge control which does not allow BT to either incur its actual operational costs or invest so as to reduce operational costs over time. It seems to CityFibre that Ofcom is seeking to punish

BT for investments not made in the last charge control period, but is doing so in a manner that is entirely inconsistent with established cost allocation and cost recovery practice.

7 The PIA remedy

7.1.1 Ofcom has consulted separately on its proposals for duct and pole access (DPA) remedies, but as the successful achievement of the objectives set out in the WLAMR are significantly dependant on the successful implementation of a fit-for-purpose duct and pole access remedy, CityFibre considers it most appropriate to provide an integrated response to the two consultations.

7.1.2 Further, although the consultation is in relation to a DPA remedy, the consultation itself uses the name of Openreach's current DPA remedy (the PIA remedy) as synonymous with the DPA remedy, so this response refers to DPA and PIA interchangeably, unless otherwise stated.

The role of PIA in securing investment in fibre networks

7.1.3 Ofcom recognises the potentially significant impact of a fully functioning fit-for-purpose PIA remedy [35]. CityFibre agrees that a fit-for-purpose PIA remedy could have a significantly beneficial impact on the investment case for new full-fibre networks, and supports Ofcom's efforts to transform the current PIA remedy.

7.1.4 As set out in other parts of this response, and as recognised by Ofcom[36] the current PIA remedy has a number of shortcomings, which has resulted in very low take-up of the product. CityFibre welcomes Ofcom's efforts to improve the PIA remedy and has shared its experiences from its PIA trial in Southend to assist Ofcom in identifying the most significant issues and develop practicable and effective solutions.

7.1.5 Even if all the measures proposed by Ofcom in the DPA consultation, to improve the PIA remedy, were to be successfully and efficiently implemented, it should be recognised that it is not in BT's interest to make the product easy and efficient to use. CityFibre has identified below particular aspects of Ofcom's proposals on PIA systems and processes, which it considers particularly vulnerable to abuse by BT to discourage large-scale network deployment using PIA

7.1.6 It should, also, be recognised that even a substantially improved PIA remedy should not and must not be considered a 'silver bullet', which will solve the challenges and issues relating to incentivising investment in full-fibre networks.

7.1.7 PIA is only effective where BT has space in its existing ducts and, rightly, where new duct is required the competing CPs will need to install their own (other than to overcome 'pinch points') [37]. Therefore, CPs will need to construct at least some parts of their networks

[35] See WLAMR consultation V1 paragraphs 4.18, 4.21-4.24 and others; And DPA consultation paragraphs 1.5, 1.9, 2.3, 4.3, and others.

[36] See WLAMR consultation V1 paragraph 2.23

[37] See WLAMR consultation V1 paragraph 4.38.

themselves. The amount of self-build a CP will need to undertake may vary substantially between different parts of the country and it is CityFibre's experience that

it also varies within a city, with some sections requiring substantial self-build and others much less.

7.1.8 Where a substantial amount of self-build is required, it is possible that the most efficient solution for a CP is to do a full self-build. This is because the start-stop nature of the infill work makes inefficient use of construction crews and machinery, substantially increasing the cost per meter constructed.

7.1.9 When reviewing the portfolio of regulatory interventions Ofcom has at its disposal to incentivise investment in fibre networks, it is critical that it recognises that a functioning PIA remedy alone will not be sufficient. Particularly, when setting the regulated charges for SFBB access/ VULA 40/10, Ofcom need to recognise the realistic costs of constructing fibre networks with a significant portion of that build being self-build.

7.1.10 CityFibre's discussions with Ofcom, validated by the modelling assumptions used in the WLAMR, suggest Ofcom does not anticipate that the improved PIA remedy will be used in scale until the end of 2018 at the earliest, reflecting the length of time needed to complete all regulatory processes including potential appeals against its introduction. Our general message is that anything that can be done to shave as many months as possible from this timescale, should be done: the utility of this remedy will be determined by whether it is made available in a sufficiently timely way to support largescale FTTP build which CityFibre envisages commencing in 2018. If CPs were to wait until Ofcom thinks the full PIA remedy is ready, before commencing the roll-out of FTTP, then Ofcom should expect a substantial delay in the general availability of FTTP networks across the UK.

The scope of the PIA remedy

7.1.11 Ofcom's proposal is, in summary, that the PIA remedy is only applied for 'local' connections and that the purpose of the connection must be for the provision of broadband services (or that use for non-broadband connections should be to 'facilitate' the roll-out of broadband connections.

The geographic restrictions

7.1.12 The restriction to local use only is in CityFibre's view the most understandable, as there is a thriving commercial market in the provision of long-distance connectivity, whether as active circuits, dark fibre or duct access. There is therefore a real risk that an SMP remedy that spills over into the long-distance market could cause harm to the existing commercial market.

7.1.13 CityFibre also considers that the implementation of the local use rule should not cause significant difficulty and that Ofcom's proposals for changing the geographic usage restriction of the PIA remedy from being tied to BT's network topology (based on copper) to an ability to use PIA between network termination points and the local access node serving those termination points. is useful and not unreasonable.

7.1.14 As the market for long distance transmission services is already fully competitive, it would be inappropriate if the PIA remedy were to be imposed in a manner that could interrupt the competitive functioning of that market.

The proposed usage restrictions

7.1.15 Whilst CityFibre understands Ofcom's motivation for the proposed limitations to the use of the PIA remedy, it is of the view that the restrictions are unnecessary and as written unworkable. CityFibre also considers that Ofcom's interpretation of its legal powers to impose a PIA remedy without usage restrictions is overly-cautious and that examples across the EU demonstrate that the EC Directives and guidelines are not intended to be interpreted as narrowly as Ofcom has done[38].

7.1.16 Should Ofcom decide to retain a level of usage restriction, despite the clear arguments presented against that by CityFibre and a number of other parties, then CityFibre urges Ofcom in the strongest terms to reconsider the proposed draft legal instrument. It is CityFibre's view that the double-barrier created by the 'primary purpose' and 'facilitation' requirements in the current draft legal instrument would cause considerable uncertainty and delays in the scale-application of the PIA remedy and would likely result in multiple disputes being referred to Ofcom.

7.1.17 Annex C sets out CityFibre's more detailed analysis of the usage restrictions and presents arguments for why Ofcom could safely (in CityFibre's view) propose an unrestricted PIA remedy as well as proposed changes to the draft legal instrument, should Ofcom decide to retain the usage restrictions as currently proposed.

Equivalence of Input

7.1.18 CityFibre agrees that strict EoI would be difficult, time consuming and costly to implement. Should Openreach (or BT Group), however participate in a co-investment group, then the network build undertaken by that group should use the external PIA products, services and interfaces. Allowing a BT co-investment vehicle to not be subject to full EoI would be discriminatory and anti-competitive.

Improvements to current PIA processes and systems

Summary and overview

7.1.19 In general, CityFibre is pleased that Ofcom has engaged at a level of detail and granularity with the PIA process improvements that will be needed if fit for purpose PIA is to support alternative network rollout at scale.

[38] CityFibre has reviewed DPA remedies applied across the EU and EEA, based on information provided by Cullen International, and find that other NRAs operating under the CRF have adopted a wide range of approaches, including a substantial number who have introduced DPA without downstream restrictions and without apparent legal challenge. The extent to which NRAs have chosen to impose restrictions therefore appears to reflect a policy choice, not a legal prohibition.

7.1.20 CityFibre's general comments are:

(1) The history of PIA to date has been one of improvements largely by Openreach ceding responsibility for conducting activities to CPs, albeit under a structured and accredited process. CF's strong preference is wherever possible to conduct engineering tasks itself,

rather than be reliant on Openreach. This is relevant when considering whether further improvements particularly regarding overhead lead-ins.

(2) Scaling up the accreditation process to support a substantial phase of alternative infrastructure build using PIA remains an urgent issue. Contrary to what Ofcom states, CityFibre does not believe that the pre-conditions for addressing this are in place particularly as regards cabling competencies.

(3) The progress with the development of the Online Planning Tool thus far is welcome, as are Ofcom's proposals to further refine this. The most obvious and glaring deficiency in terms of current data records is in relation to poles and overhead lead-ins. This is one of several major problems at present that reduce CityFibre's confidence in a workable remedy for overhead lead-ins being available (see below).

(4) It is not reasonable to allow Openreach to deprioritise works that involve more than anticipated activity *where that inaccuracy arises as a result of the paucity of Openreach's own records.*

(5) As regards underground lead-ins, greater flexibility on the way that congestion is identified and measured may create greater scope to utilise PIA as opposed to overbuilding.

(6) The process that Ofcom has outlined for managing the end to end process for overhead lead-ins is simply too lengthy and uncertain to create a workable framework for commercial deployment. Ways need to be found to generate useful data about the condition of poles earlier, and then to shorten the timescales from request to fulfilment of orders. This issue needs to be examined from the point of view of demand-side switching remedies as well as a purely engineering-led exercise.

7.1.21 In the rest of this section, we follow the broad phases of activity summarised in Figure 6.1 of Ofcom's DPA consultation.

<u>Overview of PIA improvements: The journey to 'self-provision'</u>

7.1.22 Below is an overview of CityFibre's assessment of the current status and the improvements achieved through the proof of concept process:

Activity	**Current PIA Product**	**Post Proof of Concept**	**Outcome**

Survey	Full Survey Required	Not Required	Significant savings in time and cost
Plan requests	Openreach activity	CP's can access their own requirements (in the main) from online portal, shape file transfer undergoing development	Significant saving in fees and time. Realistic business case modelling enabled. Guaranteed quality of BTOR records to fit purpose.
Network reservation	Required specific reservation process	Reserve network but may change route (at CP's risk) and provide as-built record of use.	More manageable process, better enabling certainty of deployment.
Blockages	Openreach activity	CP or Openreach	Openreach not able to offer any SLA's. CP's carrying out majority of blockages to guarantee network deployment.
Cable recovery	Openreach activity	Openreach activity	Openreach unable to offer any SLA's. To date no cable has been recovered upon request.
Chamber construction on network	Openreach activity	Openreach activity	Openreach unable to offer any SLA's. To date no request has been made instead managed issue by changing design of cable adding cost and complexity to deployment.
Certified resources	Openreach activity	Better aligned training and self-certified process.	Improved access to supply chain to enable DPA role out.

Service establishment and accreditation

7.1.23 CityFibre believes the 'mixed use' rule as currently written will create substantial risk of disputes at the service establishment phase. This is set out in detail in 7.1.15 and following paragraphs above and not repeated here.

7.1.24 As far as accreditation is concerned, based on the experience gained from the Southend trial, there has been some progress in addressing some of the bottlenecks previously identified in our response to the December consultation. CityFibre agrees that 'train the trainer' approaches, self-accreditation where appropriate, plus on-site assessment constitute a reasonable overall framework for accreditation. As regards the conduct of surveys and the fulfilment of civil works, progress has been made in ensuring the necessary flexibility (the identification of 'competent persons' and the use of selfassessment). The remaining sticking point is the accreditation for the purpose of cabling works. Although Openreach has developed a course more in line with the requirement to access the network, it remains bespoke and as such is limited to a small number of training providers who will only run the training on demand so a pool of accredited persons is not being built up. In addition, it would appear from experience that Openreach has very limited resources associated with on-site accreditation. In both cases CityFibre has severe doubts as to whether current approaches would scale up.

7.1.25 The above will hopefully turn out to be a short-term problem, but it is a sufficiently serious risk for us to flag at this stage. Whilst CityFibre notes Ofcom's reluctance to use its powers to specify accreditation requirements is noted[39], Ofcom should however keep this closely under review and maintain pressure on Openreach to identify and address training bottlenecks where they arise and provide suitably qualified people (or buy in outside resources as necessary) to address this. The issue should be monitored and progress assessed before Ofcom makes final decisions about the form of its regulatory remedies.

Forecasting

7.1.26 CityFibre is broadly content with there being forecasting requirements in the PIA process. It is in no-one's interest for Openreach's provisioning activities to be subject to constant amendment and change because OCPs have failed to properly assess their needs and/or submit accurate forecasts.

7.1.27 Ofcom is right, however, to note that, as PIA extends both in scope and scale, changes will be required to the current forecasting requirements. First, it is clear that there is a significant gap between forecast demand and reality; this is because of the 'known unknowns' associated with unanticipated enabling works and/or alternative route configurations around blockages. As Ofcom notes[40], these problems will likely increase given that there is consensus that the scale of remedial works needed to upgrade

[39] See DPA consultation paragraph 6.17.

[40] See DPA consultation paragraph 7.27.

overhead infrastructure and poles will not be possible to forecast with any accuracy without doing detailed, site-by-site surveys.

7.1.28 More fundamentally, the time horizons set out in the document both for forecasting and completion of works, map uneasily onto CityFibre's planned city-wide fibre upgrades. CityFibre would expect to typically present a 'city-wide' plan for undertaking works over a fifteen to eighteen months period: the exact sequencing of works within that plan would then be subject to a degree of change, for instance as a result of consultations with street works authorities. A model allowed an outline plan to be presented (including survey requests, and (where appropriate) reservations, which can then be fine-tuned over time, albeit with reasonable advance notice being given to Openreach) would be preferable. This is one of several examples of how the proposed processes do not fit well with large-scale network roll-out using PIA.

7.1.29 As noted elsewhere in this document CityFibre has significant concerns that data provided to Openreach in PIA requests provides an opportunity for Openreach to make tactical adjustments to its own rollout plans e.g. G.fast as a means to pre-empt FTTP build.

Planning and surveying

7.1.30 In general, the focus on moving away from intensive field surveys towards greater use of network planning tools is absolutely correct. Significant progress has already been made on developing and rolling out the latter, as Ofcom notes.

7.1.31 CityFibre specifically welcomes Ofcom's proposals in regard to the format of the downloadable content provided by Openreach, and to allow a single, top-down examination of an Optical Exchange Area. This would be a significant improvement over the current approach whereby providers have to obtain records on a by-postcode basis, which limits the utility of the information as it maps badly onto the way that operators would typically design and build fibre networks.

7.1.32 CityFibre agrees with Ofcom that, due to the level inaccuracy of Openreach records in route, condition and capacity, OCPs will from time to time nonetheless wish to or need to conduct supplementary field surveys. This is likely to be particularly important in relation to the use of poles for overhead lead-ins. For reasons Ofcom mentions[41], data on the physical condition and usability of poles varies from sketchy to non-existent: picking up a comment CityFibre made in response to the December consultation, there needs to be an incentive on the various participants in the process to improve this information and then ensure that accurate records are maintained on this particular part of Openreach's inventory. As Ofcom notes[42], there is a collective interest in improving the overall dataset. One possibility would be for CPs that have conducted surveys to be obliged under contract to furnish the information collected to Openreach in return for a cross-charged fee (they would be, after all, supplementing the value of Openreach's own management information). Openreach in turn should be obliged to update its own

[41] See DPA consultation paragraph 6.48.

[42] See DPA consultation paragraph 6.52.

records with this new information, removing the to conduct exactly the same survey in the future. There would need to be a standard methodology for surveying poles and an agreed format for recording information obtained in this way. Such a standard methodology could extend to agreeing the engineering principles determining whether capacity at a given pole is available or not – although complex, for reasons that Ofcom has noted, CityFibre believes it should be possible to arrive at an agreed industry methodology to make such assessments, thus obviating the need for a second Openreach survey (extending both time and costs and reducing customer experience) of sites already assessed by competent persons employed for that purpose by the CP.

Other planning requirements

7.1.33 One important issue that has arisen in relation to planning requirements is that CityFibre believes the current standard for assessing whether ducts are 'full' needs to be re-visited. At present, the rules specify that a duct is full unless there is capacity to accommodate a 25mm sub-duct. CityFibre believes that a smaller increment (such as a 10mm sub-duct) should be introduced. Particularly for approaches to customer premises and underground lead-ins, this may artificially constrain the use of duct, where a CP's preference may be to deploy one or two 10mm sub-ducts or cables containing a number of individual dedicated fibres (which would not use additional capacity within the duct but would be charged for as individual items). The use of the 25mm sub-duct increment also has implications in terms of pricing, as a CP would, as things stand, be required to reserve 2 x 25mm to accommodate what would in reality be 2 x 10mm sub-ducts that could easily be accommodated in the same physical space as a single 25mm duct. Introducing a 10mm sub-duct increment would therefore like increase the level of utilisation of BT's ducts and also reduce the costs of doing so. This is consistent with [section xx] of the Access Directive which states "*national regulatory authorities may require that operator to publish a reference offer, which shall be sufficiently unbundled to ensure that undertakings are not required to pay for facilities which are not necessary for the service requested*"[43].

Operational processes for ordering PIA

7.1.34 CityFibre welcomes the specific proposals made here, As noted above, CityFibre's preference would be to place orders for PIA across a city-wide infrastructure deployment, and the proposed changes should accommodate this.

Requests for additional infrastructure capacity

7.1.35 As set out in CityFibre's response to the December consultation, CityFibre's priority is that the system allows for swift 'make or buy' decisions in relation to use of PIA or alternatively self-build to bypass or alleviate congestion. City-wide builds of the kind that CityFibre intends to conduct will need to be executed on time and in a way that maintains public and political confidence in our management of the project. SLAs and SLGs need to therefore be focused on getting swift and costed responses from Openreach, such that this does not become a bottleneck in the overall rollout phase. For this reason, CityFibre disagree with Ofcom that the current PIA specified times of five days to

[43] See Access Directive Article 9 (2).

consider a route order request and twenty days for an exchange area request are acceptable. It should be possible to respond to the former within 1-2 working days and the latter in no longer than 10 working days. It is possible that foreshortening the timescales in this way would mean that more complex requests would default to an expectation that duct would be replaced by new build under an ECC-style regime, or the CP would self-build. In our view, this is a preferable model than one where there is a protracted phase of proposals and counter-proposals between Openreach and the CP concerned. Seen from the perspective of the public or local government, the latter will simply lead to inexplicable delays in execution that undermine their confidence in and support for city-wide FTTP deployments.

7.1.36 The detail of such processes and accompanying SLAs and SLGs are one of a number of issues where Ofcom expects Openreach and the industry to work together (presumably through the existing Working Group) to fill in the details. An important word of warning here is that not all CPs will have the same interests, determined in part by whether they have the capability to build alternative infrastructure themselves. This is relevant in particular given that different CPs seem to have different expectations about the extent to which they wish Openreach to build long lengths of new duct capacity on their behalf, something which CityFibre would not require and which CityFibre does not consider appropriate for Openreach to have to provide. It is important that an efficient build/buy

balance is struck and it would be erroneous to have a presumption that Openreach should build long lengths of new duct when that could potentially be more efficiently done by a competing CP. It is important that the PIA costs and resulting prices should not include such unnecessary duct construction by Openreach.

7.1.37 On the specifics of how agreement is reached on whether there is capacity congestion or not, CityFibre broadly agrees with the logic of Ofcom's position: it is hard to see why Openreach should simply accept requests to alleviate capacity constraints without first ascertaining whether it accepts there is a need for the works to be carried out. At the practical level, if surveys are increasingly conducted according to a common 'rule book' (based on a shared understanding of the engineering parameters), disputes over the status of individual requests should be few and far between.

7.1.38 Ofcom's support for maintaining the rule[44] that where unanticipated additional works are requested, the work in question should default to the back of the queue is puzzling. As already noted, it is clearly right that CPs should be required to thoroughly and carefully ascertain their needs in advance. However where additional works are required because a works request made in good faith has to be resubmitted as a result of gaps in Openreach's own records about its assets, it seems prima facie unfair to punish the CP for this. This could also be open to gaming by Openreach. A better mechanism would be for such requests to go into a separate, fast-track resolution process to arrive at a view of how quickly the unanticipated works can be undertaken within Openreach's overall workflow.

7.1.39 One issue that CityFibre has raised before is relevant to this: the experience in Southend is that in a section of duct of say 0.5km it is possible to sequentially encounter a series of

[44] See DPA consultation paragraph 6.70.

congestion and blockage problems, each of which in turn then requires (under the current process) a request to be submitted to Openreach for resolution. It would be more workable if Openreach, when a blockage is encountered, were to then 'prove' the remainder of that length of duct as a single process, reducing the length of the process and the call-out times for respective engineering teams and ultimately reducing the costs of providing PIA services.

Network Deployment

7.1.40 CityFibre is broadly content with the proposed obligations set out in paragraphs 6.92 and 6.93 of the consultation. Overall, where CityFibre may depart from the views of some other potential users of DPA is its preference for self-build in some cases where others may prefer Openreach to be required to carry out works. Self-build gives the CP greater control and ownership of the end-to-end delivery of specific works. Nonetheless it is recognised that there are an irreducible minimum set of scenarios where the only practical solution is to require Openreach itself to carry out functions which CPs are not permitted to conduct at present (e.g. pole replacement) and that in certain circumstances it will be impractical to obtain a new wayleave and it is therefore preferable to make use of an existing wayleave obtained by Openreach.

7.1.41 CityFibre also agree with the proposal to defer rental charges until completion of the requested work. The 'anti-gaming' mechanism of limiting orders to an OLE area seems a reasonable compromise. In all events, Openreach is expected to generate disputes in relation to orders which it believes are cynically structured so as to evade rental charges.

7.1.42 As far as the structure and composition of SLAs and SLGs is concerned, the detail on this is left to industry to take forward. To repeat a point made earlier in this response, the timely furnishing of a response to allow CityFibre to make its own 'buy or build' decision is more important, particularly in respect of any required new build, than trying to impose what may be an artificially constrained timetable on an inherently unpredictable activity (the unpredictability stemming from what may be 'known unknowns' at the start of that process such as the time that will be taken to get permission for street works or to negotiate and exercise a wayleave).

7.1.43 Where CityFibre elects to self-build, it recognises that there needs to be some form of agreement with Openreach concerning how the work is conducted. CityFibre is concerned, however, that the criteria listed in paragraph 6.113 could become a bottleneck in the process, either because Openreach does not furnish the necessary agreement on design principles in a timely manner, or because it decides to trigger disputes in relation to the conduct of works. Similar issues were experienced in relation to LLU where relatively trivial technical or engineering disputes were used tactically to slow down the rollout. This was eventually resolved through the creation and subsequent work of the OTA, and a similar adjudication function will likely be necessary from the OTA2 in this regard. As far as costs are concerned, in line with Ofcom's observations in paragraph 6.114, CityFibre envisages the creation of a form of rate card for build works which should – where operators are all conducting broadly similar engineering functions and many of the contractors are employed by multiple operators – have a presumption of reciprocal pricing.

Enabling works

7.1.44 Decoding what is said in the consultation document, it would appear that the mechanism whereby Openreach agrees with its own contractors' processes to conduct enabling works is somewhat opaque and certainly seems to lack procedural clarity. Nondiscrimination here probably does not mean extending that same opacity and lack of procedural clarity to the rest of the industry, not least given that Openreach clearly has other means to regulate the relationship with its contractors that will not be available to it in relation to CPs' third party contractors.

7.1.45 At a practical level, experience from the Southend trial shows that, where the need for enabling works is identified, the question of whether this can be resolved immediately (through relatively simple engineering solutions) or requires more complex intervention (and hence more extensive communication with Openreach) is normally clear to the engineers concerned. Nonetheless, to prevent this becoming a future source of friction and potential dispute in the process, Openreach should be required to publish and consult on best practice guidance that would apply in a non-discriminatory way as between its own contractors and those employed by CPs. It should be relatively easy to arrive at some common-sense rules that allow some categories of enabling works to be carried out without extensive negotiation and consultation between the various parties.

7.1.46 As regards the 'moral hazard' problem of the mixed self-provision/Openreach enablement model, Openreach cannot have it both ways: it cannot, on the one hand,

place significant barriers in the way of self-provision, whilst also arguing that it is unfair that complex tasks are left to Openreach to fulfil. The default expectation should be that most enabling works will be best conducted by the CP itself, for reasons that Ofcom mentions[45]: the most efficient solution in most cases will be to ask the civil engineering field force already in place to resolve the problem as they go. If Openreach wishes to avoid complex or risky tasks defaulting to its own civil engineers to resolve, the best solution would be to commit to creating the kind of clear guidelines for self-provision mentioned above.

Plans for new infrastructure

7.1.47 Ofcom's approach seems sensible. The degree of information sharing between CPs building or planning to build new infrastructure is one that is likely to need to be revisited as large scale infrastructure deployments, including competitive FTTP, start to take place. There may be an overarching public policy argument for such intended deployments to be carefully co-ordinated so as to ensure that FTTP networks are built as rapidly and across as much of the UK, as possible. This, however, might need to be conducted under the aegis of the regulator in order to avoid accusations of anti-competitive collusion between operators.

[45] See DPA consultation paragraph 6.134.

Connecting the customer

7.1.48 This element of Ofcom's proposal remains the least developed and the least satisfactory in terms of creating the pre-conditions for large-scale, rapid FTTP rollout. It is also fair to see that it is the part of the proposal where PIA trials conducted to date (including our Southend trial) have hitherto provided the least amount of useful, practical guidance. In the latter stage of that trial CityFibre is proposing to attempt some experimental use of overhead lead-ins which may provide some of this needed input.

