openreach

Openreach's response to Ofcom's consultation

"Physical Infrastructure Market Review – Access to ducts and poles to support investment"

1 February 2019

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Foreword

On 2 November 2018, Ofcom published a consultation on the Physical Infrastructure Market Review (PIMR) setting out its proposals for regulation on access to ducts and poles from spring 2019. This document represents the response from Openreach on these proposals.

Openreach is a wholly-owned subsidiary of BT looking after the fibres, wires and cables that connect tens of millions of homes and businesses to phone, broadband, and TV. We have our own Board, separate brand and approximately 31,000 strong independent workforce, including the largest team of fibre broadband engineers in the country.

1. Executive summary

Introduction

1. Ofcom's Physical Infrastructure Market Review (PIMR) consultation ('the Consultation'), dated 2 November 2018, sets out proposals to give unrestricted access to Openreach's ducts and poles (uDPA), with the objective of giving companies greater flexibility to use the Openreach network to lay fibre networks that serve both residential and business customers. These proposals extend the scope of the duct and pole access (DPA) remedy beyond that set out in the recent Wholesale Local Access (WLA) statement of March 2018, which allowed 'mixed usage' provided serving the residential market was the primary purpose.

2. Openreach's key points in relation to Ofcom's proposals are as follows:

   - We are fully committed to delivering a world-class DPA product and understand the importance Ofcom attaches to DPA as a means of encouraging other operators to build competitive fibre networks. Given this, although we do not believe Ofcom has made the case for extending DPA beyond 'mixed usage', we are not opposed to the further extension of the scope of DPA provided we receive greater certainty in the key areas we set out below.
   - Ofcom's proposal that, in the period up to March 2021, uDPA can be priced on the same basis as the current DPA offering is acceptable provided that Ofcom clarifies (in its PIMR Statement) the principles underpinning the pricing regime and announces a review of the methodology to be undertaken before 2021 in order to create a stable, predictable and enduring long-term regime. We have significant concerns about the long term sustainability of prices as they currently stand. Openreach cannot be in a position where we are required to provide access to our passive infrastructure on terms that will not support cost recovery on long lived assets and/or which effectively place a disproportionate burden of cost recovery on Openreach active services in a way that would distort competition in active access services. It is therefore critical that Ofcom commits to conducting a full and thorough review of DPA pricing as part of the new Integrated Market Review (IMR), due to conclude in 2021. In the PIMR statement, Ofcom should set out clear principles about how pricing will be considered in this review to provide comfort to Openreach (and its shareholder) over long term cost recovery and the need to ensure a level competitive playing field between Openreach and network providers utilising uDPA.
   - This DPA pricing review should include a reassessment of the recovery of Network Adjustment costs, both the overall regime and financial limits, we understand more about volumes and the scale of adjustments. Given the pricing review that is required prior to 2021 (and the possibility of this resulting in changes to the pricing regime), we do not consider it would be useful for stakeholders to introduce detailed cost reporting on the basis of the existing pricing structure. We suggest that this requirement is delayed for one year to align instead with the final structure that will be put in place following the IMR.
   - We agree that it is sensible for the DPA remedies mandated in the March 2018 WLA statement to now apply to uDPA. A major area of focus for Openreach has been to ensure we are fully compliant with our requirement under the WLA not to unduly discriminate. As Ofcom's prime policy objective for DPA continues to be to incentivise altnet FTTP build, we believe the towns and cities build element of the Openreach Fibre First programme should continue to be the appropriate reference point for our No Undue Discrimination (NUD) and Internal Reference Offer (IRO) obligations.
   - We have some concerns about how Ofcom has approached both market definition and SMP assessment in this review, hence our view that Ofcom has not made the regulatory (or legal) case for imposing uDPA at

this time. We address these concerns in some detail in our response given the importance of this area going forward; correctly defining markets and recognising levels of competitiveness will be fundamental to the IMR. Ofcom's assessment in the PIMR has understated the role that others' infrastructure can play. Competitive investment in full fibre networks will have the best chance of success if physical infrastructure access is facilitated more generally, rather than just limited to Openreach's ducts and poles. Virgin Media has physical infrastructure that would be attractive to network rivals in many cases and, contrary to Ofcom's conclusion, Virgin Media's narrower footprint is not an issue as ubiquity is not a pre-requisite of competition. Different physical networks (including non-telecoms infrastructure) can be combined to support fibre deployment.