7.1.49 As far as underground lead-ins are concerned, self-build will likely prove to be the only efficient solution in the majority of cases. Although Improvements in micro-trenching technology mean that this is not a fundamental barrier, it does mean that there is an unavoidably significant civil engineering task to be conducted. This process could be facilitated by making two important technical changes:

7.1.50 First, allowing CPs greater flexibility as to where they take the lead-in from the Openreach network (permitting OCPs to locate their own break-out points nearer to customers' premises) – CityFibre therefore welcomes the proposal made in paragraph 6.181 but would suggest that this is less a matter of requiring Openreach to install its own footway boxes (from which, as noted, it may not always benefit directly) and more to permit the OCP to itself undertake that task. As we are unable at present to deploy chambers on the Openreach network (and chambers installed by Openreach on behalf of the CP's are both costly and delivery uncertain), CF have developed a specialist cable to allow deployment during network construction. This means that In Southend we have been able to deploy services from the cable through existing Openreach chambers. But although the innovation should to a degree resolved the immediate issue, it is expensive compared to deploying standard network cables and presents challenges when a repair

is required, as this is both awkward and costly. Greater flexibility to 'dig down' into the Openreach network to deploy our own chambers and break-out points would be of great benefit here.

7.1.51 Second, (as noted earlier) revisiting the technical parameters such that increments of unused capacity smaller than 25mm can be used for sub-ducting.

7.1.52 As for overhead lead-ins, CityFibre remains of the view that the current proposals are not workable. First, they unreasonably restrict CPs' ability to undertake certain activities themselves subject to agreed common operational standards: second, the indicative timescales proposed for Openreach conducting the activities which unavoidably fall to them alone are too lengthy. Resolving this will require greater flexibility on the former and tougher SLAs and SLGs on the latter. And the latter should be defined as narrowly as possible. This phase of PIA will be critical to the customer experience and hence to the rate of progress that CPs can make in converting and retaining customers to FTTP. We are very reluctant to make this critical phase a hostage to Openreach's willingness to offer meaningful and enforceable SLAs and SLGs.

7.1.53 Broadly, the commentary below follows Ofcom's approach in distinguishing between the following phases of activity:

(1) Initial survey

(2) Enabling works to repair or upgrade a pole to facilitate fibre deployment

(3) Running of fibre from CP network to the top of the pole

(4) Installation of overhead lead-in from pole to customer premises.

7.1.54 As has been a recurring feature of PIA product development to date, Openreach's position at present on overhead lead-ins seems to be that the vast majority of activities in all four phases fall to them alone to undertake. In our view, CPs adhering to common operational and technical standards could conduct much of the associated activity themselves. The exceptions are some enabling works, which we believe only Openreach can practicably undertake, and overall inventory management, which Openreach is probably best placed to undertake.

7.1.55 Below is a table overview of CityFibre's position in relation to the different elements of the customer connection process:

Activity	**Openreach**	**CP**	**Outcome**
Pole Replacement	Openreach should be responsible for pole replacement as the owner of the asset and mixed network deployment within an acceptable SLA		Compliant maintained network
Pole Stays	Openreach should be responsible for ensuring the pole is fit for purpose and is maintained within their engineering rules within an acceptable SLA.		Compliant maintained network
Installing equipment on pole		CP responsible for installing and maintaining their own equipment on the Openreach pole	Guaranteed deployment of infrastructure Compliant maintained equipment

Installing transmission cables between poles		CP responsible to install and maintain transmission cable if it complies with Openreach engineering rules	Guaranteed deployment of infrastructure Compliant maintained equipment
Installing or replacing a single drop cable		CP to be responsible for installation and or replacement of a single drop cable	Guaranteed installation on single visit maintaining the customer experience.
Network inventory management	Openreach to maintain network inventory management using information from CP initial survey and ongoing network install and upgrades.	CP's to furnish Openreach with asset records in a standard format	Assured asset records allowing CP's to manage the install of a customer and related happy path experience.

7.1.56 Surveys: We agree that the process would be facilitated by the conduct of surveys and the creation of a database. As noted earlier, the likelihood is that CPs will themselves be surveying the relevant pole real estate in areas where they propose to market services. If there are agreed survey fields and assessment criteria, it should be possible for database records to be updated by a variety of different CP and Openreach contributors.

7.1.57 Enabling works: Where, based on that survey evidence, the need for enabling work to upgrade or replace a pole is identified, we propose that CPs should be able to undertake minor enabling works themselves such as making a pole climbable. Where more extensive works are required such as full replacement of a pole or the maintenance of the structural integration of the pole with replacement stays, this activity probably unavoidably must devolve to Openreach given that the impact of the works is felt by all customers connected to that pole. These irreducible minimum activities must therefore be the subject of strict SLAs and SLGs.

7.1.58 Network deployment to the top of the pole: It should be possible for CPs to undertake all stages of network deployment up to the top of the pole, operating according to an agreed set of technical and operational standards for conducting such activities. A CP undertaking work on a pole that connects other customers (and that carries an attendant risk to the service to those other customers) should bear the cost of any remedial work that might subsequently be required and should have the responsibility to both notify all customers potentially affected by its work and if necessary compensate them for loss of service. Nonetheless, and again recognising that the contractors carrying out such work would in many cases also be contractors for Openreach itself, there seems no reason to

preclude such an approach. In general, the implication that these tasks are too complicated to be carried out by any party other than Openreach itself seem far-fetched.

7.1.59 Installation or replacement of single overhead lead-in: It should be possible for the CP to undertake this activity, again subject to agreed technical standards. There is a considerable premium on this being an activity that the CP can undertake, on demand from the customer. The same arguments apply as for network deployment at the top of the pole in relation to need for the CP to then take responsibility for the conduct of the works and for any unintended consequences of those works. But this is not insuperable from either an operational or legal perspective. If Ofcom nonetheless was minded to accede to Openreach demands to maintain total control of this phase, then it will need to be subject to strict SLAs and SLGs.

Maintenance

7.1.60 CityFibre agrees that some rules will be necessary to determine rights and responsibilities in respect of ongoing maintenance. From a commercial perspective, one of the things that will make it difficult to make clear 'make or buy' decisions concerning PIA and pure self-built networks is the uncertainty concerning the long-term operational cost associated with the former – hence this should, as far as possible, be clear at the outset.

Process and timescales

7.1.61 The proposed approach to the promulgation of SLAs and SLGs is welcomed. In terms of overall timescales for implementing the improved PIA, in line with general comments on this response (including on pricing matters) CityFibre reiterates that a 'good enough' PIA that would be available in 2018 is infinitely preferable to a 'perfect' PIA product that only becomes available in the next decade. From an operational perspective, of the various issues reserved for further discussion and consideration between Openreach and industry, by far the most important ones on which early progress will be needed is clearly SLAs and SLGs for build works (including the achievement of rapid decision points at the outset) and progress towards a workable solution on overhead lead-ins.

Other issues

7.1.62 CF is aware that Openreach also uses overhead poles to run transmission cables from point to point. On an 'equivalence' principle, and subject to following the same engineering rules and load-bearing criteria, it ought to be possible for CPs to do the same.

7.1.63 An issue discussed only in passing is that of wayleave consent. In relation to poles, experience from the Southend trial suggests that the existence of appropriate wayleaves for current poles and associated cabling is frequently unclear. In a scale FTTP deployment, the question of whether works on existing ducts and poles (e.g. pulling through cables in existing ducts or undertaking works on existing poles) benefit from Openreach's existing wayleave consents will need to be resolved. In our view, the principle should be that where work does not involve the construction of new ducts or the erection of new poles, any existing obtained wayleave should be deemed to cover that work conducted by a CP.

8 VULA pricing and cost recovery

8.1 Ofcom's objectives and overall approach

8.1.1 When setting the VULA price regulation, Ofcom has identified 4 main objectives[46]:

- Preserving investment incentives for competitors to BT,
- Preserving investment incentives for BT,
- Protecting consumers against high prices, and
- Protecting retail competition where necessary

8.1.2 These objectives are clearly in tension – namely between preserving investment incentives and the protection of consumers against high prices and (to some extent) also with the objective of protecting retail competition. CityFibre considers that it is entirely possible for Ofcom to find an appropriate balance between the objectives, but that this requires a view to the longer term, rather than only focusing on this charge control period. It is really important that the trade-off is correctly understood as between the short-term and longer-term interest of consumers, not between competition and investment (as it is sometimes presented by incumbents) or between industry and consumers. Nor is the trade-off between one generation of consumers and another. Rather the trade-off is between consumers' interests today and their interests over the next decade as FTTP is built out at speeds dependent in part on the regulatory environment. If Ofcom focuses entirely or primarily on this charge control period when striking the balance between the identified objectives, then there is a significant risk that investment incentives will be substantially damaged and FTTP will be deployed much slower than would otherwise be the case. Rather than 'this generation of customers paying for tomorrow's network' as Ofcom has put it, it will be this generation that pays in the future for regulatory errors made now.

8.1.3 Whilst Ofcom has proposed no explicit order of priority of the 4 objectives, Ofcom's clear strategic objective of encouraging investment in new fibre infrastructure, suggests that the two first objectives are of paramount importance. As demonstrated throughout this response, CityFibre considers that Ofcom has struck the wrong balance.

8.1.4 In fact, all of Ofcom's specific proposals for this charge control period are in direct support of the two last objectives, with none supporting the first two. In meetings with Ofcom, CityFibre has pointed this out and Ofcom's response has consistently been a variation on the theme of *'today's customers should not pay for tomorrow's network'*. As noted above, this statement is inaccurate – the actual trade-off is between the short term and longer term interests of substantially the same cohort of customers.

8.1.5 In particular, the level of pricing proposed for the regulated 40/10 VULA product is set at an extremely low level, resulting from Ofcom making a number of specific decisions in

[46] See WLAMR consultation V1 paragraph 8.6.

relation to how Openreach's costs should be recovered across different products and within the GEA portfolio. [✂] [47].

8.1.6 Additionally, Ofcom makes aggressive assumptions about Openreach's levels of capital and operational expenditure over the charge control period. This is particularly the case in relation to the costs Openreach will incur to comply with Ofcom's new quality of service remedies, where Ofcom assumes no additional capital expenditure but also assumes that operating expenditure is reduced to a level that could only be achieved as a result of significant capital investment.

8.1.7 Taken together, the above (and other assumptions made by Ofcom, such as the level of FTTP roll-out in this charge control period) result in an artificially low price level for the 40/10 product. This approach appears irreconcilable with Ofcom's clearly articulated objectives of encouraging investment by body BT and alternative providers.

8.2 The introduction of a VULA charge control

8.2.1 Ofcom proposes to replace the ex-ante margin squeeze regulation on the BT VULA product with a charge control[48], basing this on the argument that the SFBB products have not matured sufficiently for BT to no longer needing the benefits of the 'fair bet' approach which gave rise to the ex-ante margin squeeze regulation in lieu of a charge control I the last WLAMR.

8.2.2 We note that BT considers that Ofcom has retrospectively adjusted the methodology used to decide whether the 'fair bet' conditions have been met. We do not feel ourselves to be privy to sufficient information to judge whether this is true or not. It is certainly the case, though, that all investors require a consistency of approach to be demonstrated to risky investments, and that argues for not retrospectively reconsidering the 'fair bet' on the basis of information now known but which could not be reasonably predicted at the time the initial risky investment was made. Ofcom should therefore consider carefully whether the 'fair bet' conditions agreed at the outset have indeed been fulfilled. Nonetheless, CityFibre is not fundamentally opposed to Ofcom moving from the fair bet approach to a more standard charge control approach. The critical issue, however, is how that charge control is designed, especially given the objective to preserve investment incentives for both BT and its competitors.

8.2.3 Timing is of critical importance in this context. Ofcom states throughout the consultation that it will take time to build and market competitive fibre networks, and that the benefits of building fibre networks are likely to materialise, mostly, after this charge control has expired[49]. Ofcom, however, then leaps to the conclusion that, as the benefits of new fibre network investment will not be delivered fully during this charge control

[47] [✂]

[48] See WLAMR consultation V1 paragraph 8.13.

[49] See WLAMR consultation V1 paragraphs 8.11 and 4.20

period, Ofcom should proceed by applying its 'business as usual' approach – namely to regulate BT's pricing to a level that only delivers BT's WACC. Ofcom proposes to achieve

this not over the three-year charge control period, but over just the first two years of the charge control period[50].

8.2.4 Ofcom's approach is to model BT's costs over a four-year period (2017/18 – 2020/21). The charge control will come into force for the period 2018/19, and a glidepath will be established such that BT's prices reach costs by the year 2019/20 (i.e. year 2 of the charge control). This is contrary to usual practice where prices reach cost by the end of the charge control period.

8.2.5 Ofcom recognises the importance of investment in competing networks and also acknowledges that its regulation of the VULA product could be determinative in whether such investment will take place. Ofcom specifically states that "*the tighter we regulate VULA, the more likely it is that we undermine the incentive for telecoms providers to build new networks"*[51]. CityFibre agrees with that assessment and considers that Ofcom's proposed price regulation of VULA is far too aggressive.

8.2.6 Ofcom further recognises the significant risks associated with over-regulation at this time of needing to encourage infrastructure investment by stating "*We also recognise that the effects of regulatory error are likely to be asymmetric in this case: in that if we intervene too early the harm caused by deterring future investment in UFBB may be greater than the harm caused by intervening too late"* [54].

8.2.7 Ofcom has the right to apply its reasonable judgement in relation to the level of regulation to apply at any point in time, as well as whether to prioritise longer-term competition development over short-term price reductions for consumers.

8.2.8 The use of judgement, however, implies the potential for errors. The types of error a competition or regulatory authority can make have been identified as Type I and Type II errors[52]. A Type I error is a 'false positive', analogous to mistakenly imposing liability on an innocent defendant. A Type II error is a 'false negative', equivalent to failing to punish a guilty party.

8.2.9 In the context of regulation, Ofcom needs to consider the appropriate level of regulation given the prospective level of competition in the future, not just the degree of competition today. The imposition of *ex ante* regulation based on a presumption that a market is not prospectively competitive amounts to a Type I error, whereas failing to

[50] See WLAMR consultation V2 paragraphs 1.8 and 2.97

[51] See WLAMR consultation V1 paragraph 8.16.

[54] See WLAMR consultation V1 paragraph 8.18.

[52] This issue is recognised by BEREC ('Common Position on geographic aspects of market analysis' 5 June 2014) and has been discussed in McChesney, Fred S. "Talking'Bout My Antitrust Generation Competition for and in the Field of Competition Law." Emory LJ 52 (2003): 1401 and in Bauer, Johannes M., and Erik Bohlin. "From static to dynamic regulation." Intereconomics 43.1 (2008): 38-50.

regulate, or too weakly regulating a market where there is no prospect of competition is a Type II error, as set out below: Possible Costs of Forward Looking Regulation

Regulation	Prospective market structure	
	Workable Competition	Non-workable competition
No *ex ante* regulation, full reliance on antitrust oversight	Correct	Type II error
Ex ante regulation (e.g. control of wholesale and/or retail prices)	Type I error	Correct

Adapted from Bauer and Bohlin.

8.2.10 Where the long-term objective is to promote end-to-end infrastructure competition, a Type II error is better than a Type I error as the former can either be corrected by the normal working of the market or by later regulation. A Type I error, however, can only be corrected by regulation and may have already resulted in entrants exiting the market before that correction can be made.

8.2.11 Having recognised the risks associated with over-regulation and stated a preference for under-regulation in order to avoid irrevocable harm to investment incentives, Ofcom proceeds to propose that the access pricing for the most popular SFBB product (the 40/10 product) should be regulated down to the level of BT's costs in the first two years of the charge control period. Ofcom appears to think that all it needs to do to protect investment incentives is to make non-binding statements about a future intent to refrain from price regulation of speeds beyond the 40/10 package.

8.2.12 It appears that there is a significant disconnect between Ofcom's clearly stated intent of encouraging investment in competitive fibre networks and the specific proposals contained in the WLAMR consultation.

8.3 The VULA 40/10 price will constrain UFBB pricing

8.3.1 Ofcom states that it intends to impose the minimum regulatory intervention necessary to address the competition concerns it has identified. Ofcom's proposed mean of achieving this is to only impose a charge control for the 40/10 VULA product and to impose 'only' fair and reasonable pricing obligations on higher speed VULA products.

8.3.2 However, as observed by Ofcom[53] the 40/10 package is by far the most popular FTTC service in the UK and is expected to remain so for some time. Ofcom recognises that consumers are price sensitive[54] and it is therefore unlikely that any significant portion of broadband

[53] See WLAMR consultation V1 paragraph 3.19.

[54] See WLAMR consultation V1 paragraph 3.50.

consumers would be willing to pay a premium for a faster service. This is evidenced by only a small proportion being willing to pay an increment for the current 80/20 SFBB package[55].

8.3.3 CityFibre agrees with Ofcom that the 40/10 SFBB package is likely to remain the most popular package during the charge control period and that, therefore, the 40/10 charge control will constrain pricing of UFBB services[56]. It is for that reason that CityFibre does not understand how Ofcom can conclude that the aggressive reduction proposed for the 40/10 service will not have a severely chilling effect in willingness to invest in all-fibre networks.

8.3.4 Ofcom points out that BT's price premium for SFBB services, over SBB services, has increased over time. Ofcom's table 3.11 (in the WLAMR consultation), in fact shows that BT's SFBB price premium has converged with the price premia charged by TalkTalk and Sky[57]. *It is therefore very possible that BT's initial price levels were artificially low in order to encourage migration to the SFBB service and securing a significant market share in this part of the market*.

8.3.5 CityFibre notes that price premia for both >30Mbps and >100Mbps[58] services across 28 countries show a decline over the period 2012 to 2015 as set out in the graphs below[59]:

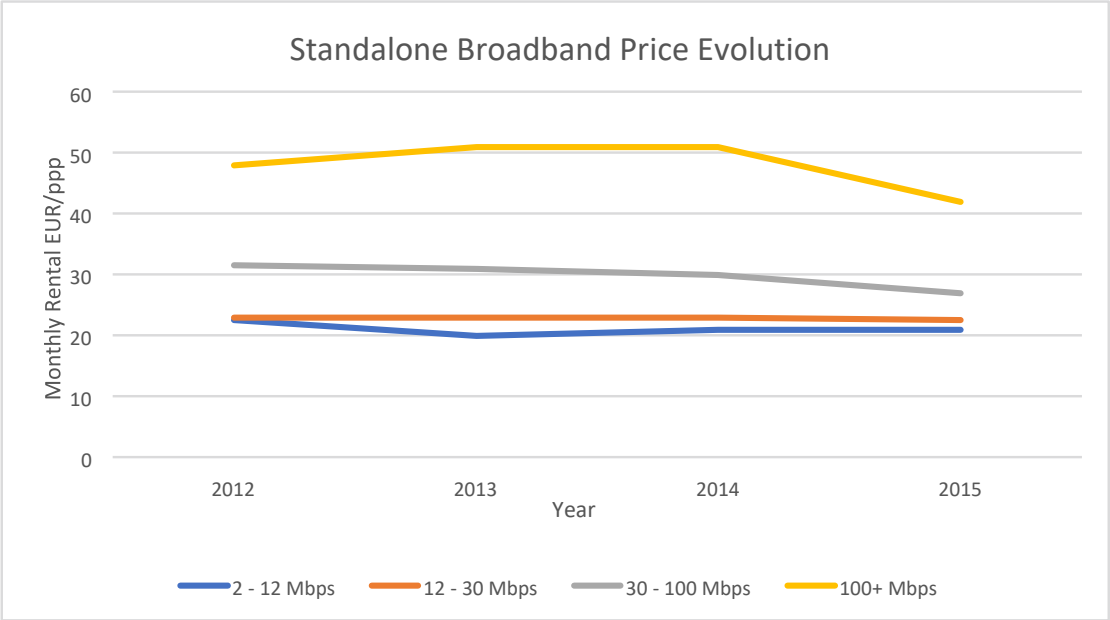
[55] See WLAMR consultation V1 paragraph 3.51.

[56] See WLAMR consultation V1 Paragraph 3.47.

[57] Here it should be noted that TalkTalk in particular has been arguing for some considerable time that BT has been exercising a price squeeze on the SFBB pricing. See CMA case "TalkTalk Telecom Group plc v Office of Communications Case 1237/3/3/15" .

[58] CityFibre considers that the >100Mbps service can be seen as representative of UFBB services over this period of time.

[59] Broadband Internet Access Costs (BIAC) study prepared for the European Commission and published in 2015.



8.3.6 In discussions with Ofcom, since the publication of the WLAMR consultation, Ofcom has suggested that, whilst it agrees that the regulated 40/10 price will constrain the UFBB price in the short term (over this charge control period at least), as the UFBB product matures this will change and the premium for UFBB will likely increase. Ofcom has made it clear that it considers that investors in UFBB networks should base their investment decision on the prospect of an increased price premium over time, not the price premium that can be commanded at the time of launching the UFBB product.

8.3.7 First, If Ofcom thinks that investment organisations will provide funding based on a hypothetical increase in price in the future (which is not supported by international evidence), then it is clear that Ofcom does not understand how investment decisions are made.

8.3.8 Second, [✂]

8.3.9 Ofcom's hypothesis that the short term price constraint on UFBB by the regulated 40/10 VULA price will not impact the business case for building FTTP networks is seriously flawed. Ofcom needs to reconsider its position in light of the facts presented in this response. As stated above, [✂]

8.4 *Limiting the charge control to the 40/10 product only does not create investment incentives*

8.4.1 Ofcom suggests that it will be unlikely to extend direct price regulation to speeds beyond the 40/10 package in future market reviews, but cannot commit to not doing so as it will eventually depend on the then prevailing market conditions.

8.4.2 In discussions with CityFibre about its proposals in the WLAMR consultation, Ofcom has made it clear that it intends this statement to signal to downstream CPs that they cannot rely on price regulation of higher speed services to ensure that they can continue to compete effectively with BT's retail businesses. Ofcom has stated that it considers this should give the downstream CPs a strong incentive to either invest in competing UFBB

networks themselves (separately or as co-investment with Openreach) or engage with competitive wholesale providers such as CityFibre to provide anchor tenancy to support the development of competing UFBB infrastructure.

8.4.3 Whilst a non-committal statement of intent by Ofcom may have some influence on the medium to long term thinking of downstream CPs, [✂]

8.4.4 If, therefore, it was Ofcom's intention that by applying the charge control to the 40/10 product only, [✂], that was clearly a mistake and CityFibre hopes that Ofcom will consider the evidence and arguments presented in this response and reconsider its position in this respect.

8.4.5 It is important to recognise, however, that it is not the scope of the charge control that in and of itself causes a problem for investors in fibre networks, but the way Ofcom has set the charge control. Were the underlying assumptions and methodologies of setting the charge control to be changed, then CityFibre considers that a charge control on the 40/10 product could serve Ofcom's short-term objective of protecting consumers from over-charging, whilst not damaging investment incentives to the extent the current proposals clearly do.

8.5 Ofcom's assumptions about BT's future pricing of higher speed services

8.5.1 Although not set out explicitly in the WLAMR consultation, Ofcom has explained to CityFibre in meetings that it would expect to BT to use its pricing freedom for services >40/10 to increase prices for those higher speed services. CityFibre finds that assumption to be surprising and ill-conceived.

8.5.2 [✂].

8.5.3 An example of that behaviour can be observed by BT's comparatively low pricing of the SFBB services when these were launched. That pricing has resulted in BT enjoying a substantially higher market share in SFBB services than in SBB services (both before and after the introduction of SFBB services).

8.5.4 [✂].

8.5.5 CityFibre does not consider that Ofcom's proposed fair and reasonable pricing remedy for higher speed services will be effective in preventing BT from adopting this type of behaviour. [✂].

8.6 Ofcom's charge control design assumptions and methodologies

8.6.1 In calculating the proposed price levels for the different wholesale components that make up the VULA product (for most CPs VULA is delivered using a combination of the MPF and the GEA product, but some providers use the WLR product combined with SMPF), Ofcom relies on a number of critical assumptions, including:

(1) Whether to use BT's costs for the charge control or that of a reasonably efficient operator (REO) or a modified equally efficient operator (MEEO);

(2) If using BT's costs, whether to use fully allocated costs (FAC) or long run incremental costs (LRIC) plus common costs;

(3) If using BT's costs, how to allocate shared and common costs between different products; and

(4) If using BT's costs, how to allocate shared and common costs between different versions of the same product (e.g. different speeds of GEA).

8.6.2 Below we discuss each of these assumptions and present illustrative analysis of the impact of the specific assumptions Ofcom has made, alongside alternative options Ofcom should have chosen.

The use of an REO model

8.6.3 As it is Ofcom's explicit objective to encourage investment in competing fibre networks, it would be reasonable to assume that Ofcom would not wish to set the price of the regulated anchor product at a level at which a reasonably efficient provider of fibre network could not compete.

8.6.4 It is a well-known and accepted fact that fixed telecommunications networks are characterised by large up-front costs that need to be recovered, regardless of the number of customers actually using the network – thus they are characterised by the presence of significant economies of scale.

8.6.5 Additionally, fixed telecommunications networks are also characterised by the presence of significant economies of scope, as several different products can be delivered across the same physical network. For example, the provision of voice services are delivered over the same network as broadband services and also leased lines are delivered across networks that overlap extensively with the networks to deliver voice and broadband services.

8.6.6 A provider entering the market for provision of broadband services, and building a new fibre network, will at the time of entry benefit from neither economies of scale or scope, whereas BT today benefits from both.

8.6.7 Just as it would naturally not be reasonable to set a charge control based on the cost of a new market entrant to serve its first customer, neither is it reasonable to set the charge control at the cost BT currently faces when having very high market shares and significant market share across all relevant fixed telecommunications markets, because (by the very nature of the introduction of a new competing network) BT will lose some of those customers (and thus market share) to the new market entrant. BT's unit costs will, therefore, by necessity increase if there is successful introduction of a competing network offering UFBB services.

8.6.8 It follows from the above, that a reasonable approach to setting the charge control would be to assume that the competing network operator would gain sufficient market share

to compete with BT (and Virgin Media, where it is present), perhaps assuming a market share of 1/3 for each network. If that were to happen, it may also be reasonable to assume that the costs that should be covered should that of the type of network a new provider would build – in other words an all-fibre network.

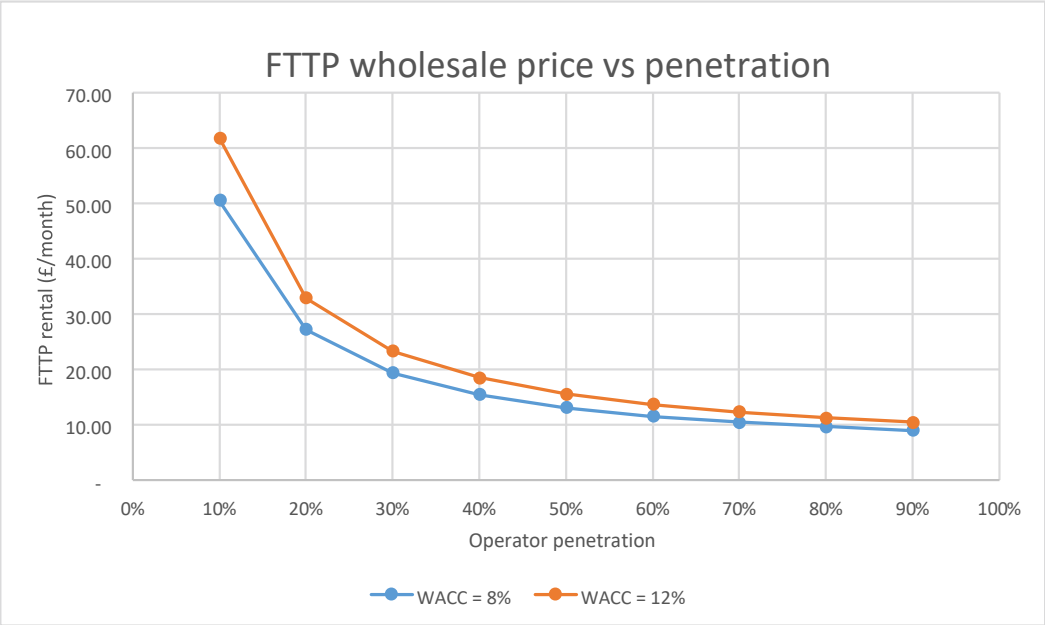
8.6.9 CityFibre considers that, if Ofcom had genuinely wanted to ensure that its VULA charge control did not deter investment, then this is the approach it should have taken. Ofcom refers throughout the consultation document [60] to its belief that some static inefficiencies (e.g. duplication of certain assets) are acceptable due to the large expected benefits to consumers and the UK overall of a fit-for-purpose fibre network. It would be consistent with that approach to set the charge control at the level of costs a reasonably efficient operator could achieve once it had achieved the target market share.

8.6.10 If Ofcom were to accept that this is the appropriate approach to setting of the VULA charge control, then it would be necessary to make assumptions about the level of use of, and the charges for, the PIA remedy. If the PIA remedy is used extensively, then the duplication of physical assets would be reduced substantially.

8.6.11 CityFibre has estimated the likely unit costs for an FTTP network at various market shares, using the following assumptions:

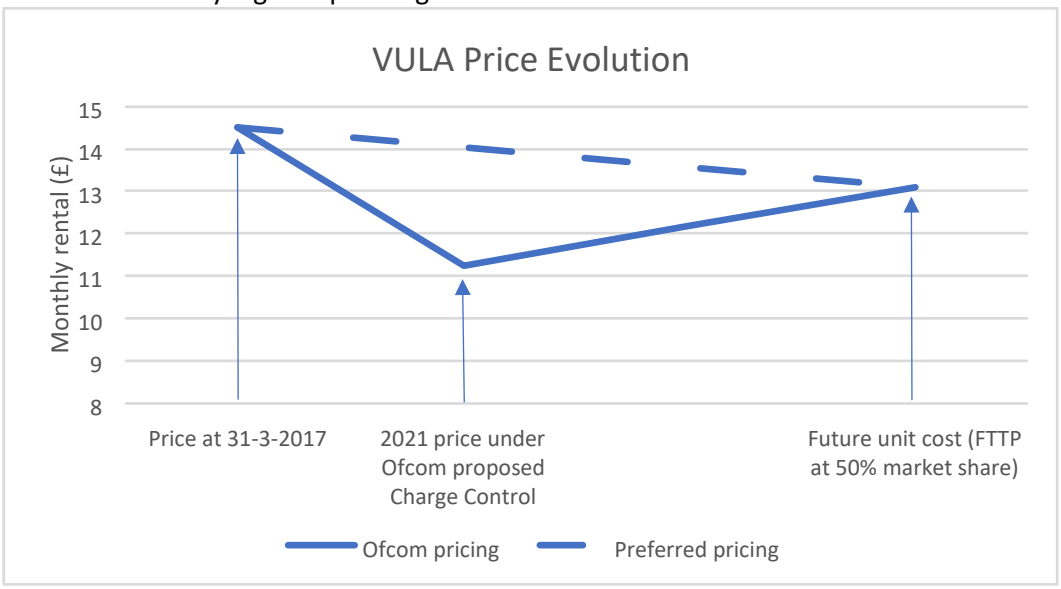
- UK – wide coverage to 120 towns and cities rolled out over 10 years; o DCF analysis over 15 years with cost recovery per line growing in line with inflation (price shown is for 2024);
- Scenarios are run for two different WACC assumptions, 8% (as used in Ofcom's charge control model) and 12% (reflecting higher risks faced by a new entrant).

[60] See WLAMR consultation paragraph 4.7 and DPA consultation paragraph 3.7 and paragraphs 4.99 – 4.101 for examples of this



8.6.12 If Ofcom does not set the regulated VULA price based on the efficient unit cost BT would incur when a new FTTP network has been established at reasonable scale, then it will be necessary to increase the regulated VULA price over time. This is illustrated in the chart below, which shows the likely change in unit costs that would occur in migrating from FTTC at BT's economies of scale in 2021 to FTTP at 50% market share[64] in the longer term.

8.6.13 Note here that the unit cost at 50% market share for an REO is lower than the equivalent unit costs at the same market share using an MEEO approach. This is because the MEEO approach assumes BT's current mixed copper and fibre network, which has substantially higher operating costs.



8.6.14 In its BCMR Final Statement in April 2016, Ofcom stated:

"Although there are strong reasons to use BT's CCA FAC as the basis for setting charges, there may be circumstances in which we consider that our regulatory objectives may be better served by a price level which is (for at least a period) above BT's CCA FAC. These tend to be where we judge that the dynamic benefits associated with a higher price level are likely to outweigh the static cost to consumers of higher prices.

We consider that such benefits are likely to be greatest if temporarily higher prices facilitate new services that would otherwise not be available to end users. A current example of this is ultrafast services (e.g. FTTP) for residential consumers. New services can lead to significant consumer benefits, which are likely to be greater than the static benefit of more cost reflective prices for an existing service. Dynamic benefits are also likely to be large when (temporarily) higher prices facilitate investment that is likely to result in effective competition, since regulation cannot replicate or mimic all of the beneficial effects of competition."[61]

8.6.15 CityFibre therefore finds Ofcom's proposed approach in the WLAMR consultation all the more surprising and inconsistent with Ofcom's stated objectives of encouraging FTTP network investment.

The use of an MEEO model

8.6.16 As set out above, with reference to the REO modelling approach, it is without doubt that BT would lose market share if a new network operator were to successfully enter the market. If Ofcom considered that the modelling of a new fibre network would be too complex and uncertain[62], then a second-best approach would be to simply adjust the customer volumes in the cost model representing BT's current costs. This would at the very least reflect the very significant impact of the loss of economies of scale resulting from the loss of market share. While it is recognised that substantial loss of market share would occur after the end of the three-year charge control period, it is inevitable that, if infrastructure competition develops further, it will occur in the medium to long term.

8.6.17 CFH have estimated the impact on the unit costs in 2020/21 of using two scenarios for Openreach market share: 33% and 50%. This has been done by running scenarios in Ofcom's charge control model to increase the amount of PIA lines and observing the impact on unit costs.

The results of this analysis are shown below:

	Current Price	LRIC+ Unit Cost

[61] BCMR Final Statement Volume II paragraphs 5.72 and 5.73

[62] WLAMR Volume 2 paragraph 2.54

	Scenario description	Service		Current Price 31-03-2017	LRIC+ unit cost 2020/21
Ofcom base case	As in the charge control model base case (NB there are small differences with the numbers in the consultation due to the use of the nonconfidential model with randomised inputs)	MPF rental	GBP/year	85.3	84.7
		GEA 40/10 rental	GBP/year	88.8	52.3
		Total	GBP/year	174.1	136.9
		Total	GBP/month	14.5	11.4
MEEO case	PIA take-up is increased such that Openreach has 33% market share in 2020/21	MPF rental	GBP/year	85.3	136.1
		GEA 40/10 rental	GBP/year	88.8	105.7
		Total	GBP/year	174.1	241.8
		Total	GBP/month	14.5	20.1
MEEO case	PIA take-up is increased such that Openreach has 50% market share in 2020/21	MPF rental	GBP/year	85.3	114.2
		GEA 40/10 rental	GBP/year	88.8	81.8
		Total	GBP/year	174.1	196.0
		Total	GBP/month	14.5	16.3

8.6.18 It is clear from these results that, were Openreach to operate their network using a competitive market share rather than the current level of penetration, the unit costs would be substantially higher than the current price. While it is recognised that there may be some inaccuracies resulting from such a large change in input assumptions (for example, the PIA assumptions and CVEs and AVEs within Ofcom's model may not be valid), CityFibre believes that these results are nonetheless indicative of likely MEEO costs, given the large economies of scale in Openreach's network.

8.6.19 The very high 40/10 VULA unit cost set out above, however, does not represent efficiently incurred costs. Efficiently incurred costs would be based on a full-fibre network, which has considerably lower operating costs that BT's current copper-fibre hybrid network. *CityFibre therefore does not suggest that the regulated VULA price should be £20.1 per month in 2020/21.* As explained above, the table above simple illustrates that BT's unit costs are highly sensitive to the assumed market share and that Ofcom is wrong in setting regulated prices based on BTs current level of economies of scale, given that it is Ofcom's express objective that that market share should be substantially reduced.

8.6.20 In discussions with Ofcom about the WLAMR proposals, Ofcom has confirmed that it understands that unit costs (and therefore also regulated prices) will be likely to increase over time (presumably in the next charge control). Ofcom has confirmed that it does not consider this to be a significant issue, by which we infer not that Ofcom would expect Openreach to simply absorb losses but that it would adjust regulated prices accordingly. This however presents a major logical flaw in the proposals. If, as we believe, FTTP investment is likely to be significantly deterred by Ofcom's proposals, then in fact market share loss will take place at a much slower rate than would otherwise have been the case. Ofcom's approach then becomes a self-fulfilling prophecy: foregone competitive pressure and loss of market share means that Openreach retains high market share, but at the expense of Ofcom's stated strategic aim of encouraging further competitive FTTP expansion.

The use of BT's FAC or LRIC costs

8.6.21 Ofcom has used FTTC technology as the Modern Equivalent Asset (MEA) to determine the FAC/LRIC+ cost base used in the charge control.[63] However, this approach takes no account of the efficiencies that can be achieved by the deployment of FTTP technology at scale. CityFibre notes that FTTP is able to deliver lower unit costs than BT's FTTC network at competitive levels of market share, and this suggests that FTTP would clearly be a more appropriate MEA.

The distribution of common and shared costs between different products

8.6.22 As described above, the same network is used to provide a number of different products. At the wholesale level, those products are WLR, MPF, SLU, and GEA and Ofcom needs to decide how it distributes the costs that are common or shared between all or some of these products in order to provide a fair and reasonable regulatory framework that will work towards the achievement of Ofcom's (and the government's) strategic objectives of promoting the roll-out of FTTP networks across as much of eh UK as possible, as quickly as possible.

8.6.23 Of particular significance is how Ofcom distributes shared and common costs between products delivered via copper and fibre. The ducts used are the same and the duct costs represent a very large proportion of the overall costs in providing the wholesale services.

8.6.24 Ofcom has chosen to divide the common and shared costs between copper and fibre products using the EPMU method, but, considering that in the long term, fibre assets will increasingly replace the legacy copper network, CityFibre believes that a more appropriate approach would be to allocate common costs only to the fibre assets. This approach would ensure stability in the recovery of common costs, as the fibre network forms the long-term network infrastructure. Recovering a significant amount of common costs from the copper network in the short term could result in the need for increases in prices of fibre services in the future as the copper network is withdrawn.

Efficiency and the allocation of common costs of GEA and MPF services

8.6.25 CityFibre agrees with Ofcom that the loss of some allocative efficiency is worthwhile in the pursuit of the dynamic efficiency gains that will come from investment in fibre to the home[64]. However, Ofcom's proposal to allocate common costs on an EPMU basis will fail to achieve this laudable goal. Indeed, Ofcom's proposal runs counter to its aim of promoting investment by BT and its competitors, of which CityFibre is one of the most

[63] WLAMR Volume 2 paragraphs 2.50 – 2.54

[64] The superior economic benefits that arise from gains in dynamic rather than static efficiency have been known for many decades. In a seminal article from 1966, Harvey Leibenstein discusses the comparative gains from allocative and x-efficiency. In this article "x-efficiency" is a combination of improvements from greater productivity and from innovation. He concludes: "*The data suggest that in a great many instances the amount to be gained by increasing allocative efficiency is trivial while the amount to be gained by increasing X-efficiency is frequently significant*"[68]. Ofcom should bear this important finding in mind when considering how to set prices to encourage different forms of efficiency.

active, as set out in the "Key Proposals" box after paragraph 1.2 of the Executive Summary.

8.6.26 Ofcom's proposals are overly theoretical and do not take into account how firms price in reality when offering vertically differentiated products and how they use price to incentivise customers to trade up to superior products. By not taking account of this reality, Ofcom's proposals run a substantial risk of a stagnated market in which customers remain with lower value, slower speed broadband and so the economy will not gain from increased dynamic efficiency.

8.6.27 Further, by allowing BT to recover some common costs from a product (MPF) that would not be offered by an efficient entrant, and which has already been financially written off several times, Ofcom is distorting competition by allowing BT to price fibre products lower than an efficient entrant could. We explain our reasoning below.

8.6.28 The main flaw in Ofcom's argument is that it is based on the assumption that there are only two products (GEA, which supports SFBB; and MPF, which supports SBB), both of which are well established in the market. Ofcom ignores the presence of a third, new product (UFBB) and how firms are likely to price such a product.

8.6.29 If it were the case that just two products existed with no investment being made in new products, then allocating costs in a manner proposed by Ofcom could have some justification. However, as Ofcom has a policy objective to promote further investment in fibre closer to the customer, the effect of its pricing policy on that investment must be considered. CityFibre's view is that investment in fibre closer to the premises will be supported through allocating all common costs to GEA. This approach will support dynamic efficiency gains and is closer to how firms would price products in a normal competitive market. Our reasoning is explained below.

Pricing across multiple products

8.6.30 Companies offering vertically differentiated products, i.e. products that offer different quality levels, use price as a mechanism to indicate the relative quality and to encourage consumers to trade up from lower to higher quality products.

8.6.31 In a well known pricing experiment, Huber and Puto [65] offered groups of business students brands of beer with different price/quality combinations. In the first round of the experiment, students were offered two beers: 'standard' or 'premium'. In later rounds a cheaper 'bargain' and a more expensive 'super premium' brand were added. The results of each round are shown below.

Beer	Price	Percentage purchasing

[65] Huber, Joel, and Christopher Puto. "Market boundaries and product choice: Illustrating attraction and substitution effects." *Journal of Consumer Research* 10.1 (1983): 31-44.

Round 1		
Standard	$1.80	33
Premium	$2.60	67
Round 2		
Bargain	$1.60	0
Standard	$1.80	47
Premium	$2.60	53
Round 3		
Standard	$1.80	0
Premium	$2.60	90
Super Premium	$3.40	10

8.6.32 In the experiment, Huber and Puto were able to influence purchasing decisions by setting different anchor prices, moving respondents towards or away from specific products "like marionettes".

8.6.33 The implications for the WLA market of this example are clear: the presence of the superpremium product – UFBB – is likely to encourage consumers to trade-up from lower to higher speed broadband services. Allocating the common costs to GEA would therefore send appropriate signals to CPs to encourage them to invest in higher speeds of broadband, as it would allow them to set a price that would generate an appropriate level of return. MPF would be seen as the 'bargain' brand, encouraging consumers to move towards the premium and super premium (SFBB and UFBB) products allowing investors in these technologies to earn a positive return, thus encouraging investment and dynamic efficiency gains.

8.6.34 If, however, the price of GEA were based with only a proportion of common costs allocated to it, the price differential between SFBB and UFBB would be likely to be so large that customers would be reluctant to trade up to the superior product. This would be similar to the situation in the early days of SBB when consumers also had unlimited dial-up

access for free using the FRIACO wholesale product[66]. The price difference at that time was widely considered to be too great to justify trading up.

8.6.35 Companies that offer vertically differentiated products that share common costs, which is often the case, would recover those costs across the whole product set. Customers with a higher willingness to pay, who buy the super-premium product, would contribute a disproportionate amount of those common costs on each purchase. Buyers of the bargain brand may make little or no contribution.

8.6.36 Ofcom's approach of allocation on EPMU basis does not reflect how companies would make decisions in the "real world". Rather it is requiring BT, and by extension its rivals, to set prices in a regulated manner that distorts pricing, and therefore demand, in the market.

Distortion of Competition

8.6.37 Our second concern is that Ofcom's approach also distorts competition. BT offers wholesale products that support SBB, SFBB and UFBB. Any efficient competitor (including CityFibre) would only offer either SFBB or UFBB. CityFibre. Further, Ofcom has a policy objective to move towards UFBB through allowing duct and pole access for competing fibre providers.

8.6.38 BT's rivals, therefore, are unable to spread common costs across both copper and fibre products, but must recover them only from fibre. Therefore, an equally efficient rival

would be required to recover all its costs from SFBB raising its prices relative to BT and so making it uncompetitive.

8.6.39 Clearly in these circumstances, and absent any other offsetting factors[67], the rival's willingness to invest would be substantially impaired and so the dynamic efficiency gains that Ofcom accepts would come from further investment in fibre by BT and its rivals would be much reduced.

8.6.40 Even if Ofcom were to allocate common costs based on each service's share of LRIC, then it is likely that the regulated price of GEA will increase over time as the amount of common costs recovered of MPF lines declines, assuming that there is customer migration from MPF to GEA. This could well cause a significant price shock initially for CPs but also for consumers. We can see how this works in a simple two period model below.

8.6.41 First, we assume that common costs are 100 and remain constant over the two timeperiods. At period 1 (T1) the service LRIC of GEA and MPF are 50 and 25 - i.e. GEA

[66] Fixed Rate Internet Access Call Origination – a wholesale dial-up Internet access product that used an 0800 number resulting in no call charges for the consumer. In effect, it offered an always-on dial-up service.

[67] For example, a public subsidy in some form or another revenue stream such as income from content.

has a LRIC double that of MPF. Thus, the common costs are allocated 66.6 to GEA and 33.3 to MPF resulting in LRIC+ of 116.6 and 58.3 respectively.

8.6.42 At T2 the demand for MPF has decreased and the demand for GEA has increased. Cost Volume Elasticities mean that the resulting individual service LRICs are 65 and 10 for GEA and MPF respectively. It follows that common costs are now allocated 86.6 to GEA and 13.4 to MPF resulting in LRIC+ of 151.6 and 23.4 respectively.

8.6.43 Any customer migration from MPF to GEA will inevitably lead to increased LRIC+ for GEA due to both the calculation of LRIC and the allocation of common costs, causing uncertainty for both consumer prices and investment incentives. In our view, therefore, it would, in addition to the dynamic efficiency incentives highlighted earlier, create more regulatory certainty to allocate all common costs to GEA at the start of a charge control period.

Alternative Approach

8.6.44 In relation to geographic markets, Ofcom states: "In light of this uncertainty, we expect to continue to place weight on the risk of harm to consumers resulting from a regulatory error that stifles competitive investment. Our initial thinking therefore is that we would expect to err on the side of promoting competitive investment when setting such boundaries." (Vol. I, 1.59). It is our view that the same erring on the side of promoting investment should apply to the allocation of common costs and so propose the following alternative approach.

8.6.45 Ofcom should allocate all common costs to GEA. If all common costs were allocated to GEA, clearly the price would rise (or be reduced by a lesser amount) in the short term and there would be some reduction in allocative efficiency. However dynamic efficiency incentives are maximised as BT, and other potential entrants, would be in a better position to recover the fixed costs of entry.

8.6.46 BT would therefore only be able to recover the direct, avoidable costs of the MPF product, which would give BT the incentive to accelerate customer upgrades to fibre or hybrid fibre products.

8.6.47 In the event that Ofcom believes a sudden switch from EPMU to all common costs being allocated to GEA, then it should consider setting up a glide path over the course of the charge control period.

8.6.48 CityFibre does not believe that such an approach would have the effect of slowing down the switch from SBB to SFBB since, as Huber and Puto show, consumers faced with three product options will often avoid the lowest priced product.

8.6.49 The impact of attributing common costs only to the fibre network has been estimated by applying adjustments to the base case in Ofcom's charge control model; the results are summarised below:

				Price	LRIC+ Unit Cost			
	Scenario description	Service		31-03-17	2017/18	2018/19	2019/20	2020/21

Ofcom base case	As in the charge control model base case (NB there are small differences with the numbers in the consultation due to the use of the nonconfidential model with randomised inputs)	MPF rental	GBP/year	85.3	84.0	81.8	84.7	84.7
		GEA 40/10 rental	GBP/year	88.8	69.7	60.2	56.8	52.3
		Total	GBP/year	174.1	153.7	142.0	141.5	136.9
		Total	GBP/month	14.5	12.8	11.8	11.8	11.4
Scenario 1	Allocate all common costs to GEA products, Ofcom split across GEA speeds	MPF rental	GBP/year	85.3	49.3	48.1	51.0	51.6
		GEA 40/10 rental	GBP/year	88.8	162.7	135.4	120.5	106.2
		Total	GBP/year	174.1	212.0	183.5	171.5	157.8
		Total	GBP/month	14.5	17.7	15.3	14.3	13.2

Ofcom's proposed use of EPMU for common cost attribution is wrong

8.6.50 Ofcom has previously identified the potential shortcomings of BT's then methodologies in allocating duct costs to copper, and suggested three alternative approaches:

(1) Attribution based on the available bandwidth (or information carrying capacity) of the cable on the basis that revenue tends to be related strongly to bandwidth

(2) Attribution based on the incremental costs of access; and

(3) Attribution based on equal proportional mark up (EPMU) which allocates cost in proportion to the incremental cost of both access and core[68].

8.6.51 At that time Ofcom determined that the six main principles of cost allocation did not give clear guidance as to the proportions of the cost of shared ducts which should be recovered. [69] Ofcom concluded that its economic analysis indicated that there were practical difficulties in implementing a different approach and so kept BT's method of sharing costs on the basis of space.

8.6.52 CityFibre is particularly concerned that Ofcom has not revisited these alternatives in the light of the objectives of the Digital Communications Review and is apparently implementing EPMU without consideration of alternative methodologies that may be more effective in meeting those objectives. Specifically, the EPMU basis allocates common costs between copper and fibre on the basis of their share of total costs. Since copper is a more expensive technology than fibre it carries a higher share of costs.

8.6.53 However, fibre is more efficient in that it delivers massively more bandwidth, *which is valued by the consumer,* per unit of cost and indeed for the space taken up in the duct. If common costs were allocated on the basis of bandwidth (option 1 above) fibre would carry a higher proportion of common costs, but as consumers would gain greater utility from fibre than copper a higher price would be expected to match a higher willingness to pay.

8.6.54 This approach has two significant advantages compared with EPMU when looked at in relation to the six principles, as shown in the table below.

[68] Valuing Copper Access Final Statement, 18th August 2005 paragraph 4.52

[69] ibid, paragraph 4.53

Principles	EPMU	Bandwidth
Cost causation	✗	✗
Cost minimisation	✗	(✓)
Distribution of benefits	✗	✓
Encouragement of effective competition	✗	✓
Practicality	✓	✓
Reciprocity (where relevant)	✗	✗

8.6.55 First, it complies with the principle of distribution of benefits. Fibre offers higher speeds to consumers than copper and so greater benefit, which one would expect results in consumers' greater willingness to pay. Use of bandwidth as a determinant for allocation of common costs would seem to be highly appropriate. Given that fibre cables are able to support UFBB speeds of 1Gbps to end customers (in the case of FTTP), and in future even higher speeds over the same cables, while the bandwidth capability of copper cables will remain constrained by technical limitations, it seems clear that fibre cables should attract a higher share of common costs.

8.6.56 Second, it is more likely to encourage effective competition as a higher price for fibre would attract alternative efficient providers to compete with BT. If the price of fibre is depressed by carrying too little of the common costs, this would deter entry by efficient competitors leaving BT as the sole provider, and competition reliant on a it as the supplier of a bottleneck asset.