- Openreach's acceptance of uDPA as a remedy, despite Ofcom's failure in the Consultation to justify this on regulatory and legal grounds, is predicated on the basis that Ofcom acknowledges and reflects the competitive pressures unleashed by uDPA downstream of the Physical infrastructure market both in its assessment of SMP and the design of remedies. This is important going forward for Ofcom's approach to the IMR but, in particular, as set out in Openreach's recent response to Ofcom's Business Connectivity Market Review (BCMR) consultation,[1] the existence of uDPA as a national remedy should have been properly reflected in the BCMR market analysis with the remedies proposed for that market reflecting the increased competitive pressure that uDPA will bring within the review period. In our BCMR response we questioned the need for Ofcom's proposed dark fibre remedy in the light of the uDPA proposals and evidenced the need for separate consideration of competitive Very High Bandwidth circuits (which uDPA will make even more competitive and which will be targeted very quickly).

Background

3. Openreach is fully committed to delivering a world-class DPA product, which not only fully meets our regulatory obligations but also gives our industry customers what they want and is 'best in class' operationally. The new DPA reference offer, already due to be launched in April 2019, will enable greater flexibility in the use of ducts and poles through introducing mixed usage rules; fully implement the pricing changes introduced in the WLA, including the new network adjustment rules; ensure access on fully equivalent terms to ensure a level playing field through the no undue discrimination condition; with processes in place to ensure efficient network deployment, including access to digital maps to support large-scale network planning. There has been significant and constructive industry engagement and collaboration and we have tried to take all inputs on board, including progressing our review of the various industry Statements of Requirements (SoRs) received. We have delivered 'quick wins' wherever possible, for example on maps and self-service ordering, and at the same time, are developing a 'Day 2' roadmap that takes us beyond the April 2019 launch with further improvements to processes and functionality.

4. Openreach understands the importance Ofcom attaches to DPA as a means of encouraging other operators to invest in and build 'full fibre' networks to create alternatives to Openreach's fibre product portfolio. On that basis, Openreach and BT Group have previously indicated a willingness to introduce uDPA on a voluntary basis. Our voluntary offer was subject to certain regulatory conditions, which in the case of the Openreach DPA product, primarily related to ensuring certainty going forward on uDPA pricing and cost recovery, which we cover later in this response.

[1] See Openreach response to Ofcom's Business Connectivity Market Review consultation, 18 January 2019.

5. We were willing to offer uDPA on a voluntary basis despite the revised DPA reference offer and contract, reflecting mixed usage, not due to be launched until April 2019. In the WLA market review, Ofcom concluded that the mixed usage option met Ofcom's policy objective of encouraging competing full-fibre residential network build whilst still allowing network operators to improve their commercial business cases for investment by exploiting economies of scope. We believe the terms of the April 2019 reference offer, which has been (and continues to be) subject to extensive industry consultation, will still fully meet this objective. If usage restrictions are, however, to be lifted completely, then downstream regulation must reflect the competition that will follow, particularly from network rivals targeting high value leased lines (which is possible with uDPA without having an intent to deploy consumer broadband).

6. We share Ofcom's objective of increasing regulatory certainty and recognising product convergence through the proposed new IMR from 2021. A key element of this new regulatory approach will be creating opportunities for more market-driven approaches to serving customers with the necessary regulatory flexibility, including, but not limited to, on a geographic basis, both downstream of and within the physical infrastructure market. Correctly defining markets and recognising levels of competitiveness is fundamental to this new regulatory approach and, as we set out below, we do have concerns about how Ofcom has approached both market definition and SMP assessment in this review and the precedents this may be seen to be setting.

Market definition and assessment of SMP

7. Ofcom has chosen to define a new market for physical infrastructure, something no other regulator in the EU has yet attempted, as can be seen from the recent BEREC consultation on this issue.[2] In order to mandate uDPA as a national regulatory remedy across both residential and business markets, Ofcom has now defined a new upstream physical infrastructure market, within which there are four geographic markets, reflecting different levels of competition but with Openreach found to have significant market power (SMP) in each. We set out below our concerns about how Ofcom has approached both market definition and SMP assessment in this new area.

Market definition

8. On market definition, Ofcom has firstly failed to follow the standard approach, set out in EU guidance,[3] of starting with an analysis of relevant retail markets when considering wholesale markets. Ofcom has not provided any analysis of corresponding retail market(s) to justify extending DPA to an unlimited basis except to reference justifications for other wholesale remedies in the WLA market and in the business services markets. In the case of the former, Ofcom introduced as a remedy 'mixed usage' DPA (which did not allow DPA to be used just for business services), whilst the market review for business services is subject to a parallel consultation to which Openreach has responded. Regarding the latter, Ofcom has not proposed to find BT to have SMP throughout the UK whilst in the PIMR the DPA remedy is proposed to be applied nationwide. This disjoint has come about because Ofcom has not started from, or provided, an analysis of corresponding retail markets. Instead, Ofcom appears to have defined a retail market which consists of 'retail services supplied by multi-service networks' without setting out what these services are (if different from current services) or why BT has SMP nationwide for these services (but not for current services).