8.6.57 Third, as fibre cables use less physical space in ducts, the encouragement to invest in and roll our full-fibre networks can be considered to meet the cost minimisation criterion.

8.6.58 In the light of Ofcom's current strategic objective to encourage investment in new fibre networks, principles (3) and (4) above are particularly relevant;

8.6.59 By sharp contrast the use of EPMU to allocate common costs does not meet any of principles (1) – (4) in the list above, and its only merit is practicability. EPMU is most appropriate for attribution of general overhead costs where no other drivers can be identified; it seems that by using it in the charge control, Ofcom is missing an opportunity to use an alternative method which would much better support its stated objectives.

8.6.60 By choosing EPMU as the basis of distributing common costs without examining the alternative methods it discussed in 2005, Ofcom has moved away from the six principles of cost allocation without justification. The use of available bandwidth presents a viable alternative means of allocating common costs between copper and fibre, and provides more economically rational price signals than the EPMU approach currently proposed.

8.6.61 In its proposed treatment of LRIC and common cost distribution across GEA speeds, Ofcom has moved away from EPMU or cost-causal approaches and used a price gradient (which factors in the speed of each service). Given that Ofcom is prepared to adopt such an approach within the GEA services, and given the strong rationale outlined above, CityFibre believes that proper consideration should be given to using bandwidth to distribute common costs between copper and fibre.

8.6.62 CityFibre has estimated the impact of applying a bandwidth weighting to the distribution of common costs between copper and fibre services, and the results are shown as Scenario 2 in the table below. It should be noted that this analysis has been done at a very high level, using a simple speed weighting by product type; Ofcom would need to undertake detailed analysis in order to determine the most appropriate methodology to use, and so the table is intended only to provide an illustration of the possible impact on unit costs.

				Price	LRIC+ Unit Cost			
	Scenario description	Service		31-03-17	2017/18	2018/19	2019/20	2020/21
Ofcom base case	As in the charge control model base case (NB there are small differences with the numbers in the consultation due to the use of the non-confidential model with randomised inputs)	MPF rental	GBP/year	85.3	84.0	81.8	84.7	84.7
		GEA 40/10 rental	GBP/year	88.8	69.7	60.2	56.8	52.3
		Total	GBP/year	174.1	153.7	142.0	141.5	136.9
		Total	GBP/month	14.5	12.8	11.8	11.8	11.4
Scenario 2	Split common costs between GEA and copper products based on speed, assuming 300Mbps for copper products, 1Gbps for fibre products	MPF rental	GBP/year	85.3	70.4	66.8	68.2	67.2
		GEA 40/10 rental	GBP/year	88.8	106.4	94.1	88.4	81.1
		Total	GBP/year	174.1	176.8	160.9	156.5	148.3
		Total	GBP/month	14.5	14.7	13.4	13.0	12.4

Setting the charge control to achieve Ofcom's objectives

8.6.63 Ultimately, Ofcom has to strike a balance between delivering value to customers in the short term and ensuring that it does not damage investment incentives for the muchneeded fibre infrastructure for the country.

8.6.64 CityFibre's analysis suggests that Ofcom has erred in finding that balance and has, in fact, regulated only in the interest of achieving the lowest possible price in the short term.

8.6.65 Even given the use of BT's FAC/LRIC+ as the basis for the charge control, some of the input assumptions in Ofcom's modelling are biased in the direction of low VULA prices. The table below illustrates the likely impact of correcting these assumptions.

Model Assumption	Increase on 2020/21 base case VULA price (£/month)	Indicative VULA 40/10 + MPF price (£/month)
PIA rollout at 650k lines	0.22	11.45
Common costs applied to fibre services only	1.74	12.97
GEA LRIC costs attributed causally by speed	0.18	11.41
Total impact	**2.14**	**13.37**

8.6.66 If the cost base were adjusted to reflect MEEO or REO approaches at realistic competitive market shares, the impact on the VULA price would be very significant, as summarised in the table below.

Cost Base	Indicative VULA price (£/month)
MEEO at 50% market share	20.1
MEEO at 33% market share	16.3
REO at 33% market share	17.9
REO at 50% market share	13.1

9 PIA pricing and cost recovery

9.1.1 All CityFibre's comments in this section are provisional and may be changed substantially once Ofcom's consultation on PIA costing and pricing is issued later this summer.

9.2 Certainty, predictability and non-discrimination

9.2.1 CityFibre agrees with Ofcom's position that PIA costs should be spread across all relevant Openreach customers, including other parts of BT Group. Not doing so would create an environment in which competing CPs would face substantially higher costs to use Openreach's ducts and poles than downstream BT businesses, thus creating an uneven playing field.

9.2.2 CityFibre also agrees with Ofcom that certainty and predictability of charges is critically important for CPs seeking to build new fibre networks[70]. The need for certainty and predictability is for the longer term, not just the three-year period of this charge control, and CityFibre is comforted that Ofcom agrees with this. It will be important that Ofcom demonstrates that it takes into account longer-term market developments when modelling the PIA costs and CityFibre looks forward to reviewing Ofcom's proposals in this regard in the forthcoming consultation document on PIA costing and pricing.

[70] See paragraph 7.14 and 7.15 of the DPA consultation.

9.2.3 In particular, it will be important that Ofcom extends its model beyond the three-year charge control period to ensure that any impact of CPs rolling out fibre network and the resulting redistribution of end customer connections from BT's network to the CP networks, is fully taken into account. As noted in the response to Ofcom's proposed costing and pricing for VULA above, CityFibre considers that Ofcom is mistaken to not take into account the likely developments in the Openreach unit costs resulting in redistribution of end customer connections.

9.2.4 Disconnections from the Openreach network will (as a consequence of the large fixed cost of the network) result in an increased unit cost and Ofcom should ensure that it sets all regulated charges in a manner that would avoid (or at least minimise) the risk of having to increase regulated prices in the next charge control due to the success of the very policy Ofcom is trying to implement.

9.2.5 In the event that Ofcom does not build in some level of redistribution of customer connections away from the Openreach network, charges set now, including for PIA, could rise substantially in future charge control periods. This is a particularly significant risk in relation to the ongoing use of passive infrastructure given that this is harder to 'unpick' than decisions to consume services based on specific regulatory pricing signals. Given that Ofcom cannot pre-commit to the future trajectory of prices, it is important to take as long-term a view as possible at the outset of the likely evolution of underlying costs, to minimise the risk that the charges for the PIA already purchased will increase substantially, possibly rendering the CPs' investment unviable. This is a serious risk and

a natural consequence of Ofcom's policy to promote infrastructure competition. To not acknowledge and address at this time would be a serious error.

9.2.6 Ofcom's position that 'today's customers must not pay for tomorrow's network' [71], appears to be based on short-termism and could in fact become a vicious cycle. This is because the risk that regulated charges may go up in the next charge control could prevent investment in competing fibre networks during this charge control period, and thereby the status quo is preserved with no competitive networks as a direct result of Ofcom's chosen approach. The same would then be repeated again and again, with all network innovation being dependent on BT's investment (and to some extent that of Virgin Media), which Ofcom has clearly declared as being insufficient to meet the medium to longer term needs of broadband users in the UK[72].

9.2.7 Indeed, Ofcom's very proposal that the costs of PIA should be recovered from customers of BT's retail businesses and the retail businesses of CPs is in direct contradiction to Ofcom's policy that today's customers must not pay for tomorrow's network. Ofcom states clearly that the risks of this approach are outweighed by the longer-term benefits of increased

[71] See section 2.4.3 above

[72] See WLAMR consultation paragraphs 4.12 and 4.13.

fibre investment and the resulting increased pressure on BT to improve its own network[73].

9.3 *PIA cost recovery principles*

9.3.1 Whilst CityFibre agrees with Ofcom's position that customers of BT's retail businesses should contribute to the costs of improvements required to deliver fit for purpose PIA [74], CityFibre does not consider that most PIA-related costs should be recovered from customers using services that are based on a copper-only connection. Most improvements required to deliver PIA will primarily benefit users of fibre infrastructure, with some exceptions such as replacement of telegraph poles. BT's own retail customers using the FTTC or FTTP services should therefore also contribute to the PIA costs as set out above, but BTs copper-only retail customers should not except arguably in relation to the replacement or improvement of telegraph poles supporting both fibre and copperconnected customers.

9.3.2 Since their inception in 1995 when determining how to allocate the costs arising from the introduction of number portability [79], Ofcom (then Oftel) has relied on six main principles with respect to how costs should be recovered, namely:

(1) Cost causation;

(2) Cost minimisation;

(3) Distribution of benefits

(4) Effective competition (encouragement of);

(5) Practicability; And

(6) (where relevant) Reciprocity.

9.3.3 CityFibre considers that if Ofcom were to apply those principles again here to the costs caused by the provision of PIA services, it is clear that the conclusion would be that the costs should in the main be recovered from customers using a service delivered (at least partially) by fibre.

9.3.4 As set out above[75] it is imperative that Ofcom does not set PIA charges artificially low now, as this could result in the need to increase the charges later. BT's copper costs will reduce in future due to both recovery of E-side cables as voice services migrate to fibre, and deployment of FTTP which completely bypasses copper. Ofcom acknowledges that

[73] See DPA consultation paragraph 7.80 and 7.93

[74] IBID

[75] See paragraph 9.2.4 above.

copper costs will reduce, and has included recovery revenues in its charge control modelling.[76] If PIA costs are now distributed across both copper and fibre lines (as many lines to BT customers use both copper and fibre), the inevitable reduction in copper costs over time could cause an increase in the unit costs to be recovered from fibre lines. This should be avoided if at all possible.

9.4 The application of a financial limit to network adjustment costs

9.4.1 Ofcom has correctly recognised that the averaging of network adjustment costs into the rental charges payable by all users of PIA could cause individual CPs to 'gold plate' their PIA requirements. CityFibre agrees that this is a risk and that a measure should be introduced to prevent this from driving up the overall rental price unnecessarily.

9.4.2 CityFibre agrees with Ofcom's proposal to introduce a financial limit, over and beyond which the CP must pay for any network adjustment costs[77]. The difficulty in this type of approach, however is in how it is applied, such as to avoid it being unduly onerous to specific types of PIA users.

9.4.3 For example, as set out in a number of places in this response, CityFibre plans to make requests for PIA in whole cities, whereas other PIA users may request only access to much smaller areas. Although Ofcom is proposing a distance-based limit, it is still unclear how this would work (for example, would it be per each kilometre length of duct that the allowance would be applied (e.g. £xx for 1 km – or 10*£xx for 10km) and CityFibre looks forward to seeing further detailed proposals for this and other aspects of the PIA charges in the forthcoming consultation on pricing and costing.

9.5 Adverse effects of Ofcom's proposals

9.5.1 CityFibre agrees in general that Ofcom has considered the appropriate adverse effects of its proposals, but again here there is one particular aspect which is of concern, namely that Ofcom appears to be only concerned by the effects in the three years covered by this charge control. In particular, Ofcom appears to consider it sufficient that the impact on Openreach during this charge control is likely to be modest and that measures can be taken in future reviews to "*ensure that Openreach is compensated for the level of risk associated with making network adjustments to support network deployment by another telecoms provider*"[78]. As we have noted, the risk of medium-term price increases, that cannot be easily evaded if a network has been built or is in construction based on PIA, present a risk to the investment case. Heading this off through modeling the effects on Openreach's cost recovery of losing customers, and setting prices that anticipate this, will create a more robust mechanism.

[76] WLAMR Volume 2 paragraph 2.65

[77] See DPA consultation paragraph 7.55.

[78] See DPA consultation paragraph 7.84.

10 Annex A – Ofcom's Market Review Processes

Ofcom's Approach to Market Definition and SMP Assessment

Dr Richard Cadman, Director, SPC Network Ltd

Gita Sorensen, Director, GOS Consulting Ltd

10.1 Introduction

CityFibre has invited us to examine Annexes 5 and 6 of the Wholesale Local Access market review and consider whether, in the light of technological and behavioural changes and the UK's decision to leave the EU, the approach set out by Ofcom remains valid or whether any changes are required.

Annex 5 describes the Regulatory Framework within which this and other market reviews take place. It is largely descriptive of the legal requirements placed on Ofcom and consists of standard "boilerplate" text that can also be found in Annex 10 of the Narrowband Market Review (NMR) and Annex 14 of the Business Connectivity Market Review (BCMR), with some minor, non-substantive changes.

Annex 6 contains a general description of Ofcom's approach to market definition and Significant Market Power (SMP) assessment. The equivalent Annexes in other NMR and BCMR are more specific to the review in question. Nevertheless the generality of Ofcom's approach is applicable to all market reviews.

Until such time as the UK leaves the EU, and any changes are made by the government to crate a new UK regulatory framework, the description in Annex 5 will remain valid. However, we consider that a few points are worth making in relation to the WLA review.

Our review of these two Annexes is set out against a background of significant change in both the demand and supply side of electronic communications market. Therefore, this paper first describes the major trends as we see them and sets out specific comments on the two Annexes.

10.2 Major Trends in Electronic Communications Markets

Diversification of Demand: Alternatives and Substitutes

10.2.1 The advent of over the top (OTT) applications and smartphones has substantially increased the choice of products available to customers to communicate with colleagues, friends and family. When *ex ante* market reviews began in 2003, a consumer largely had a choice between fixed and mobile voice and text if he or she wished to communicate with another person. Today, that same user could use traditional fixed or mobile voice or OTT applications such as FaceTime, Skype, WhatsApp or many others. Some are almost perfect substitutes, some less so but still a substitute, and therefore an economic

constraint on other products that serve the same purpose. Some users choose different applications in different circumstances to communicate with different people.

10.2.2 Some people may use standard voice products, others may choose a voice over the Internet application and still other may communicate via a series of messages using a messaging application. The latter two methods can, in some circumstances, be network independent. For example, one party could use a smartphone to access Skype over a mobile network and the other could be sitting at a fixed computer accessing the same application using a fixed broadband network.

10.2.3 These substantial changes do not affect the basic economics of market definition or SMP analysis, but do mean that Ofcom needs to gain a deeper understanding of user behaviour and choice of substitutes than they ever needed to before.

Diversification of Supply: Market Entry and Expansion

10.2.4 In the past few years there has been an increase in the number of new entrants building their own infrastructure to compete with BT, along with the expansion of the Virgin Media network through Project Lightning. Whilst these networks, other than Virgin Media, are generally small players, they are creating a diversity of supply. If successful, they could become collectively large enough to place sufficient constraint on Openreach such that the need to regulate Openreach through *ex ante* means is substantially reduced or even eliminated.

10.2.5 Promotion of independent infrastructure competition has long been an objective of regulatory policy and was largely behind the creation of Mercury Communications and the cable TV/telephony networks 30 or so years ago. For much of that period, however, competition in fixed markets has been largely based on Communications Providers (CPs) using BT's access network to reach customers (with the exception of Virgin Media). In the first generation of broadband services using ADSL technology, the principal means for competition from those CPs was via a passive remedy, Local Loop Unbundling. As the market has transitioned to VDSL services delivered via Fibre to the Cabinet (FTTC), the most widely used remedy to address that market has been via an active remedy, VULA. That has pushed competition further downstream, reducing scope for competitive differentiation and locking CPs into an architecture pre-defined by Openreach.

10.2.6 At the same time, triggered in part by the rapid rate of alternative fibre network build and the positive returns on this investment in other countries, and facilitated by a shift in capital market sentiment towards long-term infrastructure investments, new alternative infrastructure investors have emerged in the UK such as Gigaclear and CityFibre.

10.2.7 The extent to which Ofcom chooses to use remedies to support these long term investments or, conversely, to seek short term price gains, will be extremely important in the development of the market. The trade off between dynamic and static efficiency gains, which has always been relevant, is arguably more important than ever and should, in our view, have been incorporated into Annexes 5 and 6 in the WLAMR consultation.

Technology Convergence

10.2.8 Another desired development in the electronic communications industry, convergence, is also closer to being realised than ever before.

(1) In the broadband market, 4G and, even more so, 5G mobile technologies are likely to make mobile broadband a genuine constraint of fixed broadband access and could conceivably lead to a single market definition.

(2) 5G is also a potentially very powerful technology for the provision of fixed wireless access (FWA) services. This type of deployment of 5G technology may pre-date the launch of 5G mobile networks as they can be done discretely in specific locations and do not depend on the availability of 5G handsets.

(3) Fibre to the premises (FTTP), especially to business premises that may today be using relatively low capacity leased lines (10 – 100Mbps), is making broadband a genuine competitor to traditional business connectivity products such as leased lines. This will likely change market definitions in the near future.

Brexit

10.2.9 The political and governmental backdrop to the industry will change significantly in the next two years or so, as the UK leaves the EU and so will no longer be required to comply with the Common Regulatory Framework (CRF). Although the provisions of the CRF will remain in law until such time as the Communications Act 2003 is amended, Brexit will provide the government the opportunity to change the legal underpinning should it wish to do so.

10.2.10 The European Commission (EC) is currently consulting on an update to the CRF – the European Electronic Communications Code (EECC), where considerable changes to the marked review parameters are foreseen, including a proposal to change the default period a forward-looking market review should cover from three years to five or six years. On the current negotiation timetable, it is therefore possible that the UK will need to transpose and implement the EECC before the UK leaves the EU.

Conclusion

10.2.11 It is our view that these major changes should be reflected in revised Annexes that are applicable not just to the WLAMR but also to all other market reviews conducted by Ofcom. We believe that given these changes Ofcom should conduct a consultation with stakeholders to consider appropriate changes to its approach to market definition and SMP analysis.

10.2.12 The following sections consider Annexes 5 and 6 in the light of these major trends, including Brexit and are intended as a starting point for further debate.

10.3 *Diversification of Demand*

10.3.1 Diversification of demand and the increased number of substitute products will influence market definition. If Facebook Messenger, for example, is used as an alternative to traditional voice and substitution could make a price rise by a hypothetical monopolist of voice unprofitable, then they become part of the same relevant market.

10.3.2 The presence of more potential substitutes does not alter the market definition process. However, it does mean that Ofcom needs to have detailed information on demand side behaviour and the potential for switching between imperfect substitutes. To some degree Ofcom notes this need in the two Annexes. For example:

(1) Paragraph A5.13 states that market definition "*requires an analysis of any available evidence of past market behaviour and an overall understanding of the mechanics of a given market sector".*

(2) Paragraphs A6.18 and A6.19 briefly state the process of market definition using the Hypothetical Monopolist Test (HMT).

10.3.3 Our concerns here are two-fold:

(1) Firstly, that Ofcom has, to date, tended to use "thought experiments" sometimes backed up by limited market research, to think through how users of the focal product would respond to a SSNIP. We believe that this approach is no longer adequate. We would like to see Ofcom explain in more detail in these Annexes, and their equivalent in other market reviews, how Ofcom will gather the detailed level of understanding it needs to make a true judgement of how users would respond to a SSNIP.

(2) Secondly, while historical data "evidence of past market behaviour" remains a valid factor in the analysis Ofcom should undertake, the change from hardware-driven changes to softwaredriven changes in services and functionality offered to consumers, means that the pace of change has increased and Ofcom need to focus increasingly on the forward-looking aspect of the reviews. This would mean that market reviews have to become less of a projection of the past to a prediction of the future.

10.4 *Diversification of Supply*

10.4.1 Our overall concern here is that Annexes 5 and 6 pay insufficient attention to the need for Ofcom to consider the affect of its actions on investment by new entrants and the development of independent infrastructure competition. Ofcom recognises in A5.21 that *ex ante* regulation is concerned with promoting rather than protecting competition and we agree that this is a key objective

10.4.2 Our view is that Ofcom should explicitly state that the development of competition should be targeted at the lowest level of the value chain/network where it is feasible. Ofcom acknowledges regularly that the best form of competition is between independent networks that are not dependent on each other and so no network operator controls an essential facility. Development of this type of competition is not instant and may need

nurturing by regulation that places the long term development of competition ahead of short term price gains.

10.4.3 An explicit statement of this objective would have a number of implications for market reviews.

10.4.4 First, the time period under a review would have to be amended to allow for the fact that network competition takes longer to develop. In paragraph A6.9 Ofcom refers to a "*foreseeable market changes … over the period to March 2021*". Networks take time to build and to attract the volume of traffic needed to be economically sustainable. The effect of changes over a longer period than the three year review cycle needs to be considered, as does the effect of regulatory decisions on investments and investment returns over a longer period.

10.4.5 Further, Ofcom has the flexibility to determine what the appropriate timeframe should be for its analysis of a relevant market, even if the formal market review period is not changed. In Footnote 6 of Annex 5[79], Ofcom states that the period to be considered when reviewing possible substitution is determined in the SMP Guidelines as "[the period that] *should reflect the specific characteristics of the market and the expected timing for the next review of the relevant market by the* NRA" , however, in the SMP Guidelines footnote 37[80] states that "*The timeframe to be used to assess the likely responses of other suppliers in case of a relative price increase will inevitably depend on the characteristics of each market and should be decided on a case by case basis"*. The SMP Guidelines thus make no mention of the need to link the timeframe for supply-side assessment to the timing of the next forthcoming market review of the NRA.

10.4.6 The EECC is likely to introduce either a new and longer default market review period, or increased flexibility for NRAs to set market review periods beyond the current three years cycle. In fact, NRAs already have the option of extending market review periods. Ofcom's current market review framework does not refer to this. Whilst the current facility requires approval by the EC, circumstances such as the WLAMR (where Ofcom explicitly seeks to encourage long-term investment), would seem to lend themselves ideally to the use of that facility. This flexibility should be used at the outset of a market review period, as part of a proactive policy, as opposed to reactively near the end of the market review to extend the period before another review is conducted.

10.4.7 Secondly, Ofcom discusses homogeneity of competitive conditions in relation to geographic markets in paragraphs A6.28 – A6.31. The overall description by Ofcom is uncontroversial, but we believe it is important to ensure that the right level of disaggregation is used to test for homogeneity of supply and this means understanding the entry decisions of BT's rivals.

10.4.8 In the Wholesale Broadband Access (WBA) reviews, Ofcom has disaggregated the market to local exchange areas. We agree that a local exchange area is a relevant unit for market entry for an operator using Local Loop Unbundling (LLU), which will enter on a per

[79] In the marked definition section.

[80] With reference to supply-side substitution.

exchange basis. However, in the BCMR Ofcom has used postcode sectors, which we believe are not a relevant unit, as CPs do not make entry decisions postcode by postcode. By not considering the geographic entry decisions of new entrants, Ofcom stands the risk of mis-defining geographic markets, with attendant risks of finding SMP where it doesn't exist or vice versa.

10.4.9 Thirdly, the remedies that Ofcom chooses to apply to an operator with Significant Market Power (SMP) also affects investment opportunities of alternative networks. In paragraphs A5.26 and A5.27, Ofcom refers to charge controls and the obligation to provide access. Setting the level of a charge control has a particular influence on the ability of network level competition to develop. The European Directives give Ofcom a degree of freedom in choosing how to set the charge control and where Ofcom explicitly states its objectives to be the development of network competition, we believe the remedies should be tailored to those objectives. Ofcom's framework should therefore include a process of alignment between regulatory objectives and the SMP remedies imposed. For example, if network competition is the objective, then remedies to protect

market entrants against anti-competitive behaviour by the incumbent should be actively considered. Also, the full set of remedies imposed need to be aligned to the regulatory objectives, this would, for example, mean that price regulation to protect consumers from excessive pricing until the network competition is effective) should explicitly be set such as to not deter market entry by competitive network operators.

10.5 *Technology Convergence*

10.5.1 Convergence affects both market definition and SMP analysis.

10.5.2 Paragraphs A6.25 and A6.26 discuss bundling, on which two points should be made.

(1) First, to date Ofcom has always defined retail markets based on single products and not on the bundle as a whole. It is possible that at the wholesale level Ofcom is right to do so, provided that the retailer can replicate retail bundles using individual wholesale inputs. However, there is a case for defining retail markets based on a bundle, given the large proportion of consumers who buy bundles rather than single products. Such a definition could have significant effects on a SMP assessment.

(2) To take a hypothetical example, when the Competition and Markets Authority (CMA) examined the BT/EE merger it defined two markets each based on a single product – fixed and mobile. Neither party in the merger was involved in the other's market to a significant extent and so the CMA found that the merger would not cause a substantial lessening of competition in either market. Suppose, however, that the CMA had instead defined a single market based on a fixed/mobile bundle. Whilst this market definition may or may not have changed the outcome of the decision, it would almost certainly have led to a different set of questions being asked about the market power of the merged entity at the retail level given their respective market positions.

10.6 The shift towards mandating passive access

10.6.1 We have noted that the implementation of a passive remedy, LLU, to stimulate competition in first generation broadband gave way to a pragmatic acceptance of services-competition in relation to FTTC with the adoption of the VULA remedy. As the regulatory remedies move back towards a preference for passive access, to enable all CPs to innovate by having their own electronic network technologies, it is becoming clear that market reviews starting with a single retail market is no longer appropriate. The same duct infrastructure serves mobile backhaul, leased lines, voice services and broadband services (and more), and operators rely on serving all of these downstream markets in order to justify the significant capital investment in the civil infrastructure.

10.6.2 If Ofcom's objectives are to promote network competition through investment in competing infrastructures, then it is imperative that investors in those new networks can benefit from the same economies of scope as already enjoyed by the incumbent(s). We believe that Ofcom needs to embrace this principle and review and update its market review processes to take this into account. We do not believe that the current CRF presents an insurmountable obstacle to this.

10.7 Conclusion and Action

10.7.1 Ofcom and its predecessor have been conducting market reviews based on the CRF for nearly 15 years, during which time there have been substantial changes in the market on both the demand and supply sides. The forthcoming EECC and Brexit add extra dimensions of change. It is our view that Ofcom should take the opportunity of these changes to review how it assesses market definition and SMP and have pointed to some areas where changes are required.

10.7.2 Overall, we call on Ofcom to conduct a review of its approach to market definition and SMP and to invite stakeholders to contribute to that debate.

10.8 Proposes issues for Ofcom's review of its approach to market definition and SMP analysis

10.8.1 When scoping the review, we recommend that Ofcom include the following considerations:

1. How should Ofcom determine the appropriate period to be covered by each individual market review, what are the key parameters for making this decision and what framework should Ofcom use to review them?
2. When defining a relevant market, is the hypothetical monopolist test still the most appropriate methodology and, if so, are there characteristics of the likely nature and dynamics of electronic markets that require a special application of interpretation of this test?
3. In the past, market definition has always begun with a single retail market and worked back to the wholesale input market. As multiple retail products can be run using the same wholesale input (especially passive inputs), is this still the most appropriate approach or should Ofcom consider

starting from a shared input? Alternatively, should there be different approaches to the review of passive markets in their own right?

4. How should Ofcom take account of retail bundles when defining wholesale markets?
5. At what point in the process should Ofcom consider the effect of Indirect Constraints: market definition of the assessment of SMP?
6. When imposing remedies on an SMP operator how should Ofcom strike the balance between encouraging static and dynamic efficiency gains? Should Ofcom's approach include an explicit link between the regulatory objectives (even if longer term than the market review period) and the remedies imposed?
7. Should Ofcom be able to justify specific actions/remedies to achieve objectives beyond the period of the market review?
8. How should Ofcom balance the risk between over-regulating, perhaps discouraging market entry, and under-regulating, perhaps making consumers pay too much in the short term?

11 Annex B – Switching Issues

Wholesale Local Access and Ultrafast Broadband: the importance of consumer engagement and switching

A report on Ofcom's proposals in the Wholesale Local Access Market Review, prepared for CityFibre by Cenerva

Contents

1 Executive summary

1.1 This report has been prepared by Cenerva for CityFibre.

1.2 In it we examine demand-side issues raised by Ofcom's consultation and proposals for the Wholesale Local Access Market Review (WLAMR).

1.3 These issues potentially affect both the competitive process and the wellbeing of consumers. We believe they are also relevant to Ofcom's objective set out in the WLAMR (and, before that, the Strategic Review of Digital Communications), to pursue a strategic shift to large scale investment in fibre.

1.4 The WLAMR consultation document deals mainly with supply-side competition issues and remedies, e.g. the specification and pricing of wholesale access remedies and passive infrastructure access (PIA) remedies. We do not comment on

these in this report, except insofar as they affect demand-side conditions in the market.

1.5 Demand-side policy recognises that where there is a range of suppliers in a market and hence some choice, there are residual risks of market failure if barriers to consumer engagement exist. Such barriers might arise because consumers do not have the information necessary to make good choices about the best service for them, or because they are prevented from exercising their choice by barriers to switching.

1.6 Switching is key to successful competitive and consumer outcomes in all electronic communications markets and hence is the principal focus of much of our report. Without regulation, it is likely that sub-optimal switching arrangements will damage competition and consumers. This is because switching is difficult to coordinate between providers, and incumbents have natural incentives to make switching difficult. Ofcom has already done extensive work on switching, including interventions to improve switching in both the fixed and mobile markets. These interventions have been made ex-post in response to strong evidence of consumer harm. As a result, there has been a lag between supply and demand-side interventions, which has caused irreversible harm to consumers and competition.

1.7 There is currently no process for switches involving ultrafast broadband (UFBB) networks.

1.8 Our report concludes that Ofcom should launch a review of arrangements for switching to and between UFBB networks and services now - including switching to UFBB networks from standard broadband (SBB) and superfast broadband (SFBB) networks - so that switching arrangements, and remedies, if needed, can be implemented alongside other outcomes from the WLAMR.

1.9 Ofcom's review should:

- Build on Ofcom's extensive previous work on switching. Ofcom established the principles on which it can base its analysis in its Strategic Review of Consumer Switching.[81] It has previously applied this framework in a number of projects and interventions.

- Link to Ofcom's current review of cross-platform switching[82] in which some of the problems likely to be faced by consumers wishing to switch between UFBB networks are already being addressed.

- Consider the additional issues which may arise in switching scenarios involving networks which will be built using passive infrastructure access (PIA).

[81] Ofcom Strategic Review of Consumer Switching https://www.ofcom.org.uk/consultations-andstatements/category-1/consumer-switching/summary·

[82] Making switching easier and more reliable for consumers https://www.ofcom.org.uk/consultationsand-statements/category-1/making-switching-easier.

2. Barriers to consumer engagement in electronic communications markets

2.1 In Section 2 we examine demand-side factors, and how they affect markets and electronic communications markets in particular. Then in Section 3 we look at these issues specifically in the context of Ofcom's WLAMR proposals, and set out conclusions and recommendations.

Introduction

2.2 The ability of consumers to make good choices and act on them is a critical component of effectively competitive markets which work well for consumers.

2.3 This is because, even in markets where there is a choice of suppliers, consumers will not achieve good outcomes if there are barriers to effective engagement. These barriers might occur if:

- consumers are unable to compare competing offerings accurately,
- consumers are unaware or forget that a choice is available to them at the end of a minimum contract period, or
- switching supplier or services is time consuming and/or too difficult.

2.4 Difficulties experienced by consumers affect the demand side of markets which in turn affect the overall effectiveness of those markets. **Overview of demand-side problems**

2.5 The risk of low consumer engagement varies across markets.

2.6 In some markets, consumers can learn from "bad" choices quickly and, other things being equal, this strengthens competition. For example, most consumers can revise their choice of where to buy groceries on each shopping trip, and hence suppliers compete for their business every day.

2.7 By contrast, in some markets, consumers choose products or services relatively infrequently and are then bound to their choice by a contract. Examples include minimum term arrangements for mortgages, energy supply, electronic communications and subscription TV. In these markets, the consequences of a "bad" choice can be lasting. The impact on competition may also be more damaging, as consumers are less easily able to correct their "mistakes".

2.8 Consumers need good information before choosing goods, services and suppliers. Then they need to be able to exercise their choice. This can be relatively straightforward where consumers are making a one-off purchase. However, in some markets, exercising choice means switching away from a supplier and untangling or transferring quite complex arrangements (e.g. in the case of banking, regular direct debit payments). Switching can be difficult in these markets, but it is important to maintaining healthy competition and good consumer outcomes that it works.

2.9 Consumer engagement generally, and switching in particular, also affect market entry decisions. Markets in which switching is difficult are challenging for new entrants. Incumbents in these markets enjoy a natural advantage because it is easier for their customers to continue with their existing service than to switch. Added to this, incumbents are likely to seek to retain and extend the advantages which high switching barriers give them (e.g. incumbents may seek to make switching difficult where they stand to gain more from customer retention than from acquisition).

The regulatory response

2.10 Competition and regulatory policy have evolved since the turn of the century to recognise the importance of demand-side conditions in the effective operation of markets.

2.11 This change has come about in recognition that ensuring there are a range of suppliers is not on its own sufficient to facilitate effective competition if there are material barriers to consumer engagement and choice. Alongside this, regulators have recognised that consumer behaviour is affected by biases and psychological factors.[83] Sometimes regulatory policy needs to recognise this with regulatory interventions designed to reflect behavioural variances.[84]

2.12 In particular on the demand side, regulators have intervened in markets with high switching barriers. Some switching costs are inherent in such markets and cannot be regulated away. However, regulators should seek to distinguish between inherent switching costs and those which are unnecessary. In the case of the latter, market failures can be addressed or prevented through proportionate interventions targeted at identified sources of harm.

2.13 Prominent recent examples of this in the UK are:

- The Competition and Markets Authority (CMA) retail banking market investigation identified low customer engagement as a factor constraining competition in the banking sector. The CMA's package of remedies included measures to make it easier to compare providers and streamline switching processes.[85]

[83] For discussion of the application of behavioural economics in the financial sector, see the Financial Conduct Authority's occasional paper no. 1 "Applying Behavioural Economics at the FCA" https://www.fca.org.uk/publication/occasional-papers/occasional-paper-1.pdf.

[84] For example, in 2011 Ofcom made use of behavioural analysis in evidence to support its intervention to prohibit auto-renewable contracts https://www.ofcom.org.uk/consultations-and-statements/category3/automatically-renewable-contracts.

[85] The CMA retail banking market investigation final report - https://assets.publishing.service.gov.uk/media/57ac9667e5274a0f6c00007a/retail-banking-marketinvestigation-full-final-report.pdf

- Ofgem's switching programme follows the CMA's energy market investigation[86] which identified low levels of consumer engagement as a problem in the energy market. The switching programme aims to "radically transform current switching arrangements, and deliver faster more reliable switching for consumers".[87]
- Ofcom reform of switching processes, discussed in this report. **Demand-side risks in Electronic Communications Markets**

2.14 Below we examine evidence that demand-side factors create risks of bad market and consumer outcomes in electronic communications markets, and the actions taken by Ofcom and others to mitigate the risk of consumer harm from market failures on the demand-side.

Complexity

2.15 Electronic communications services are relatively complex. This makes them difficult to compare, raising search costs for consumers. A number of factors contribute to this, including:

- Not all providers and services are available in all locations.
- Service information can involve technical details that not everyone can understand.
- Products have multiple features, e.g. download and upload speeds, traffic management policies, mobile call minutes in and out of bundles. Comparing overall quality and value across these is complex.
- Information is sometimes offered in formats which are difficult to compare. For example, broadband speeds information is presented differently in advertising[88] and at point of sale.[89] [90]

2.16 Complexity and/or perceived complexity can affect consumers and competition in a number of ways. Consumers may find comparisons daunting and this can lead to consumer disengagement or inertia. Other consumers may simply decide that the

[86] The CMA's energy market investigation - https://www.gov.uk/government/news/cma-publishes-finalenergy-market-reforms.

[87] Ofgem's switching programme - https://www.ofgem.gov.uk/gas/retail-market/market-review-andreform/smarter-markets-programme/switching-programme.

[88] The Committee of Advertising Practice (CAP) is consulting on changes to the regulation of broadband speeds claims in advertising. Currently, providers can make "up to" claims if at least 10% of customers are able to receive the claimed speed.

[89] Under the voluntary code of practice on broadband speeds, Internet Service Providers (ISPs) agree to give clear information on broadband speeds to consumers when they consider or buy a home broadband service, and to provide redress when speeds performance is poor - https://www.ofcom.org.uk/__data/assets/pdf_file/0028/85780/Broadband_Speeds_Code_June_2015.pdf.

[90] ASA research found that Levels of understanding of broadband speeds are low - https://www.asa.org.uk/asset/592CBE75-E3A7-43FE-835A53C437035CAB/.

benefits of comparing services and perhaps finding a better deal are not worth the trouble – they are likely to think this if they perceive the benefits of switching to be low relative to search and switching costs. In its 2015 Consumer Experience Report, Ofcom found that 32% of consumers who thought about switching their broadband, but decided not to, did so because they expected switching to be too much "hassle", and 26% of this group didn't switch because they thought there would be no cost benefit from switching.[91]

2.17 Some commercial initiatives and regulatory interventions have been undertaken to help consumers compare and choose. For example:

- Price comparison services help consumers compare offerings between providers, including some which are audited and accredited by Ofcom.[92]
- Ofcom has undertaken a number of initiatives to publish comparative performance data for the major suppliers. This included the recent publication of Ofcom's first quality of service report, bringing together reporting across a number of quality metrics.[93] . ***Switching***

2.18 Switching processes have been the focus of considerable attention by Ofcom, and evidence suggests that consumers face some difficulty switching between services and suppliers.

2.19 Chart 1 below shows a comparison of switching rates between sectors. It shows switching rates for broadband only, double and triple play bundles (home 'phone and broadband, and home 'phone broadband and TV respectively) between 2013 and 2015. We also show switching rates for gas, electricity, bank and car insurance. The data show that people switch their car insurance far more often than the other services compared. Insurance switching is driven by annual prompts and typically significant savings for discounted first year policies. Bank switching has remained low. Broadband switching is below switching rates for gas and electricity.

Chart 1: Switching rates between sectors

(Source – Ofcom[94])

[91] Ofcom's Consumer Experience Report 2015, Research Annex, p43 https://www.ofcom.org.uk/__data/assets/pdf_file/0023/38543/annex.pdf

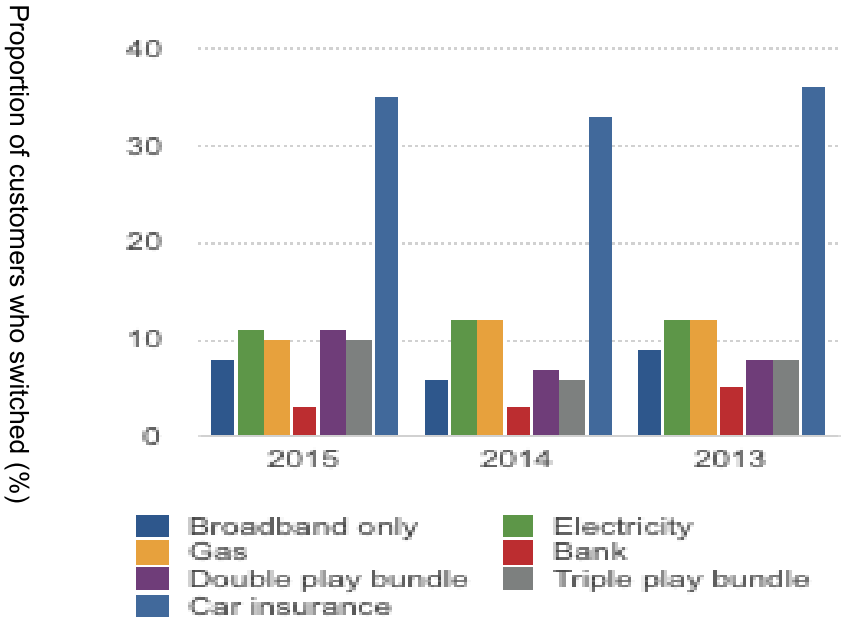
[92] Ofcom's price comparison accreditation scheme https://www.ofcom.org.uk/phones-telecoms-andinternet/advice-for-consumers/costs-and-billing/price-comparison.

[93] Ofcom: Comparing Service Quality https://www.ofcom.org.uk/phones-telecoms-and-internet/advicefor-consumers/quality-of-service/report.

[94] Consumer Experience Report 2015, Research Annex p 39

https://www.ofcom.org.uk/__data/assets/pdf_file/0023/38543/annex.pdf

[100] See the CMA's banking and energy market reviews:



2.20 It is difficult to assess whether this rate of switching is consistent with good competition and consumer outcomes. Comparisons between sectors must be treated with caution because different factors affect consumer behaviour in each market. Energy markets, where regulators have expressed concern about consumer engagement and inertia,[100] may not provide the best benchmark for switching levels in a well-functioning competitive market. On the other hand, in electronic communications markets consumers have a choice of supplier, and satisfaction with services overall is reported by Ofcom to be at reasonable levels.[95]

2.21 Therefore, one should not rely on switching rates data alone to determine whether unnecessary switching barriers exist in a market. It is helpful also to look at consumer experiences and perceptions of switching. Ofcom's own research shows that consumers sometimes find switching processes difficult, and this can put them off switching. For example, Ofcom research undertaken in 2015 on switching of triple play services found that more than three quarters of the research sample who had thought about switching but decided not to were put off by concerns about the process. [96] This

https://assets.publishing.service.gov.uk/media/57ac9667e5274a0f6c00007a/retail-bankingmarket-investigation-full-final-report.pdf https://www.gov.uk/government/news/cma-publishes-finalenergy-market-reforms.

[95] Ofcom's Quality of Service Report, published in April 2017 reported overall satisfaction for fixed broadband services at 87% https://www.ofcom.org.uk/__data/assets/pdf_file/0012/100605/comparingservice-quality-report.pdf

[96] Triple play switching, online research https://www.ofcom.org.uk/__data/assets/pdf_file/0025/68263/bdrc-slidepack.pdf.

suggests that unnecessary difficulties for consumers are constraining switching in electronic communications markets to some extent.

2.22 Ofcom has recognised this. It has previously intervened to address switching problems and reformed switching between mobile networks[97], between providers on the Openreach network[98], and on the KCOM network[99]. Ofcom is now looking at switching of triple play services[100], and considering further reforms to mobile switching.[101]

Contracts

2.23 Voice and broadband services (fixed and mobile) and TV subscription services are predominantly subject to minimum contract terms. Pre-paid services without contract are still a feature of the mobile market, but the market has shifted towards contracts in recent years. For fixed voice and broadband services and TV subscription, contracts remain by far the most common consumption model.

2.24 Contracts can deliver benefits to consumers, for example where the cost of equipment can be spread rather than paid up front. However, they also have the effect of binding consumers to their supplier for the period of the minimum term.

2.25 Typically consumer contacts for fixed voice and broadband services are between 12 and 24 months; for small businesses, it can be longer. Consumers usually consider looking for a better deal towards the end of their contract, which means that residential voice and broadband consumers are only likely to consider shopping around fairly infrequently.

Bundles

2.26 Electronic communications services are increasingly sold bundled together, and in fact bundling is the norm for UK broadband households – Ernst and Young found that 93% of these households have some form of bundle.[102]

---

[97] Changes to the Mobile Number Porting Process https://www.ofcom.org.uk/consultations-andstatements/category-2/mnp.

[98] Switching processes between providers on the Openreach copper network https://www.ofcom.org.uk/consultations-and-statements/category-2/consumer-switching-review.

[99] KCOM consumer switching https://www.ofcom.org.uk/consultations-and-statements/category3/kcom-switching.

[100] Making switching easier and more reliable for consumers https://www.ofcom.org.uk/consultationsand-statements/category-1/making-switching-easier.

[101] Further proposals to reform switching of mobile services https://www.ofcom.org.uk/consultationsand-statements/category-2/mobile-switching-jul16.

[102] "Navigating the Bundle Jungle – Content, Connectivity and Consumer Trust", Ernst & Young http://www.ey.com/Publication/vwLUAssets/ey-navigating-the-bundle-jungle/$FILE/ey-navigating-thebundle-jungle.pdf.

2.27 Bundles provide benefits to consumers, e.g. by ensuring that they only need to deal with a single provider, and providing discounted prices relative to purchasing stand-alone services.

2.28 However, switching between bundles or breaking up a bundle raises a number of issues for consumers compared to single service switching. Bundles of services naturally comprise more components than a single service offering, which adds further complexity to search and transaction costs. This is particularly so where a bundle contains combinations of services for which the contract duration is different, meaning that consumers never reach the end point of their contracts for all the services in the bundle simultaneously. In these cases, switching is made more difficult by the need to either break up the bundle or pay early termination fees for some bundle components in order to switch all services to a new bundle provider at the same time.

Conclusions

2.29 In conclusion, a number of factors make consumer engagement in electronic communications markets difficult. Minimum term contracts mean that decision points for consumers are relatively rare, and "mistakes" are difficult to correct. Choices are not easy because information about services can be complex and hard to compare. Switching provider is also difficult and daunting for some consumers. Ofcom therefore needs to be active to ensure that these factors do not suppress consumer engagement and hence cause damage to markets and consumers.

3. **Ofcom's WLAMR proposals**

Introduction

3.1 In this Section, we look at Ofcom's WLAMR proposals in the context of the demand-side issues we explored in Section 2.

3.2 Ofcom's Strategic Review of Digital Communications proposed a policy shift to encourage the large-scale deployment of new ultrafast broadband networks, as an alternative to the Openreach fibre/copper mix.[103]

3.3 The WLA Market Review pursues this objective, recognising that incentivising operators to build new networks, rather than relying on buying access from BT, can form a powerful spur to competition and innovation. In particular, it notes that network competition can lead to faster speeds, higher quality and lower prices. [104] Ofcom's consultation includes proposals on wholesale pricing and PIA remedies.

3.4 However, Ofcom's Review does little to help consumers take advantage of competition created by new networks. In particular, it does not consider the need

[103] Ofcom Strategic Review of Digital Communications, p32 https://www.ofcom.org.uk/phonestelecoms-and-internet/information-for-industry/policy/digital-comms-review/conclusions-strategicreview-digital-Communications.

[104] Ofcom WLAMR consultation page 2
https://www.ofcom.org.uk/__data/assets/pdf_file/0033/99636/Vol1-Market-review.pdf

to facilitate transfers from SBB and SFBB to UFBB deployments. Bad or non-existent switching processes, and failure to address other switching barriers, will unfairly reinforce the position of incumbents. Therefore, we believe Ofcom's failure to address demand-side issues, and consider solutions in the WLAMR, is a major flaw in its proposals.

3.5 We will explain in this section why this shortcoming undermines Ofcom's objective of promoting network competition. This creates a significant risk that government policy, and Ofcom's supply-side initiatives, including PIA, will be frustrated, and consumers will be denied choice.

Demand for UFBB

3.6 Ofcom's own evidence suggests that new network development is expensive and risky. Incumbents have the relative advantages of existing infrastructure (though Ofcom's PIA proposals are designed to level the playing field somewhat in relation to this by enabling other networks to make use of BT's passive infrastructure), and an existing customer base to which they can 'up sell'.

3.7 We are currently at a watershed moment, where prospective network providers are sizing up fibre deployment opportunities based on uncertain near-term demand for faster connections, and limited evidence that consumers are willing to pay any significant premium for this certainly at the outset of FTTP being made available to consumers.

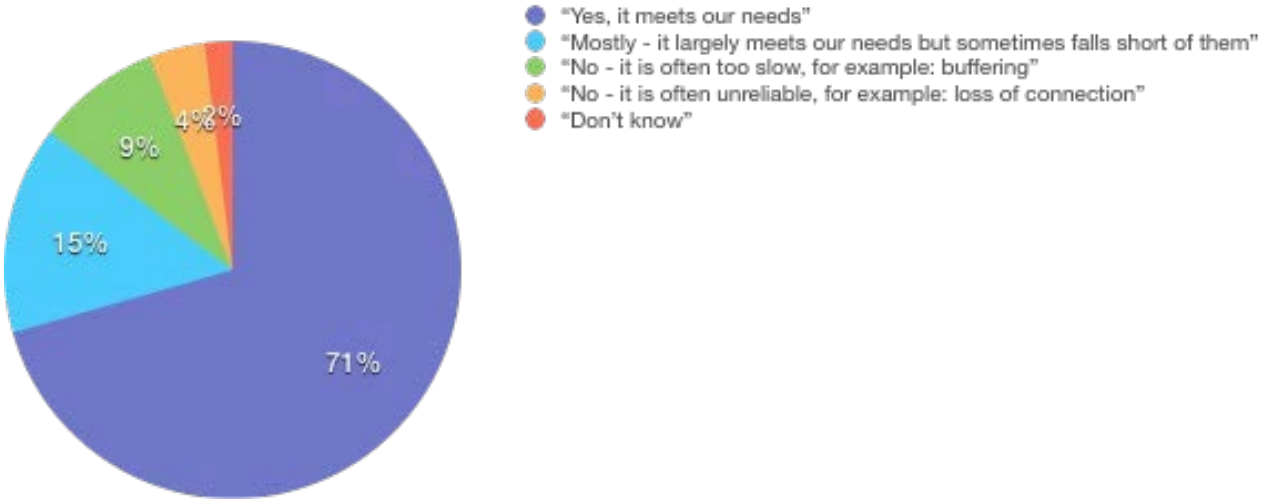
3.8 Currently, residential consumer satisfaction with broadband speeds is high; only 13% of residential broadband consumers consider their connection slow or unreliable[105] (Chart 2). This suggests that UFBB investments are a long-term bet on a substantial shift in demand for better connections and more bandwidth which cannot be met by technologies which improve the performance of existing copper assets, such as G-Fast. In other words, while there are longterm benefits to investment in fibre, there is a risk that there will be a lag between UFBB availability and take-up.

Chart 2: Residential consumer attitudes on whether their broadband connection meets their needs.

(Source – Ofcom[106])

[105] Residential and SME Broadband Research, slide 21
https://www.ofcom.org.uk/__data/assets/pdf_file/0031/99643/Broadband-residential-research.pdf

[106] Residential and SME Broadband Research, slide 20
https://www.ofcom.org.uk/__data/assets/pdf_file/0031/99643/Broadband-residential-research.pdf.



3.9 Even where consumers see a need for more speed, (Openreach data suggest 18% of standard broadband customers think they will upgrade to SFBB within the next year, and a further 29% after this[107]), it is not clear that this extends to SFBB subscribers wanting to upgrade to UFBB, or that consumers would currently be prepared to pay a premium for these.

3.10 Evidence about the behaviours of upgraders at lower speeds supports this. The price differential between standard and superfast broadband for major providers operating on the Openreach network appears to be converging at around £10-15/month[108]. Based on current demand, the scope to increase that pricing differential for UFBB speeds is questionable; Ofcom quotes that BT internal documents noted that "many customers who choose fibre broadband are price sensitive, choosing the lower speed 40/10 Mbit/s service rather than the 80/20"[109]. **The risks to consumers and competition if negative switching costs are not addressed**

3.11 Switching costs have far-reaching consequences. They affect the structure of prices, level of prices, extent of new entry and expansion, and level of consumer welfare and industry profits.