[2] Public Consultation on BEREC Report on *Access to physical infrastructure in the context of market analyses*, 6 December 2018, page 2.
[3] https://ec.europa.eu/digital-single-market/en/news/communication-smp-guidelines. See also Public Consultation on BEREC Report on *Access to physical infrastructure in the context of market analyses*, page 17.

9. Ofcom also believes that other physical infrastructure networks are not substitutes for a telecoms-specific physical infrastructure network and therefore are outside their market definition. The consequence of this conclusion is that such alternative networks are not viewed as constraining BT in any way, and are not considered as being relevant in the subsequent assessment of market power.

10. In fact, providers have widely used non-telecoms physical infrastructure in the provision of telecoms services. Evidence for this was contained in the Future Telecoms Infrastructure Review published by the DCMS, which noted many examples of commercially-led infrastructure sharing were emerging across the country, both within the telecoms industry and also with other utilities.[4] This is further addressed in the independent report from Analysys Mason, appended to this response. Analysys Mason concludes that Ofcom too readily dismisses non-telco infrastructure by failing to take a sufficiently nuanced approach in considering the differing types of non-telco infrastructure and considering separately the suitability of these for access and backhaul. For example, there are UK and international examples where low-voltage electricity infrastructure is being used successfully for FTTP deployment, such as the SIRO joint venture in the Republic of Ireland between Vodafone and ESB, the electricity utility company. Overall, Ofcom appears to rely too much on anecdotal feedback from operators as evidence of the lack of suitability of non-telco infrastructure without properly considering the available evidence of actual and potential use (in the UK and elsewhere).

SMP assessment

11. Ofcom defines 4 geographic markets, within the overall PI market:
    - *BT Only areas*, where there is no or limited alternative telecoms infrastructure to BT's;
    - *BT and Virgin Media areas*, where Virgin Media 's infrastructure is present but there is no or limited other alternative infrastructure;
    - *High Network Reach (HNR) areas* excluding the Central London Area (CLA), where there are at least two alternatives to BT; and
    - *CLA*, an area of uniquely high presence of rival leased lines infrastructure.

    Ofcom then conducts three SMP assessments: in BT and Virgin Media areas; in HNR areas excluding the CLA; and in the CLA, and concludes that BT has SMP in all 4 markets. We believe that even if Ofcom's exclusion of non-telco infrastructure is accepted, Ofcom's SMP analysis is still flawed.

12. In none of its SMP assessments does Ofcom make any mention of other regulation which it imposes and which constrains BT's market power e.g. LLU, GEA and wholesale leased lines. Under a Modified Greenfield Approach, the SMP assessment should take account of all regulation which is in place over the relevant period. For example, BT should not have SMP in an upstream service if the downstream service which uses this input is itself subject to cost-based regulation. We do not therefore consider that Ofcom has conducted the correct analytical approach.

13. Ofcom's analysis of *'BT and Virgin Media areas'* reflects Ofcom's view of the overarching importance of ubiquity to an access seeker, a factor to which they attach such importance that it means in effect that only BT can have SMP because Openreach has the only network with 100% coverage. With that viewpoint, the exact level of Virgin Media's coverage of business sites becomes irrelevant, as does the analysis of contiguous postcodes, although Analysys Mason's report shows this to be based on arbitrary and unsubstantiated thresholds.

[4] Future Telecoms Infrastructure Review, DCMS 2018, para 77

14. This focus on ubiquity, which suggests access seekers would only be interested in Openreach's physical infrastructure is misplaced and exaggerated. As Analysys Mason's report indicates,[5] operators do not necessarily need to deploy at scale in a geographical region and therefore do not require ubiquitous infrastructure. There are also numerous examples across the UK and Europe of network operators adopting a 'mix and match' approach of different wholesale inputs from different suppliers, telco and non-telco, without operational complexity or additional cost constituting barriers to entry.

15. Ofcom's cost analysis in comparing the use of Openreach and Virgin Media infrastructure is not properly evidenced and relies on information from Virgin Media that has been heavily redacted and therefore cannot be independently validated. Overall there is no evidence that there is likely to be a material difference in connection costs per premise between Openreach and Virgin Media, such that an access seeker would only ever be able to use Openreach's infrastructure.

16. Given the scale of Virgin Media's coverage and, absent any conclusive evidence on material cost differences and operational complexity, we believe Virgin Media's physical infrastructure exercises a much greater competitive constraint than Ofcom recognises. In some parts of the country the Openreach network is directly buried and therefore not suitable for sharing and, further, there are geographies in which Virgin Media has duct and Openreach does not and so presumably in these geographies Virgin Media has SMP. On a practical level, we want to explore whether using Virgin Media duct could help us deploy FTTP more efficiently and we are seeking to engage in a commercial dialogue with Virgin Media to this end. Some form of obligation on Virgin Media to provide access to its physical infrastructure on a timely and reasonable basis may therefore be reasonable.