3.12 Switching costs exist in most markets, and are sometimes unavoidable. For example, consumers wishing to connect to a new network may be deterred by the hassle of waiting for an engineer visit. Although there are measures available which could mitigate this, such as employing more engineers, or offering shorter visit windows, it may not be possible to remove the engineer visit altogether.

3.13 Our concern is not with barriers such as these, but rather with avoidable switching costs. For communication services, these include some of the factors identified in

[107] Ofcom *WLAMR consultation* page 32
https://www.ofcom.org.uk/__data/assets/pdf_file/0033/99636/Vol1-Market-review.pdf
[108] Ibid, page 31

[109] Ibid, p37

Section 2, such as different contract end dates for services sold as a bundle, the hassle surrounding trying to cancel a service, or double paying for a period of contract overlap because of the difficulty of coordinating stop and start dates for old and new services.

3.14 Switching barriers bind buyers to their first choice of product by creating a cost of transferring to another provider. This could be in terms of the time required to research alternative products and effect the switch, or the risk of something going wrong during the migration, such as experiencing a period without any service. Or it could be the result of the existing provider making it difficult to leave.

3.15 The importance of promoting smooth switching processes to help consumers benefit from service competition has been recognised on numerous occasions by Ofcom. For example, in its Strategic Review of Consumer Switching, Ofcom explained that *"…in order to benefit from competition, consumers must have confidence to be able to exercise choice. This means that consumers should be able to switch between services and providers without undue effort, disruption and anxiety. A lack of consumer confidence in switching processes may mean consumers choose not to switch. This could dampen the competitive process, and consumers will not receive the benefits from competition they should be able to expect*." [110]

3.16 Unnecessary switching costs have been addressed by Ofcom for transfers between providers operating on the Openreach network. As with other Ofcom switching work, the remedies applied to Openreach switching were specific to one service platform, i.e. they do not apply to switches outside of the Openreach network. A disadvantage of this technology specific approach is that it does not result in future proof remedies, even when consumers face common challenges switching their services regardless of the platform(s) involved. Without a technology neutral approach, the regulator has to consider switching remedies again each time a new platform is deployed in a market. This is a challenge faced by Ofcom, and contrasts with some other markets where integrated switching platforms are able to accommodate new technology, including UFBB, by default or with minor adaptation.[117]

3.17 Therefore, the risk of lock-in remains for consumers considering a switch to new fibre networks. This is because there is no formal process in place in the UK to help with these transfers.

Demand-side measures which could help reduce switching costs

3.18 There are many ways to minimise unnecessary switching barriers, including:

- **disclosure remedies** to empower consumers by requiring suppliers to provide them with better product information to aid decision-making;

[110] Ofcom Strategic Review of Consumer Switching https://www.ofcom.org.uk/consultations-andstatements/category-1/consumer-switching/summary.

- remedies to **facilitate search and comparison**, and to **nudge consumers** towards shopping around; and
- **switching process remedies**, to make the process of changing provider quicker, easier and more reliable, or to remove barriers to switching.

3.19 In practice, there is unlikely to be a silver bullet among these approaches; rather, a package of complementary measures is required to help consumers make good decisions and act on them.

[117] Ofcom adopted a technology neutral approach in its Strategic Review of Consumer Switching with a set of common principles for switching. However, subsequent reforms of switching processes in the UK have been service or technology specific. In other markets there are centralised technology neutral switching facilities, e.g.

- The COIN platform in the Netherlands https://www.coin.nl/index.php?option=com_content&view=article&id=18&Itemid=167&lang=en.
- VATM in Germany http://www.vatm.de/pmdetail.html?&tx_ttnews%5Btt_news%5D=1590&cHash=4a07e6797416beb141fe99ddd161c3c6).

.

3.20 We believe it is crucial that demand and supply side competition barriers are addressed at the same time. Ofcom's market review methodology provides for supply side barriers to be addressed *ex-ante*, but does not include consideration of demand side barriers. This means that demand side barriers if they exist are left for investigation *ex post* after regulatory remedies have been set on the supply side. The consequences of this can be a lag between supply and demand side interventions. Harm caused to consumers and the competitive process during this time lag is irreversible.

3.21 In her report "The Role of Demand-Side Remedies in Driving Effective Competition", Professor Amelia Fletcher makes the point generally in relation to regulation, that demand-side remedies should be considered and addressed early in a market review. Professor Fletcher said "*…it is important that [demand-side] remedies are given early consideration in any market review. In the past, remedies have sometimes been considered quite late on in the process, with primary focus being placed on diagnosing problems in a market. While good diagnosis is crucial, it is important also*

to recognise that it takes time to design effective remedies. This should not be considered as an after-thought"[111]*.*

3.22 The value of this conclusion by Professor Fletcher can be illustrated using one of the most important competitive developments in the history of the UK broadband market. As described in the case study below, the creation of Openreach and associated Undertakings on equivalence of access in 2005 were the catalyst for significant and positive changes to the competitive landscape from the supply side. However, demand-side problems were not addressed in the 2005 package of reforms, and it was not until 2015, ten years later, that changes to improve switching processes on the Openreach network took effect.

Case study – switching between providers on the Openreach network

In 2005, Ofcom and BT agreed Undertakings to create the (then) new access division of BT, Openreach, and provisions for equality of access to Openreach services for all downstream providers.

The Undertakings paved the way for a new phase of competition based on Openreach services, notably local loop unbundling (LLU). LLU enabled providers to connect directly to their customers via equipment co-located at BT local exchanges. It was a spur to investment and competition in the broadband market; between 2005 and 2009, the proportion of total lines which were unbundled grew from 0.7% to 22.6%.

However, neither the Undertakings nor subsequent market reviews addressed consumer switching.

Ofcom identified concerns with switching processes in its Strategic Review of Consumer Switching, on which it consulted in 2010 -https://www.ofcom.org.uk/consultations-andstatements/category-1/consumer-switching/summary. In that review Ofcom set out its strategic preference for gaining provider led (GPL) switching processes, and explained how losing provider led (LPL) processes could lead to harm to consumers and to competition.

Ofcom subsequently consulted on options to reform switching between providers on the Openreach network. The issues were complex and Ofcom published three rounds of consultation before making a decision - https://www.ofcom.org.uk/__data/assets/pdf_file/0033/76569/consumer_switching.pdf. It completed the consultation in 2014, and new harmonised GPL switching arrangements took effect for switching between providers on the Openreach network in 2015.

Hence there was a ten-year gap between the Undertakings which provided a new platform for competition on the supply side, and key demand-side reform of switching processes.

3.23 We believe this demonstrates how important it is for Ofcom to include consideration of demand-side conditions, particularly switching, in the WLAMR and other market reviews.

[111] "The Role of Demand-Side Remedies in Driving Effective Competition A Review for Which?" 2016 – http://www.staticwhich.co.uk/documents/pdf/the-role-of-demand-side-remedies-in-driving-effectivecompetition-456067.pdf

3.24 Without good switching processes for transfers to new UFBB networks, there is a danger that new network development will be stifled, and the competitive playing field will stay tilted towards CPs on the Openreach network, and other incumbents like Virgin Media.

3.25 As explained in Section 2, Ofcom is currently reviewing arrangements for cross-platform switching.[112] This review covers current generation cross-platform switching issues between the Openreach, Virgin cable and Sky satellite networks. Ofcom does not intend to UFBB switching as part of this project – i.e. Ofcom's review of cross platform switching does not cover switching to UFBB networks from SBB and SFBB networks, neither does it cover switching between UFBB networks, nor the impact on switching processes of proposed PIA remedies.

3.26 Ofcom cites as reasons that these networks tend to be located in specific geographic areas, their take-up is usually low, and "they are often the only superfast or ultrafast broadband network available in the area".[113] That argument is circular, in that switching difficulties are almost certainly a contributory factor to low take-up of UFBB networks. It misses the point that, in a newly fibred town or city, consumers who want to switch are most likely to do so from their existing lower speed network to the new higher speed network. The fact that this may be the only UFBB network in the area is not a reason for *not* making a formal switching process available to help consumers join the new network; it is the very reason it *should* be included in scope. Ofcom's explanation also misses the point that Ofcom has now stated a strategic shift towards fibre investment. By focusing only on improving switching practices between existing networks, Ofcom makes switching to full fibre networks harder and therefore less likely.

Current and future cross-platform switching difficulties

3.27 While consumers can find it difficult to switch between services and providers operating on a shared network, switching between infrastructures is naturally more complex. Ofcom's tripleplay switching research found that 42% of cross-platform switchers experienced major difficulties when switching, and 79% experienced some kind of difficulty[114] (Table 1). These findings apply to switching between the Openreach network, Virgin Media's cable network and Sky satellite TV. One would expect similar difficulties to arise in switches between these networks and new UFBB networks since the same conditions apply – i.e. customers will be switching between separate network infrastructures as opposed to switching between providers on the same network infrastructure (e.g. between providers on the Openreach network).

Table 1 – Proportion of cross-platform switchers experiencing difficulty (Source: Ofcom[115])

[112] "Making switching easier and more reliable for consumers. Proposals to reform landline, broadband and pay TV switching between different platforms" https://www.ofcom.org.uk/__data/assets/pdf_file/0030/58845/making-switching-easier.pdf.
[113] Ibid, page 9.

[114] Triple play switching, online research
https://www.ofcom.org.uk/__data/assets/pdf_file/0025/68263/bdrc-slidepack.pdf
[115] Ibid, slide 29.

Magnitude of difficulty	Proportion of cross-platform switchers experiencing difficulty
Any difficulty (major or minor)	79%
Any major difficulty	42%
Any minor difficulty	76%

3.28 Ofcom proposes to address some switching difficulties in its WLAMR proposals. For example, it has proposed imposing requirements on BT to:

- Offer a maximum one-month minimum contract period for connection to FTTC-based VULA services, recognising that without this requirement, there is a risk of reduced levels of switching, leading to less retail competition. This brings the minimum contract rule for VULA connections in to line with the existing requirement for VULA migrations[116].
- Remove LLU cease charges where these do not require a physical disconnection, and has set a charge control on ceases which do require physical intervention.

3.29 These remedies recognise the risks that cease charges passed on at the retail level may deter customers from switching providers. However, while these proposals are welcome, Ofcom's own evidence shows that these are not the barriers which most discourage would-be switchers, or which hamper those who decide to switch. It found that the existing cross-platform switching arrangements, where the subscriber must contact their old provider to cancel their old service and coordinate this with the start of their new service, created a number of difficulties for switchers (Table 2),[117] and put off 79% of consumers who considered switching but decided against it.[118] These process-related difficulties related to:

- loss of service, particularly due to delays in services being installed or activated when switching, and the difficulties consumers experience (or are worried they will experience) co-ordinating the stop/start of the service(s);
- double paying for services that overlap, particularly due to difficulties consumers experience co-ordinating the stop/start of the service(s) or to avoid a loss of service; and
- difficulties contacting previous providers / cancelling old service(s), particularly due to restricted and at times lengthy methods of cancellation.

Table 2 – Process related difficulties experienced by cross-platform switchers

[116] WLAMR consultation https://www.ofcom.org.uk/__data/assets/pdf_file/0033/99636/Vol1-Marketreview.pdf

[117] Triple play switching, online research, slide 29 https://www.ofcom.org.uk/__data/assets/pdf_file/0025/68263/bdrc-slidepack.pdf

[118] Ibid, slide 81.

(Source: Ofcom[119])

(Note: switchers in the Ofcom sample also experienced other non-process related difficulties not listed here.)

Difficulty experienced	**Proportion of cross-platform switchers experiencing difficulty**	
	Major	**Minor**
Cancelling your previous service	11%	27%
Getting the switch to happen on the date you wanted	4%	13%
Arranging the switch so that you always had access to your services	7%	23%
Arranging the switch so that you were not paying for your old and new service at the same time	8%	26%

Prospective quality of service remedies

3.30 Ofcom also recognises the importance of service continuity in its WLAMR proposals, and proposes wholesale quality of service remedies to ensure loss of service is minimised.[120] These proposals are in addition to Ofcom's separate proposals to provide automatic compensation to retail customers for quality of service failures, including loss of service.[121] Overall, Ofcom has shown that it is prepared to intervene on loss of service from your existing supplier where there is evidence of consumer harm. However, it has not brought forward any proposal to deal with

[119] Triple play switching, online research, slide 28 https://www.ofcom.org.uk/__data/assets/pdf_file/0025/68263/bdrc-slidepack.pdf.)

[120] Quality of Service for WLR, MPF and GEA https://www.ofcom.org.uk/__data/assets/pdf_file/0033/99645/QoS-WLR-MPF-GEA.pdf.

[121] Automatic Compensation https://www.ofcom.org.uk/__data/assets/pdf_file/0030/98706/automaticcompensation-consultation.pdf

loss of service which may occur during UFBB switches. We believe this is a gap in Ofcom strategies on both switching and quality of service.

Switching and PIA remedies

3.31 We think the deployment of UFBB networks using PIA remedies may create further switching difficulties. Ofcom refers to some of these in its current PIA consultation and in its 2016 consultation on PIA remedies where it discussed the risk that it may be difficult to coordinate engineering work to replace copper "lead-ins" with fibre connections.

3.32 In the 2016 consultation, Ofcom proposed process solutions for some of these issues.[122] Having considered stakeholder responses to their proposals, Ofcom has now adopted a less prescriptive approach and proposes that industry develops service level agreements and guarantees (SLAs and SLGs) for the installation and switching of lead-ins both overhead and underground.[123]

3.33 Installation and switching of lead-ins will be an important feature of the consumer experience of UFBB networks (when they are delivered using PIA remedies). The development of SLAs and SLGs and further consideration by Ofcom of processes for lead-in installation should therefore include consideration of the consumer experience.

Potential delays to switching processes

3.34 One important element of this will be the time needed for this installation work. Currently broadband switches on the Openreach network take 10 days. For UFBB installs and switches requiring extensive engineering work (e.g. replacement of poles to increase capacity), there is a risk that provision of a new service will be a lengthy process. Even for more straightforward installs/switches it is likely to be challenging to complete engineering work quickly. There are obvious problems which may arise because of this. For example, the length of time to upgrade or switch may put consumers off UFBBs. Customers may opt to upgrade with their existing provider as a result, even though a switch might offer them a better service quality or service features which match their requirements more precisely.

3.35 Time is already a difficult factor in coordinating cross-platform switches. Losing providers typically require notice of 30 days before ceasing service, and arranging for new services to start when existing services cease can lead to a period of service loss or overlap (with the customer paying for two services at once). Lead-in engineering timescales should be designed to take account of time needed for consumer facing activities, including contract notice periods.

Opportunities for reactive save

3.36 There is also a concern that engineering processes to install or switch lead-ins will trigger reactive save activity by the existing service provider. Whilst retention activity can be beneficial to both consumers and competition and the ability of consumers to assess options should

[122] Initial proposals to create an effective PIA remedy, p41-46 https://www.ofcom.org.uk/__data/assets/pdf_file/0024/95109/Wholesale-Local-Access-MarketReview.pdf.

[123] Consultation on Duct and Pole Access remedies, p92 - 99 https://www.ofcom.org.uk/__data/assets/pdf_file/0008/101051/duct-pole-access-remediesconsultation.pdf

include offers from its existing provider, this should happen outside of the switching process and not be a feature of it.

3.37 This means that it should be possible for customers to organise their switch as simply as possible (preferably through a "single touch point" which should be a request to switch made to their new provider). Processes for validation of the request and provision of necessary information to the customer should be as frictionless as possible and should not include winback activity by the losing provider. This does not mean that the customer should not be able to seek a better deal from their existing provider (or decide to stay for other reasons), but it should prevent losing providers from making the switching processes dependent on opportunities for win-back activity to frustrate, delay or add complexity to switching processes.

3.38 For switches between providers on the Openreach network there is an explicit prohibition of reactive save in General Condition 22.15.[124] We believe that Ofcom must consider whether equivalent protections are needed for other types of switching, including switches involving UFBB networks and networks deployed using PIA remedies. Consumers are also protected from reactive save in some switching scenarios by General Condition 1.2 which prohibits the disclosure by a CP of information it acquires in negotiating network access. [125] However, General Condition 1.2 does not appear unequivocally to apply to switches between infrastructure. Also, we note that, in its review of the General Conditions, Ofcom states that "it is less concerned about the effects of reactive save activity than was previously the case", and "we do not plan to make the enforcement of GC1.2 an administrative priority".[126]

3.39 We believe Ofcom must consider switching arrangements for transfers between infrastructure involving PIA remedies. In particular, consideration should be given to how the consumer experience may be affected by the timing of engineering work for lead-ins, and reactive save.

Illustration of possible UFBB switching barriers

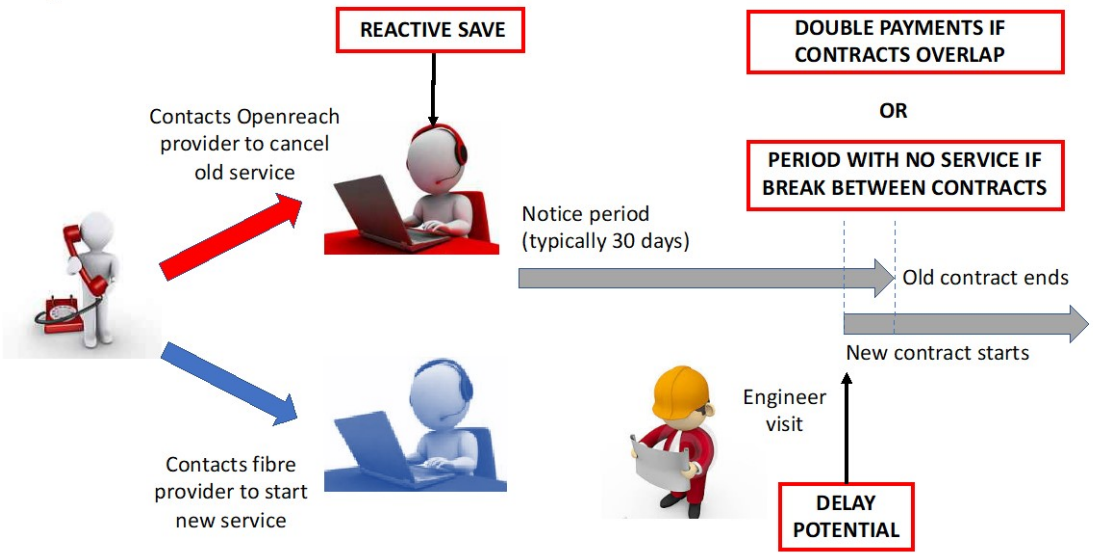
3.40 In Figures 1 and 2 below, we illustrate some of the risks we have identified for switches to and from UFBB networks which we believe Ofcom must address. Figure 1 shows the existing cease and re-provide arrangement which would apply in the absence of a switching process.

[124] GC22.15 says "Where the Losing Provider communicates with the Customer in order to comply with this Condition, it must not make any marketing statements or representations in the communication which may induce the Customer to terminate their contract with the Gaining Provider and/or remain in a contract with the Losing Provider."
https://www.ofcom.org.uk/__data/assets/pdf_file/0021/36192/general_conditions_22sept2014.pdf

[125] General Condition 1.2
https://www.ofcom.org.uk/__data/assets/pdf_file/0021/36192/general_conditions_22sept2014.pdf.

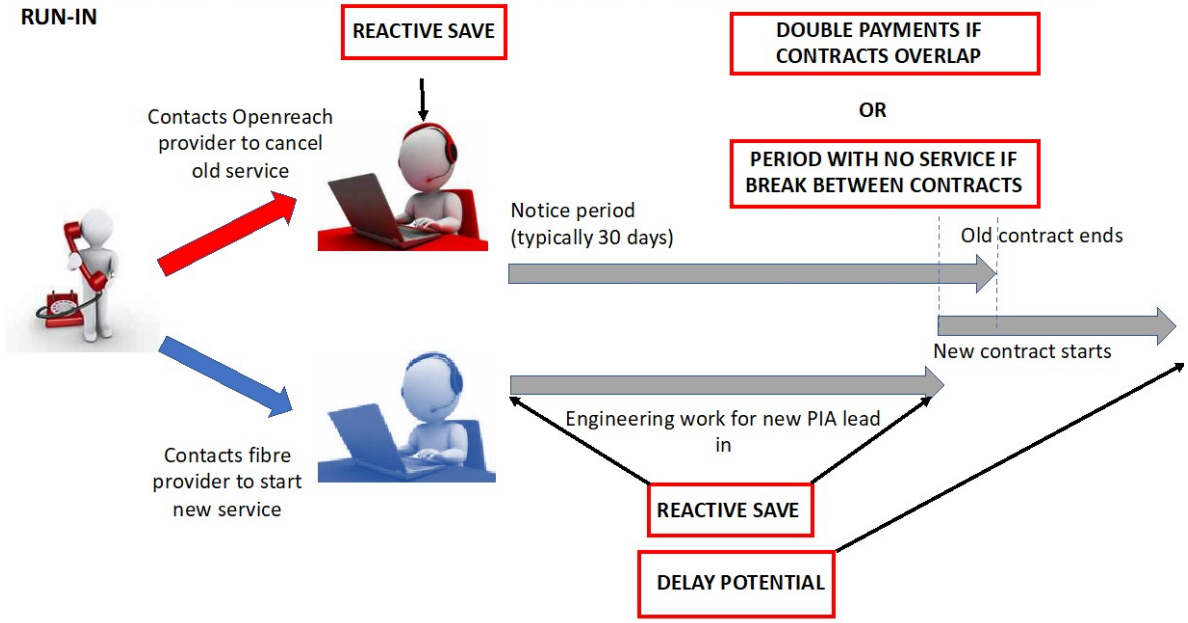
[126] Review of the General Conditions of Entitlement
https://www.ofcom.org.uk/__data/assets/pdf_file/0032/95873/Review-of-the-General-Conditions-ofEntitlement-Consultation-on-the-general-conditions-relating-to-consumer-protection.pdf, page 109.

Figure 1: CURRENT PROCESS FOR SWITCHING TO A NEW FIBRE NETWORK



3.41 In Figure 2 we have added Ofcom's potential difficulties which could arise where engineering is required for a new PIA lead-in.

Figure 2: CURRENT PROCESS FOR SWITCHING TO A NEW FIBRE NETWORK, WITH ENGINEERING FOR NEW RUN-IN



Ofcom must extend its work on switching to include UFBB networks

3.42 In its cross-platform switching consultation, Ofcom recognises difficulties which arise for consumers in infrastructure switches. In particular, Ofcom is looking to address loss of service and overlapping contracts. Ofcom offers two reform proposals; either replacing the current requirement to speak to the existing provider to cancel with an email / IVR / postal alternative, or a full GPL switching process, as used for switches on the Openreach network.

3.43 We agree with Ofcom that reform is necessary, but we believe that Ofcom must extend the scope of its cross-platform switching work to make it future proof.[134] This means Ofcom must include switching to UFBB networks from SBB and SFBB networks, and switching between UFBB networks in its consideration of cross-platform switching. We believe it should also consider the specific switching barriers which may arise from the engineering requirements in its proposed PIA remedies.

3.44 Building on the principles Ofcom established in its Strategic Review of Consumer Switching, and the reforms it has introduced to transfers on the Openreach network, we consider that a good switching process should have the following characteristics:

- **Minimise difficulty for consumers**. This is best achieved through inclusion of a single touch point. Consumers should not be forced to speak with their existing provider before they can switch.

- **Gaining provider led**. Switching works best when coordinated on behalf of the consumer by the gaining provider, who, unlike the losing provider, is incentivised to make the switch as easy as possible, with the GP being the only necessary point of contact for the consumer.
- **Protect against slamming and erroneous transfers.** There should be safeguards to ensure consumers are not switched by mistake or dishonestly, including rigorous authentication procedures
- **Minimise loss of service**. Transfer of services should be seamless, with no loss of service or double paying resulting from parallel running of the old and new service.
- **Ensure consumers are properly informed.** Consumers who wish to switch should understand fully the consequences, e.g. if they will face early termination charges for their contract, or lose some service features as a result. They should also be kept informed in a timely manner of each stage in the process.
- **Not include reactive save**. We believe that save activity should not be a necessary feature of the switching process. Switchers should be protected from retention efforts by losing providers which frustrate, delay or add complexity to the switching process.

3.45 However Ofcom chooses to enable cross-platform switching, it is vital that fibre networks are within scope. This should be achievable because, as explained above, the available evidence suggests that the issues faced by consumers, and the principles which should apply to a switching intervention, are likely to be the same for switching to UFBB networks as those recognised by Ofcom in its previous switching interventions and the current cross-platform switching project. It is preferable that switching arrangements be technology neutral and, as far as possible, future proof. We

recommend that Ofcom looks at switching processes overseas, and adopts best practice on consumer experience and industry process, with a focus on those markets with integrated switching platforms capable of accommodating new technology.

3.46 We note that in its 2012 consultation on switching reform on the Openreach network, Ofcom said: "*Currently, switching to or from FTTP would go through the C&R process. Potential changes to this process are outside the scope of this part of the review. We plan to consider FTTP (along with cable) in the next part of the review*".[127] Now, five years on with the prospect of greater UFBB availability and competition at the network and services levels, it is surely time to conduct this review.

3.47 In conclusion, effective switching processes are an important component for the success of UFBB network deployment, and so Ofcom must address UFBB network switching alongside the WLAMR. We recommend it starts a review now.

12 Annex C – PIA Usage Restrictions

CITYFIBRE INFRASTRUCTURE HOLDINGS PLC ("CITYFIBRE")

WHOLESALE LOCAL ACCESS MARKET REVIEW (THE "WLA MARKET REVIEW")

CONSULTATION ON DUCT AND POLE ACCESS REMEDIES (THE "DPA CONSULTATION") LEGAL AND REGULATORY ANALYSIS PAPER

12.1 SCOPE OF THIS ANALYSIS AND BACKGROUND

Scope

12.1.1 CityFibre has conducted an analysis of two key legal issues related to the content of the DPA Consultation to ensure they map the avowed intentions of Ofcom and increase legal certainty for all market players. These are:

(1) An assessment of Ofcom's proposed legal instrument to implement the 'mixed use' rule for Physical Infrastructure Access ("**PIA**"). CityFibre has some concerns that the instrument that is being consulted on may not support the mixed used models critical to ensuring effective broadband deployment at the retail level – the avowed intention of the PIA remedy.

[127] Consumer switching consultation p34 https://www.ofcom.org.uk/__data/assets/pdf_file/0022/71455/condoc.pdf.

(2) An assessment of whether Ofcom's position, that it cannot impose a more unrestricted PIA remedy, is legally robust and not unduly conservative. An overly restrictive application may unduly deter investment and broadband deployment. Ofcom's basis for its current position appears to be that it would be inappropriate to put in place a remedy that can be used for a purpose that does not have a direct linkage with remedying the competition concerns in the WLA market. CityFibre believes that this is unduly restrictive and some simple alterations to the proposed formula would be legally appropriate and encourage the achievement of Ofcom's goals.

12.1.2 To fully understand and appreciate CityFibre's comments and concerns on the DPA Consultation it is important to understand its business model. A brief description of that model is set out below.

CityFibre's business model

12.1.3 In brief, CityFibre's business model is effectively the delivery of service in three sequential tiers (at all phases please note that CityFibre is a wholesale-only business so does not directly offer retail service to end users):

12.1.4 [✂]

12.2 EXECUTIVE SUMMARY

12.2.1 In summary, Ofcom's direction of travel towards a more liberalised PIA remedy is a positive one; however, the specific proposals put forward in the DPA Consultation [128] are potentially problematic from a legal and regulatory policy perspective in a number of ways which must be addressed by Ofcom prior to implementation. In particular, the proposed remedy will not, unless some alterations are made, ensure the delivery of Ofcom's goals, and also may be unduly restrictive and may restrict investment levels from market players. These concerns can be addressed relatively easily and the suggestions are set out below.

Ofcom's formulation of the 'mixed use' rule

12.2.2 In the DPA Consultation, Ofcom notes that the current usage restrictions in the existing PIA remedy prevent it being an effective basis for large scale roll-out of competing local access networks[129]. Ofcom, therefore, provisionally concludes in the DPA Consultation that these usage restrictions must be relaxed or removed to engender greater network competition so as to address competition issues in the WLA market. CityFibre agrees with this assessment; however, the specific formulation of the new PIA remedy put forward by Ofcom is inadequate to address Ofcom's aims without some alterations.

12.2.3 The key problem is Ofcom's inclusion of two usage restrictions in the PIA remedy – (i) that PIA can only be used for deployments which primarily allow for broadband services to

[128] See the DPA Consultation Part 4.

[129] See the DPA Consultation 4.71.

be provided and (ii) that the provision of non-broadband services must "*facilitate*" the overall broadband access network deployment. This represents an undue double barrier to securing the benefits of the remedy - which CityFibre believes is legally unnecessary and also may unduly restrict investment and increase legal uncertainty for market players, unless the suggested changes recommended below are implemented.

12.2.4 It is clear that Ofcom feels that it needs to maintain usage restrictions in the new PIA remedy to comply with its legal requirements under the Communications Act 2003. However, in CityFibre's view, the current formulation represents too conservative an approach to Ofcom's powers and a more focused formulation is needed to allow Ofcom to achieve its goals. Indeed, CityFibre continues to believe that there are strong arguments that a new PIA remedy with no usage restrictions would be both lawful and the most effective approach.

12.2.5 In particular, is not clear to CityFibre that the legal provisions which Ofcom point to as precluding a remedy without restrictions, should be interpreted in that way. This position is bolstered by the views of BEREC[130] and the Commission on PIA remedies. It is also the case that a number of National Regulatory Authorities operating under the EU Common Regulatory Framework have introduced Duct and Pole Access remedies without restrictions, and the Commission has not objected.

12.2.6 Ofcom should carefully consider implementing an approach which does not contain any usage restrictions; this would be the optimum solution in terms of ensuring the effectiveness of the PIA remedy in driving competition. It would also be the option most suited to Ofcom's duties to have regard to the need to encourage investment and innovation in relevant markets, [131] to promote competition [132] and the need for regulatory actions to be transparent and proportionate[133].

12.2.7 CityFibre agrees with those stakeholders who have argued is that it is not impossible for Ofcom to adopt cost recovery measures that would ensure that the WLA market does not bear costs which should be allocated to other markets.[134] Such an approach would appear to be more proportionate than the present double lock restriction, which risks the effectiveness of the entire remedy.

12.2.8 Even if it is not minded to implement a completely liberalised PIA remedy, however, Ofcom should use the additional flexibility it clearly has to reassess its current formulation of the PIA remedy. As it is currently drafted, the remedy does not offer transparency to operators and creates a material degree of uncertainty in respect of how PIA will operate in practice. This lack of transparency and certainty, in particular, creates the risk that there will be multiple industry disputes regarding the proper interpretation of the new remedy. This risks making the remedy ineffective for realising the important pro-

[130] See paragraphs 3.37 – 3.43 below.

[131] Communications Act 2003 s3(4)(d).

[132] Communications Act 2003 s3(1)(b).

[133] Communications Act 2003 s3(3)(a).

[134] See the PAG response to the 2016 PIA Consultation at para 73 (b).

competition benefits of PIA that Ofcom wants to see in the WLA market, and will, in its current form, lead to material delays in implementation of the rules.

12.2.9 As noted above, a formulation of the PIA remedy which removed all usage restrictions would be optimal and such a remedy would be permissible under the Communications Act 2003 and the European Common Regulatory Framework. However, if Ofcom is still not minded to completely liberalise the remedy it should, at a minimum, remove the 'primary purpose' requirement and retain the 'facilitation' requirement, albeit with some material clarifications on its scope of application. The double lock Ofcom currently intends to apply is disproportionately restrictive. CityFibre has suggested drafting to implement either of these options.

Ofcom's statements on the new PIA remedy and the need for guidance

12.2.10 Whether or not Ofcom decides to adopt CityFibre's suggested changes to the draft legal instrument, appropriate guidance on the application of the final formulation of the remedy is necessary to ensure that its operation is sufficiently clear and transparent both legally and in practice and to avoid the risk of multiple disputes between Openreach and access seekers.

12.2.11 In providing this guidance, Ofcom should, in particular, critically review the statements it has made in the DPA Consultation in respect of how the new formulation of the PIA remedy should be interpreted in practice. Some of Ofcom's statements are contrary to a workable interpretation of the new PIA remedy, and risk reducing the possibility that it will have significant pro-competitive effects. Problematic statements in the DPA Consultation include:

(1) Ofcom's current view on the mix of services that it would expect to see facilitated by PIA;[135]

(2) the evidence it would require regarding broadband deployment[136]; and

(3) its emphasis on providers' marketing approaches including confidential information.[137]

Openreach and Information Sharing

12.2.12 Irrespective of the eventual substantive formulation of the legal instrument CityFibre is concerned that the PIA remedy will, in practice, require operators to provide material evidence of 'mixed use' to Openreach in order to satisfy two highly ambiguous tests. Ofcom must, therefore, address the very real concerns of providers in respect of intraOpenreach information sharing. This is critical given that the information that it receives from access seekers is highly sensitive and given the range of services that Openreach provides to industry While appropriate guidance on the application of the remedy in practice is likely to reduce the extremely wide and highly subjective discretion that Openreach has as the arbiter of decisions relating to requests for PIA (and may

[135] See the DPA Consultation 4.91.2.

[136] See the DPA Consultation 4.91.4.

[137] See the DPA Consultation 4.96.

therefore reduce the level of information that will need to be shared), information may still need to be shared and access seekers need confidence that this information will be appropriately ring-fenced within Openreach.

12.2.13 Whilst Ofcom has suggested that providers are protected by the existence of General Condition 1.2, CityFibre considers that, for providers to have sufficient comfort prior to handing over information to Openreach, they need to be certain that there are robust controls in place to ensure that their sharing of commercially sensitive information with Openreach will not disadvantage them.

12.3 OFCOM'S FORMULATION OF THE 'MIXED USE' RULE

12.3.1 In its current form, the PIA remedy is limited to use "*for the purposes of deployment of broadband access networks serving multiple premises*".[138] The current PIA remedy also limits PIA to use in local access deployments.[139]

12.3.2 In the DPA Consultation Ofcom states that changes should be made to this current position, and considers whether (and on what terms) it should allow for 'mixed use'. This is because, as Ofcom has noted in both the Digital Communications Review and subsequent documents, the PIA remedy in its current form has failed to attract significant operator interest and has therefore not been an effective remedy in the WLA market.[140] Ofcom's approach, as described in the DPA Consultation builds on, its '*Initial proposals to develop an effective PIA remedy*' (the "**2016 PIA Consultation**").

12.3.3 In its discussions with stakeholders prior to the 2016 PIA Consultation, Ofcom was given strong indications by numerous stakeholders that relaxing current PIA usage restrictions was key to encouraging further network development and that, in particular, stakeholders expected ultrafast broadband network build and demand for leased lines to be geographically coterminous. Ofcom appears to have accepted the arguments of stakeholders that the additional revenue opportunity and economies of scope offered

[138] See paragraph 4.45 of the DPA Consultation, and Fixed Access Market Review Statement 2014, Annex 29, Condition 2.1A.

[139] See Fixed Access Market Review Statement 2014, Annex 29, page 22.

[140] See *Making communications work for everyone: Initial conclusions from the Strategic Review of Digital Communications*, 25 February 2016, at para 4.28.

by delivering all types of services over the same network is required for a viable business case based on PIA.[141]

12.3.4 In the DPA Consultation, Ofcom notes that the current use restrictions in the existing PIA remedy prevent it being an effective basis for large scale roll-out of competing local access networks.[142] Ofcom, therefore, provisionally concludes in the DPA Consultation that these usage restrictions must be relaxed or removed to engender greater network competition so as to address competition issues in the WLA market.[143] Based on the evidence to hand, CityFibre agrees with Ofcom that the current use restrictions in the existing PIA remedy have meant that there has been little take up of the PIA remedy.

12.3.5 However, while Ofcom states its general preference for unrestricted PIA remedies, Ofcom does not appear to believe that a complete liberalisation of the usage restrictions on the PIA remedy would be appropriate in the context of the current WLA Market Review. In the DPA Consultation, Ofcom states that (based on its understanding of current market dynamics) it is concerned that the removal of all usage restrictions would create the risk that some providers would use PIA *"only to build a limited number of high value point-to-point leased lines connections. Since such services are not part of the WLA market, or downstream from the WLA market, this would not promote greater network competition in accordance with* [Ofcom's] *aims, and would not be consistent with PIA as a remedy in the WLA market"*.[144]

12.3.6 Ofcom has, therefore, formulated and provisionally decided upon a new approach to PIA – the 'mixed use' rule. Ofcom has explained its rationale for its particular formulation of the 'mixed use' rule in the DPA Consultation, and included a draft legal instrument which is intended to implement its planned approach.

Ofcom's overall approach to 'mixed use'

12.3.7 The draft legal instrument is set out in Annex 8 to the DPA Consultation.

12.3.8 The key provision in the draft legal instrument implementing the 'mixed use' rule is Condition 2(1)(d) of the draft legal instrument, which defines the nature of PIA to be offered by Openreach under the new PIA remedy. This is as follows:

12.3.9 "2.1. Without prejudice to the generality of condition 1, the provision of network access under that condition must include, where the Third Party, in writing, reasonably requests, the following specific forms of network access-

12.3.10 …

[141] See 4.48 of the DPA Consultation; and for further detail on Ofcom's initial views 4.23 – 4.25 (on additional revenues) and 4.15 - 4.22 (on economies of scope) of the 2016 PIA Consultation.

[142] See the DPA Consultation 4.71.

[143] *ibid.*

[144] See the DPA Consultation 4.72.

12.3.11 *(d) Physical Infrastructure Access, including such PIA Ancillary Services as may be reasonably necessary for such use of Physical Infrastructure Access, for use by the requesting Third Party for the purposes of the deployment of broadband access networks serving multiple premises primarily for the provision of broadband access services to end users, provided that the provision of non broadband access services on any such broadband access network facilitate that overall broadband access network deployment*."

12.3.12 The two key issues with the present formulation are:

(a) The requirement that PIA be used for the deployment of broadband access networks servicing multiple premises primarily for the provision of broadband access services to end users" (the "**primary purpose requirement**").

(b) The requirement that the provision of non-broadband services "*facilitate*" the overall broadband access network deployment (the "**facilitation requirement**").

12.3.13 This double lock formulation of 'mixed usage' is problematic for a number of reasons; in particular, the undue combined application of the primary purpose requirement and the facilitation requirement is likely to create difficulties in the use of the remedy thereby hindering the development of competition. It also does not deliver transparency or certainty in terms of how the requirement will work in practice.

12.3.14 Overall, as it stands, in CityFibre's view, the draft double lock formulation is unlikely to be workable in practice, will not deliver the benefits in terms of increasing competition that Ofcom wishes to see in the WLA market, and will therefore not deliver Ofcom's goals. CityFibre questions, therefore, whether the draft remedy meets the requirements in s87 and sections 3 and 4 of the Communications Act 2003 (the "**2003 Act**") given the ambiguities inherent in the formulation of the legal instrument and the risk that the unnecessary double lock will lead to material delays in any rollout using PIA.

Requirement for transparency and certainty

12.3.15 The key issue is that the current drafting, with its combined use of the primary purpose requirement and the facilitation requirement, does not offer transparency to operators and creates a material degree of uncertainty in respect of how the PIA remedy will operate in practice and, as a result, there is a risk that uptake will be limited.

12.3.16 CityFibre notes that the primary purpose requirement does not flow from the 2003 Act or the European legislation which the 2003 Act substantially seeks to implement. Nor does there appear to be any other legal basis for its inclusion either on its own or combined with the facilitation requirement.

12.3.17 As currently drafted, CityFibre sees that operators who might wish to avail themselves of the PIA remedy will have real difficulties (based on Ofcom's statements to date) in easily discerning whether they have a right to do so. The approach also gives a large and subjective discretion to Openreach to accept or reject PIA requests. The double lock approach not only causes uncertainty, but is also disproportionate and is unsuited to promoting competition and / or investment.

12.3.18 The combined usage restrictions, therefore, run the risk of creating a material lack of transparency and, also, a high degree of uncertainty as to how the remedy will operate in practice. Fundamentally, this lack of transparency and certainty flowing from both usage restrictions runs the risk of having an overall chilling effect on the uptake of the PIA remedy and the delivery of competitive benefits to end users. Rather than spend time and resources (e.g. legal / regulatory advice, staff time liaising with Openreach / Ofcom) considering how they may be able to benefit from an ill-defined remedy (or fighting the inevitable disputes that are likely to arise between Openreach and providers), some providers may simply decide not to engage with PIA at all. This would seriously damage the effectiveness of the remedy in driving infrastructure competition in the WLA market and delivering benefits to end users.

12.3.19 This potential chilling effect is particularly prescient given the way in which the PIA remedy will work in practice. In the DPA Consultation, Ofcom indicates that the current process of making requests to Openreach for PIA access will continue and that it will be up to Openreach to decide whether to accept or reject each request.[145] Ofcom states

> that it would expect Openreach to provide reasons for any rejection of a request for PIA.[146]

12.3.20 However, the lack of transparency and certainty in the drafting of the draft legal instrument and the lack of any precedent on these terms combined with the lack of effective guidance creates an extremely wide and subjective discretion for Openreach to accept or reject a PIA request. Faced with a rejection by Openreach of a PIA request, the only avenue open to a provider such as CityFibre would be to take a dispute to Ofcom. To do so, it would need to demonstrate that negotiations had effectively broken down.[147] Under Ofcom's dispute resolution guidelines there will be an initial enquiry phase of a minimum of 15 working days where Ofcom will consider whether any dispute satisfies the statutory grounds and whether it is appropriate for Ofcom to handle the dispute.

12.3.21 Where Ofcom decides it is appropriate to handle the dispute, it must resolve the matter within four months unless exceptional circumstances exist.[148] If there were to be a number of disputes raised by providers about rejections by Openreach, Ofcom may decide that the disputes should be considered together.[149] In such cases, this may affect Ofcom's ability to resolve the dispute within four months. In practice (given that there will need to be some negotiation between Openreach and a provider and a documentation of the dispute for submission to Ofcom), this means that, from the point at which Openreach rejected a PIA request, a provider could be facing around a six months delay before having a final decision on whether they can benefit from PIA. Given

[145] See the DPA Consultation 4.89.

[146] *ibid.*

[147] See *Ofcom's guidelines for the handling of regulatory disputes*, 7 June 2011, at para 2.4.

[148] Section 188(6) of the 2003 Act.

[149] See as *Ofcom's guidelines for the handling of regulatory disputes*, 7 June 2011, at para 5.7.

that there are likely to be a number of disputes to be resolved (if Ofcom decides to do so jointly), this timeframe may extend well beyond six months.

12.3.22 This extended timeline, along with the lack of certainty as to whether Ofcom will accept a dispute, means that there is little incentive on Openreach not to game the process by rejecting PIA requests to cause delay and additional costs to be incurred by competing providers. This is particularly so given that Openreach is responsible for both active and passive products in the WLA market. It will likely be the case that Openreach is strongly incentivised to take actions which push other providers towards its active products and away from its passive products.

12.3.23 Therefore, there is a high risk that in proceeding with a legal instrument as currently drafted, Ofcom is effectively giving Openreach a tool for delaying or blocking competing providers' timely rollout of networks and increasing their costs of doing so. CityFibre does not see that such an approach is consistent with Ofcom's general duties under s3 of the 2003 Act. Furthermore, it adds to the material risk that the current draft formulation of the remedy will have a chilling effect on the uptake of PIA and, therefore, that competition will not emerge in the way that Ofcom envisages.

12.3.24 Moreover, Ofcom may need to devote substantial resources to dealing swiftly with all of the potential disputes around rejection of requests for PIA access. Indeed, Ofcom rejected the approach of adopting a 'specific use' rule and exemption process on the basis that "*this would also place a significant administrative burden on Ofcom and risk making the rule unworkable*." [150] Ofcom does not seem to have appropriately considered, however, the potentially significant administrative burden and costs that are likely to be imposed upon it under the current formulation of the rule. CityFibre notes that Ofcom has set out its view in the DPA Consultation that the number of scale users of PIA is expected to be limited and, together with public visibility of their marketing activities, Ofcom would expect Openreach to be able to assess whether it considers a PIA order to be compliant with a mixed usage rule without this assessment being burdensome to Openreach or Ofcom.

12.3.25 CityFibre thinks that Ofcom is taking an overly optimistic approach. Whilst the number of users of PIA may initially be limited, surely one of the purposes of this remedy is to bring new competition which may include new providers into the market. Therefore, the number of potential users may be larger than Ofcom suspects and, in any case, the number of developments that providers (both existing and market entrants) may wish to use PIA in respect of may be larger and spread out over time. As such, Ofcom may find itself with a material number of disputes to deal with over the course of the period that will be covered by the WLA Market Review.

12.3.26 Moreover, Ofcom's focus should not be entirely on the convenience of itself and Openreach, but also on that of providers wanting to use the new PIA remedy. The present approach is disproportionately inconvenient for providers. The process should be calibrated to ensure that it is workable and cost effective for providers, as well as for

[150] See the DPA Consultation, 4.75.

Ofcom and Openreach, otherwise there may be a limited take-up and the important competition benefits that Ofcom hopes that PIA will drive, may not materialise.

12.3.27 Overall, therefore, unless the simple but effective changes suggested by CityFibre are adopted, there is a high risk that the operation of Ofcom's proposed PIA remedy will be so uncertain that it will not achieve the competitive benefits that Ofcom desires to see in the WLA market.

Ofcom's concerns regarding a less restrictive PIA remedy

12.3.28 Ofcom suggests that a key reason for its current formulation as opposed to a less restrictive one is that "there is a risk that some telecoms providers might use PIA only to build a limited number of high value point-to-point leased lines connections."[151] Ofcom believes that "[s]ince such services are not part of the WLA market, or downstream from the WLA market, this would not promote greater network competition in accordance with our aims, and would not be consistent with PIA as a remedy in the WLA market."

12.3.29 The Passive Access Group (the "**PAG**") has persuasively argued that it is unlikely that an operator would choose to use PIA to deploy a single leased line given the forthcoming

dark fibre remedy[152], while Colt has also argued that providers are unlikely to migrate large numbers of leased lines to PIA usage but instead focus on PIA as a way to invest in new areas.[153] Moreover, the PAG has also argued that Ofcom has produced no evidence that duct capacity might be used up for business connections to the detriment of residential customers and, even if there was evidence of a lack of capacity, the PAG believe that that this can be addressed through network engineering rules.

12.3.30 Ofcom also has concerns about BT's cost recovery if a less restrictive PIA remedy was to be available to other providers. In CityFibre's view, the inclusion of the primary purpose requirement is disproportionate to Ofcom's concerns on leased line cannibalisation and its view of its own legal powers. CityFibre also notes that in the context of the Business Connectivity Market Review ("**BCMR**"), the Commission's letter to Ofcom stressed "the importance of the physical infrastructure access remedy to facilitate and incentivise rollout of high speed business connectivity solutions by reducing their deployment costs." The Commission set out that it "does not, in fact, share Ofcom's assertion that imposing universal duct access would create undue implementation risks (related to correct price differentials along the value chain). The latter risk could, in view of the Commission, be mitigated by the use of a uniform costing methodology with consistent asset valuation along the value chain in line with the approach already adopted for pricing of dark fibre in relation to the 1Gbps active product." Therefore, the Commission asked Ofcom in the context of the BCMR to consider imposing universal physical infrastructure access (to ducts and poles) in non-competitive areas. This suggests that

[151] See the DPA Consultation, 4.70.

[152] See the PAG response to the 2016 PIA consultation at para 73(a)(ii).

[153] See the Colt response to the 2016 PIA consultation at p5.

the Commission considers that cost recovery issues are likely to be resolvable. There is no reason to think that this could not apply across markets.

12.3.31 Indeed, both the PAG and individual stakeholders have argued that it is not impossible for Ofcom to adopt cost recovery measures that ensure that the WLA market does not bear costs which should be allocated to other markets. [154] Such an approach would appear to be more proportionate than the present double lock restriction which risks the effectiveness of the entire remedy.

Lawfulness of a less restrictive PIA remedy

12.3.32 CityFibre assumes from Ofcom's comments in the DPA Consultation that Ofcom believes that it is legally required to implement usage restrictions such as the primary purpose requirement and the facilitation requirement in order to ensure that the PIA remedy is lawful.

12.3.33 CityFibre understands Ofcom's concerns in respect of ensuring that the remedies it implements as part of the WLA Market Review are lawful. However, CityFibre thinks that Ofcom is taking too conservative an approach to its powers under the 2003 Act in the context of the PIA remedy.

12.3.34 Ofcom sets out the legal tests it is required to meet in setting a SMP condition under s87(3) of the 2003 Act.[155] Nowhere in its analysis of these provisions does Ofcom refer to a provision which requires it to take such a restrictive approach to the PIA remedy (or, indeed, which clearly prohibits a remedy with no usage restrictions).

12.3.35 Section 4 of the 2003 Act requires that Ofcom acts in accordance with the six 'Community requirements' in carrying out its functions. Section 4(8) requires that Ofcom secures efficiency and sustainable competition, efficient investment and innovation and the maximum benefit for the persons who are customers of communications providers and of persons who make associated facilities available.

12.3.36 Whilst Ofcom believes that its current formulation achieves this, CityFibre does not believe it does but that rather the restrictions are disproportionate to the goals sought.

12.3.37 Ofcom also refers to Article 8(4) of Directive 2002/19/EC (the "**Access Directive**") which requires that regulatory obligations, including network access obligations imposed under Article 12 of the Access Directive must be based on the nature of the problem identified, proportionate and justified in the light of the objectives laid down in Article 8 of Directive 2002/21/EC (the "**Framework Directive**") (as amended).[156]

12.3.38 CityFibre accepts that, in applying the PIA remedy, Ofcom must act in compliance with the requirements of the directives as implemented in the UK by the 2003 Act. However, in CityFibre's view, the requirement under the directives for an "*appropriate specific*

[154] See the PAG response to the 2016 PIA consultation at para 73(b).

[155] See the DPA Consultation 4.129 – 4.136.

[156] See the DPA Consultation *fn*. 81.

regulatory obligation"[157] to be imposed gives flexibility and there is nothing in the 2003 Act which would undermine this. This position is bolstered by the views of BEREC and the Commission as outlined further below.

12.3.39 More generally, a number of the factors such as proportionality, the promotion of investment and innovation and the development of competition that Ofcom notes that it must take into account when formulating a SMP condition under the 2003 Act support a more liberal formulation of the PIA remedy (i.e. in particular, one that does not contain the overly restrictive primary purpose requirement). Indeed, CityFibre considers that the formulation of a PIA remedy based on no usage restrictions (as outlined below) would be more effective.

12.3.40 Ofcom is of course correct to be mindful of its responsibilities in this regard, but given the significant negative effect that the disproportionate primary purpose requirement, in particular, may have on the PIA remedy, CityFibre believes Ofcom has not struck the appropriate balance needed to make the remedy as pro-competition as it needs to be. Furthermore, CityFibre believes that wider policy commentary which is set out below from the European Commission and BEREC on passive access supports this view.

12.3.41 CityFibre notes that in the NGA Recommendation [158] the principle of equivalence is stressed.[159] The recommendation requires that "*[i]n order to create a level playing field among entrants and the SMP operator, it is important that such access is provided on a strictly equivalent basis. NRAs should require the SMP operator to provide access to its civil engineering infrastructure under the same conditions to internal and to third-party access seekers."*[160]

12.3.42 As the PAG has previously argued, duct is a flexible general purpose input and, because of BT's ownership of the duct network, Openreach can freely exploit economies of scale and scope and is able to use the same generic duct access service to provide multiple types of downstream services.[161] The PAG argued that BT can use the same duct nest to provide backhaul, leased lines for enterprise customers and residential telephony and broadband and that, therefore, CPs should be placed in the position of having a level playing field with BT.

12.3.43 While Ofcom does not impose real EoI on BT, it envisages that the principle of equivalence should apply wherever possible. It seems contrary to that intention for Ofcom to propose a usage rule that clearly disadvantages BT's competitors. Access seekers should not be forced to copy Openreach's business model in order to be able to benefit from

[157] See Article 16 (4) of the Framework Directive as amended.

[158] Commission Recommendation 2010/572/EU of 20 September 2010 on regulated access to Next Generation Access Networks (the "**NGA Recommendation**").

[159] The NGA Recommendation, Recommendation 13 and Annex II.

[160] The NGA Recommendation, Annex II, paragraph 1.

[161] See the PAG response to the 2016 PIA consultation at para 69. Other stakeholders such as Vodafone have also supported the view outlined by the PAG.

the PIA remedy but should be able to build their networks in the most commercially and financially efficient manner.

12.3.44 Similarly, the BEREC Common Position[162] encourages NRAs to "*ensure that usage is not artificially segregated by product or market.*"[163] Unfortunately, it appears that Ofcom's restrictive approach to the PIA remedy in the DPA Consultation may not have taken full cognisance of this element of the BEREC Common Position.

12.3.45 CityFibre also notes that in other countries a PIA remedy has been scoped in broader terms without criticism by the Commission and, indeed, in its comments on Ofcom's BCMR, the Commission refers to the imposition of universal duct access which could suggest that it is not adverse to the use of less restrictive remedies.

12.3.46 In light of the foregoing analysis on Ofcom's legal position, CityFibre believes that Ofcom has scope to lawfully implement a more liberalised formulation of the PIA remedy. CityFibre explains some options that Ofcom has in that regard below. These options are simple to implement and will deliver greater transparency, legal certainty and proportionality in respect of the remedy and allow Ofcom to deliver its ultimate goals in terms of the PIA remedy.

Suggested changes to the draft legal instrument

12.3.47 CityFibre's view is that some simple changes to the draft legal instrument itself are required to give it the maximum chance to positively impact infrastructure competition in the WLA market and for it to meet Ofcom's general duties under s3 of the 2003 Act.

12.3.48 This is particularly the case given Ofcom's own stated general position that network access obligations such as the PIA remedy work best without restrictions on usage, and that more liberalised network access obligations bring important benefits in terms of flexibility and technological choice.[164]

12.3.49 The primary purpose requirement is the key driver of the uncertainty and lack of transparency in the current formulation of the new PIA remedy. The inclusion of the requirement risks creating a significant chilling effect on the uptake of the new remedy; this is particularly so because of the above discussed material risk of disputes arising between Openreach and other providers over the proper interpretation of this requirement. In addition, removing the primary purpose requirement is unlikely to lead to issues of cannibalisation of leased line revenues.

[162] BEREC, 8 December 2012, Revised BEREC Common Position on best practice in remedies on the market for wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location imposed as a consequence of a position of significant market power in the relevant market (BoR (12) 127) (the "**BEREC Common Position**").

[163] The BEREC Common Position, B16b.

[164] See the DPA Consultation 4.56 and 4.72.

12.3.50 At a minimum, therefore, in the interests of legal certainty, transparency, and proportionality (and to ensure that the remedy realises the kind of competitive benefits that Ofcom wishes), the primary purpose requirement should be removed.

12.3.51 Whilst the facilitation requirement is a broader requirement, it is also likely to lead to a lack of transparency unless adequate guidance is provided. Moreover, based on Ofcom's statements to date in the DPA Consultation[165], the kind of evidence that may be required to prove compliance with the facilitation requirement in particular also brings into sharp focus the difficulties that providers will face in giving sensitive commercial information to Openreach (see section five of this paper for CityFibre's detailed comments on this issue).

12.3.52 CityFibre, therefore, restates comments made by CityFibre and other stakeholders in responses to the 2016 PIA consultation to the effect that the optimal PIA remedy is one which does not include any usage restrictions. To achieve this optimal position, CityFibre would suggest that Ofcom considers redrafting the relevant text in the key provision in the draft legal instrument as follows:

"2.1. Without prejudice to the generality of condition 1, the provision of network access under that condition must include, where the Third Party, in writing, reasonably requests, the following specific forms of network access-

…

(d) Physical Infrastructure Access, including such PIA Ancillary Services as may be reasonably necessary for such use of Physical Infrastructure Access, for use by the requesting Third Party for the purposes of the deployment of ~~broadband~~ access networks ~~serving multiple premises primarily for~~ which will enable the provision of ~~broadband access~~ high speed connectivity services to end users~~, provided that the provision of non broadband access services on any such broadband access network facilitate that overall broadband access network deployment~~."

12.3.53 Should Ofcom reject the position of a no usage restriction, however, then CityFibre would suggest a formulation that only contains the facilitation requirement accompanied by adequate guidance. Facilitation is a broader concept than the primary purpose requirement and where accompanied by appropriate guidance (which would discipline the exercise of Openreach's discretion to accept or reject requests) it is likely more workable in practice for access seekers.[166] A facilitation requirement alongside appropriate guidance and combined with a process that offers suitable protections for providers' commercially sensitive information would be less likely to materially reduce

[165] See the DPA Consultation 4.91.2, 4.91.4 and 4.96.

[166] See CityFibre's response to the 2016 PIA consultation at p7; CityFibre commented as follows: *"It should be noted that our commercial strategy for a well-planned city does contemplate an FTTP rollout. We do not therefore have a reason to object to a rule that links a relaxation of the current restrictions to an OCPs' rollout of FTTP. (Indeed, in some ways, that might provide CityFibre with competitive advantage over other business-only infrastructure providers). Nonetheless, we think there are formidable practical difficulties in designing such a rule that would not be either unenforceable or have unfortunate unintended consequences."*

the infrastructure competition benefits that Ofcom wants the PIA remedy to realise, as compared to the extremely restrictive primary purpose requirement.

12.3.54 Therefore, if Ofcom persists with its view that it cannot adopt a remedy without any usage restrictions, City Fibre suggests that the relevant provision in the draft legal instrument should be redrafted as follows:

"*"2.1. Without prejudice to the generality of condition 1, the provision of network access under that condition must include, where the Third Party, in writing, reasonably requests, the following specific forms of network access-*

…

(d) Physical Infrastructure Access, including such PIA Ancillary Services as may be reasonably necessary for such use of Physical Infrastructure Access, for use by the requesting Third Party for the purposes of the deployment of broadband or other access networks ~~serving multiple premises primarily for~~ which will enable the provision of ~~broadband access~~ high speed connectivity services to end users, provided that the provision of non broadband access services on any such ~~broadband~~ access network facilitate that overall broadband access network deployment."

12.3.55 CityFibre is convinced that such an approach would be consistent with Ofcom's duties under the 2003 Act. Indeed, Ofcom itself recognises "*that some network deployments may be phased with, for example, leased lines services being deployed in advance of broadband services*".[167] This is clearly facilitation of broadband development. If this is Ofcom's own view on the relevant market dynamics, and this has been communicated to stakeholders in the DPA Consultation, it is difficult to understand why the addition of the restrictive primary purpose requirement, in addition to a broad facilitation requirement, is necessary.

12.3.56 Even on Ofcom's current view of its legal requirements, CityFibre believes that the inclusion of the facilitation requirement on its own (combined with adequate guidance) would be sufficient and proportionate to provide a link to the WLA market. In light of this, CityFibre cannot see a clear legal basis for the primary purpose requirement where the facilitation requirement has also been included in the drafting of the instrument to ensure a sufficient connection between the PIA remedy and the pro-competition developments in the WLA market that Ofcom is seeking to achieve.

[167] See the DPA Consultation 4.91.4.

Geographic scope

12.3.57 As noted above, the current PIA remedy is also geographically limited in its scope to use in local access deployments.[168] In the DPA Consultation, Ofcom has provisionally decided that an amendment to the geographic scope of the PIA remedy is appropriate.[169]

12.3.58 Ofcom proposes to "*modify the PIA condition to broaden the geographic scope of usage to include a reference to telecoms providers' local access networks such that telecoms providers will be permitted to use PIA between network termination points (i.e. customers' premises) and their local access node serving those network termination points.*" [170] In proposing this new formulation for the geographic scope of the PIA remedy, Ofcom is maintaining the restriction of the PIA remedy to deployment in the local access part of the broadband network while making it clear that other providers do not need to be tied to BT's network topology.

12.3.59 CityFibre supports the approach suggested by Ofcom in respect of the geographic scope of the new PIA remedy.

Fixed Wireless Access ("FWA")

12.3.60 CityFibre also wishes to raise the issue of how FWA may interact with the new PIA remedy. CityFibre understands that Ofcom has provisionally concluded that FWA is out with the scope of both the retail and wholesale WLA markets.[171] Indeed, Ofcom has made the following provisional conclusion in respect of FWA:

"We provisionally conclude that for most customers fixed wireless is unlikely to be a close substitute for broadband services over copper, fibre or cable for this market review period. However, we note there are innovations that may challenge this assumption and offer stronger substitutes to fixed broadband in the longer term.

These developments include:

- *the planned auction of higher frequency spectrum which may be suited to small cell, limited distance high bandwidth applications; and*

[168] See Fixed Access Market Review Statement 2014, Annex 29, page 22.

[169] See the DPA Consultation 4.84 – 4.87.

[170] See the DPA Consultation 4.87.

[171] See *Wholesale Local Access Market Review –Volume 1: Consultation on the proposed market, market power determinations and remedies* 3.87 and 3.91.

- *5G standards, due to be established in 2017, may lead to the availability of higher speed mobile data services from 2019."*[172]

12.3.61 CityFibre agrees with Ofcom that imminent technological innovations will mean that FWA will represent a realistic substitute to fixed broadband in the near future. Therefore, whilst Ofcom may not consider FWA as part of the WLA market now, it will likely be so next time Ofcom performs a WLA market review. Ofcom therefore needs to keep this in mind in the way it designs the boundaries for how PIA can be used.

12.3.62 In particular, CityFibre is considering the possibility of using the new PIA remedy to facilitate a rollout of backhaul to small cells which could be used (in the first instance) for FWA generally and, subsequently for 5G. In addition, the deployment of such infrastructure would also be utilised to facilitate build out for fibre local access more generally. CityFibre believes that such developments could inject significant infrastructure competition into the WLA market and that, therefore, that it should be possible to use the new PIA remedy to facilitate them.

12.3.63 CityFibre therefore believes Ofcom should reconsider the use of small cells and its role in facilitating wholesale local access in this market review (even if only for self-provision) and consider that it would be wrong to adopt a remedy that would prohibit the use of PIA for the provision of backhaul to FWA sites in this market review.

12.4 OFCOM'S GUIDANCE ON THE NEW PIA REMEDY

The need for guidance

12.4.1 CityFibre's clear view is that no usage restrictions should be adopted. This would remove Openreach's discretion to accept or reject requests.

12.4.2 If Ofcom is not prepared to go this far, however, then it must certainly remove the primary purpose requirement as being disproportionate to the goals Ofcom seeks to be achieved.

12.4.3 CityFibre could accept the retention of the facilitation requirement (as set out in the drafting above), provided that appropriate guidance is developed in order to discipline Openreach's use of its discretion to accept or reject requests.

12.4.4 In addition, CityFibre notes that s87(5) of the 2003 Act allows for an SMP condition to make provision for "*securing fairness and reasonableness in the way in which requests for network access are made and responded to*" suggesting that the SMP condition should also include provision as to how Openreach is required to respond to requests for access. This would provide greater transparency and certainty of approach for access seekers.

12.4.5 CityFibre recognises that Ofcom considers that the intended operation of the PIA remedy should be aided by its explanations in the DPA Consultation.[173] However, CityFibre's view is that a number of the elements of Ofcom's explanation are not only unclear or inadequately thought through, but also provide too wide a discretion for Openreach as

[172] See *ibid.* 3.76.

[173] See the DPA Consultation 4.135

the party who will be taking the initial decision as to whether to accept or reject a PIA request.

12.4.6 CityFibre, therefore, thinks that it would be insufficient for Ofcom simply to leave market participants with only the brief statements made in the DPA Consultation to guide them. A better approach would be to publish separate, non-exhaustive guidance which could be regularly refreshed to take account of any market developments (e.g. technological innovations and operational experience with the new PIA remedy). CityFibre considers that such guidance (which must be available at the time access seekers will be making their requests for service) would assist both Openreach and other providers in providing a far greater degree of certainty and transparency on how the 'mixed use' approach to PIA should work in practice. Moreover, such guidance is likely to encourage Openreach to consider far more carefully whether it accepts or rejects PIA requests (if Ofcom has already set out its views clearly, it will be far more difficult for Openreach to manipulate the process to cause delays for or reject requests from providers such as CityFibre).

12.4.7 CityFibre notes that Ofcom itself has recognised the positive role that *ex ante*, independent Ofcom guidance can play in guiding commercial practices to fit in with regulatory requirements, most notably in its Guidance under the *Communications (Access to Infrastructure) Regulations 2016*, published in December last year.

Ofcom's guidance statements in the DPA Consultation

12.4.8 In preparing this guidance, Ofcom must review the explanations it has made in this Consultation and adjust these to ensure that the PIA remedy is workable in practice. CityFibre explains its detailed concerns on three of Ofcom's explanations in the

remainder of this section and also suggests some positive inclusions for the guidance. CityFibre suggests that Ofcom publish a draft of its guidance and would be happy to work further with Ofcom to develop this during the course of this consultation process.

Services to be offered within any deployment

12.4.9 Ofcom states that "telecoms providers installing more leased lines than the number of broadband premises passed would be unlikely to meet the requirements of the mixed usage rule". However, Ofcom also states that it will consider the extent to which the 'mixed use' enables the investment in the provision of broadband services more generally.

12.4.10 In setting out how it would consider these matters, however, Ofcom does not appear to take adequate account of the time at which it will be required to make a decision as to whether the mixed usage rule is satisfied and the evidence that operators are likely to be able to produce at that time.

12.4.11 CityFibre notes that for many operators (as Ofcom acknowledges) the network will be built in stages with the FTTP / FTTH deployments being the last element built (although such deployments will generally be in the initial business plan and the network would be designed in such a way as to facilitate that FTTP / FTTH build). In CityFibre's case three to four years may separate the initial entry phase into a town or city to construct a fibre

ring architecture, and the FTTP / FTTH construction that constitutes the final phase of deployment (indeed, the benefits of a CityFibre FTTP / FTTH development facilitated by a network build using PIA may fall outside the three year time horizon of the WLA market review).

12.4.12 In these circumstances, at the time that the request for PIA is being made, therefore, there may be no actual number of broadband lines let alone leased lines on which this could be judged. In light of this, the test of comparing leased line numbers and broadband lines is extremely simplistic and is likely to materially increase uncertainty.

12.4.13 In light of this, it is not clear to CityFibre whether Ofcom believes that *at the point of the PIA request* and at the time of making its decision in any dispute brought before it, it would expect an operator to be able to demonstrate (apart from in a business plan) that a deployment passed more broadband premises than the number of leased lines installed.

12.4.14 If the remedy is introduced on the basis of current drafting (i.e. including the primary purpose and facilitation requirements), providers will require clarity on the point at which Ofcom would expect to see that the number of broadband lines exceeds the number of leased lines and what evidence would be sufficient to demonstrate this.

12.4.15 In CityFibre's view, in cases where there is a clear business plan to further develop a provider's service offering in a manner which will increase its potential broadband reach, it would be wrong to stop them using the PIA remedy even if the initial number of leased lines was greater than the number of broadband premises initially passed. In such developments, it is clear that the use of the remedy in the manner described would facilitate competition in the WLA market over the long term.

12.4.16 Taking a more restrictive approach would represent an overly simplistic understanding of how networks are built and financed and, also, the way in which infrastructure competition in the WLA commonly develops (i.e. from providers such as CityFibre building multi-purpose networks which are developed in a staged way, with broadband roll-out coming towards the later stages of the development).

Certainty of the intention to undertake a broadband deployment

12.4.17 Ofcom states that it will take into account, when considering whether the 'mixed use' requirement was met, how certain a provider's plans to deploy broadband are. However, Ofcom expressly recognises that some network deployments would require leased lines to be deployed in advance of broadband.

12.4.18 It is welcome that Ofcom has stated that the 'mixed use' rule should be flexible enough to allow for such staged deployments, this is key in terms of access seekers being able to effectively use the PIA remedy to drive competition in the WLA market. However, CityFibre does have serious concerns about Ofcom's explanations as to how the provider's commitment to the subsequent broadband deployment might be initially assessed by Openreach and then subsequently Ofcom, during the course of any dispute.

12.4.19 Ofcom states that "*contracts in place with residential developers for broadband services, or committed funding and orders for equipment only suited for broadband services would evidence significant intention*." By contrast, Ofcom's view is that an internal business case, without allocated funds, would be far less persuasive.

12.4.20 CityFibre considers that these statements are disproportionate and will lead to too restrictive an approach being taken to the use of the PIA remedy thereby materially lessening its effectiveness in driving competition in the WLA market. In addition, these statements do not reflect the economic reality of how many new deployments of FTTP / FTTH are likely to be built and the economies of scale that they will need.

12.4.21 While the indicators that Ofcom has provided in the DPA Consultation will be applicable to discerning the 'mixed use' of PIA requests where the business model is direct supply to end users, for other business models such as those adopted by CityFibre this will not be the case. [✂].

12.4.22 Nonetheless, [✂].

12.4.23 In these circumstances CityFibre considers that broadband roll-out could be considered to satisfy the 'mixed use' rule, and in particular the facilitation requirement should be regarded as being met, in respect of developments required for an earlier 'phase' of CityFibre's business development in circumstances where the business plan is for FTTP / FTTH and the network is designed to facilitate FTTP / FTTH. Evidence of such facilitation could be, for example, that the design principles around the initial network configuration and ring construction are clearly intended to facilitate FTTP expansion, with sufficient capacity and network breakout points to make FTTP expansion feasible, and more than would be strictly necessary solely to address large business customers falling outside of the WLAM.

12.4.24 Indeed, as noted above, Ofcom itself has acknowledged that *that "some network deployments may be phased with, for example, leased lines services being deployed in advance of broadband services*".[174] This acceptance on Ofcom's part aligns with the economic reality in many cases, which is that leased lines are likely to be deployed first in order to generate the funds to build out the broadband access lines to multiple premises. It would be irrational, therefore, for Ofcom to implement a formulation of the PIA remedy which effectively barred network deployments which will be key in injecting competition into the WLA market.

12.4.25 Ofcom, therefore, needs to modify the suggestion that there is a requirement for contracts in place or orders for equipment. Whilst this will work for some business models, in other models it will need to be sufficient that there is a robust business plan and a network that is designed to facilitate FTTP / FTTH build. In particular, a robust business plan should be given greater weight in circumstances such as those of CityFibre,

[174] See the DPA Consultation 4.91.4.

where a model requiring PIA prior to an eventual FTTP / FTTH build is clearly being pursued as a strategic business model by the party requesting PIA.

Relevance of marketing activity

12.4.26 Ofcom, also, appears to mistakenly believe that defining the 'primary purpose' of a PIA request / whether it 'facilitates' broadband access networks will generally be simple and that the marketing activities of the requesting provider will generally make clear whether the request meets the primary purpose / facilitation requirement.[175]

12.4.27 CityFibre considers that placing such emphasis on the content of providers' marketing activities is overly simplistic, and will lead to the rejection by Openreach of PIA requests by providers such as CityFibre which does not provide broadband services to end users but rather builds wholesale networks which allow for local broadband access and secures an anchor tenant providing services to end users, such as Sky or TalkTalk. Given this model, CityFibre is unlikely to have much (if any) marketing materials directed towards or referring to end users.

12.4.28 Indeed, even if Openreach / Ofcom were to look at the anchor tenant's (e.g. Sky or Talk Talk's) marketing at the time of a PIA request or a dispute, marketing materials may not exist that evidence that broadband was to be delivered in the particular area the PIA request relates to.

12.4.29 Indeed, this is true of other more direct models of FTTP / FTTH as well. No access provider is likely to start advertising services before they have made a PIA request as to do so risks raising consumer expectations that may not be able to be met at all or at least for a considerable period of time.

12.4.30 Given that a wholesale network with the potential for one or more retail suppliers to deliver across it over time is likely to deliver greater benefits to end users in terms of broadband competition than a vertically integrated operators' network, Ofcom should ensure that its PIA proposals do not inadvertently disadvantage the wholesale business model.

12.4.31 It would be entirely erroneous, and not in line with Ofcom's duties under the 2003 Act, if providers such as CityFibre, who offer material infrastructure competition to Openreach, could not make effective use of the PIA remedy due to their marketing material not being sufficiently obviously connected to end-user broadband services. This would undermine the key rationale for creating the remedy in the first place (the promotion of infrastructure competition) on the basis of form over substance.

12.4.32 Ofcom should reflect on the relevance of marketing activity to determining whether the primary purpose / facilitation requirement has been met, and provide for a more nuanced approach in any guidance on this matter. In particular, Ofcom should make clear that PIA requests from providers who do not obviously market to end broadband users cannot be rejected on that basis alone and that Openreach must take into account all relevant factors including, for example, if a provider has a track record of a historic

[175] See the DPA Consultation 4.96.

deployment of leased lines that facilitate subsequent FTTP / FTTH buildout or a clear strategic plan to pursue such deployments.

12.5 OPENREACH AND INFORMATION SHARING

12.5.1 CityFibre would also restate the concerns CityFibre and many other providers highlighted in responding to the 2016 PIA Consultation in respect of being required to share detailed business plans with Openreach so as to evidence 'mixed use'.[176]

12.5.2 In the DPA Consultation, Ofcom appears to reject the claims of providers that they will be required to share their business plans with Openreach. However, in CityFibre's view, this is an almost inevitable requirement, given the process that Ofcom has outlined. The power to accept or reject a PIA request as it stands rests solely with Openreach. Ofcom indicates that Openreach should provide reasoning for such a rejection. Many rejections are likely to be given on the basis that Openreach does not believe that the primary purpose or the facilitation requirement (insofar as either of these is included in the final legal instrument) has been met.

12.5.3 Either Openreach will ask for the operator's plans prior to rejecting the PIA request (indeed, CityFibre can see that this is likely to be made part of the reference offer) or an operator on receipt of a rejection from Openreach may try to persuade Openreach that it has made an incorrect decision, by sharing information with Openreach. Indeed, it is hard to see how a dispute could be taken to Ofcom if there had not been some negotiations around this issue with Openreach – given the requirement on a disputing party to evidence to Ofcom that negotiations have broken down. Ofcom's view, therefore, that sensitive commercial information will not be required to be shared is naive and CityFibre cannot see how a PIA process which involves a usage requirement can work in practice without some commercially sensitive information being shared.

12.5.4 As noted above, CityFibre's initial view is that either a no usage restriction remedy or, alternatively, a remedy that includes the broad facilitation requirement along with adequate guidance should be adopted, so as to discipline Openreach's discretion and

reduce the likelihood of or need for extensive information sharing of sensitive information.

12.5.5 No matter how detailed the guidance is, however, it remains likely that some information will need to be shared. Ofcom must, therefore, ensure that access seekers are not compromised when trying to use the PIA remedy to full extent of its scope. Access seekers need to be confident that the internal information sharing controls between the element of Openreach which deals with PIA requests and the other elements of Openreach's business are strong and robust. Operators need to have comfort that sharing such sensitive information with Openreach will not disadvantage them. These concerns are particularly material given Openreach's position in the market, potentially providing both passive and active products to providers such as CityFibre but also competing with them to provide passive and active services to customers. Access

[176] See CityFibre's response to the 2016 PIA consultation at p7.

seekers need confidence that Openreach will not be able to counter any market entry by targeting network upgrades to requested PIA areas or are able to map potential competitive bids for wholesale or anchor clients.

12.5.6 Whilst Ofcom has suggested that providers are protected by the existence of General Condition 1.2, CityFibre considers that for access seekers to have sufficient comfort they need to be certain that there are robust and effective controls in place to ensure that their provision of commercially sensitive information with Openreach will not disadvantage them. It must be clear to operators from the outset what these controls are, rather than having to rely on an *ex post* enforcement of a General Condition.