17. Ofcom's analysis and conclusions in the HNR and CLA areas are equally weak, again over-relying on arguments about the need for ubiquity despite the clear evidence of the high presence of alternative infrastructure. Although much of this alternative infrastructure has been deployed to provide leased lines to business customers, there is no evidence that this prevents these assets being used for FTTP, either as a targeted deployment or as part of a 'mix and match' approach.

Remedies

18. In the Consultation, Ofcom generally proposes that the DPA remedies mandated in the March 2018 WLA statement should continue to apply, albeit these would now apply to the uDPA offering. This approach appears broadly sensible and, should Ofcom confirm its proposals in the PIMR statement, Openreach plans to confirm the product offering through the publication of a new Reference Offer (RO) and amended contract, with industry agreement on the detailed changes. We do however have some concerns about the requirement for us to publish a new RO one month after Ofcom's PIMR statement given, in particular, the need to agree changes with our customers and the interplay with our April 2019 RO and 'Day 2' product developments. Our preferred option therefore is that Ofcom does not impose an inflexible one month obligation, but allows a longer period which enables a joint review of the PIMR outcomes by Openreach and its customers and a follow up discussion at the Passives Industry Working Group (PIWG) before publication of the required changes.

19. A major area of focus for Openreach has been to ensure we are fully compliant with our requirement under the WLA not to unduly discriminate, and to be able to evidence this by reference to the processes underpinning our own fibre network deployment activities, including through the development of an Internal Reference Offer (IRO). We are working to ensure that our full-fibre build processes in the towns and cities element of our Fibre

[5] Analysys Mason Report page 21

First programme are fully equivalent with the relevant DPA activities. Although uDPA, if introduced, will obviously be able to be used for any legitimate purpose, it would be helpful if Ofcom could clarify how it would view the No Undue Discrimination (NUD) requirement going forward. Openreach believes that as Ofcom's prime policy objective for DPA continues to be to incentivise altnet FTTP build, then it would be helpful for confirmation that the Openreach towns and cities build programme can continue to be the appropriate reference point for NUD and the IRO. We have also suggested a modification to Condition 4 of the PIMR legal instruments to clarify this.

20. In implementing uDPA, Openreach is assuming that it continues to be required to provide unrestricted access to its physical infrastructure only as needed to address any market power in downstream wholesale fixed access markets (and associated retail markets). This would be consistent with the economic underpinning for Ofcom's intervention and its policy objective of encouraging fibre network build. It would be helpful if Ofcom could confirm this to be the case.

Cost recovery and pricing

21. Ofcom has not proposed any changes to the level and structure of DPA pricing for the period up to 2021 and has then promised a review of these as part of the IMR. We do not challenge the proposal that from spring 2019 to March 2021, uDPA should be priced on the same basis as the current DPA offering. We would also note that the Network Adjustment element of the DPA pricing structure is only due to be fully implemented from April 2019 and we agree it would be premature to change either the design of this complex and potentially problematic remedy or the associated financial limit until this has been reviewed in the light of actual volumes and how the processes, including reporting and authorisation, work in practice.

22. However, we do believe it is crucial for the whole approach to pricing DPA to be reviewed by 2021 to ensure it allows for full cost recovery as uDPA take-up grows and we transition from copper to full fibre and that there would be fair competition between Openreach and other network providers utilising uDPA. Ofcom should confirm a commitment to a full and thorough review of pricing as part of the IMR.

23. In the PIMR statement, Ofcom should set out clear principles about how pricing will be considered in this review to provide comfort to Openreach (and its shareholder) over long term cost recovery. Openreach cannot be in a position where we have to provide access to our passive infrastructure on terms that will not support cost recovery on long lived assets and/or would result in Openreach having to recover a disproportionate share of costs compared to network rivals utilising uDPA. At a minimum, this review would need to reassess forward-looking cost and usage assumptions and consider the sensitivity of outcomes (e.g. on cost recovery and share of costs paid by those using the assets) to different market scenarios. Specifically, we would like to see statements confirming that any price levels/structures for DPA set beyond 2021 will always be designed to (a) provide a fair opportunity for Openreach to recover efficient forward-looking costs of maintaining a set on physical infrastructure assets that can be shared by network providers and (b) ensure a level playing field for the provision of all active services between network providers by ensuring the share of costs paid by a uDPA user does not diverge from the share of value that user gains in the provision of active services. We should also review whether the pricing structure could be simplified, although we believe the prime objective should be to ensure certainty of cost recovery going forward.

24. As indicated, this pricing review should include a reassessment of the recovery of Network Adjustment costs, both the overall regime and financial limits, as we understand more about volumes and the scale of adjustments. We note that currently the Network Adjustments regime only applies to duct, with Openreach

being required to fully fund any adjustments required in respect of poles; the requirement for CP contributions should also apply to poles.

Reporting issues

25. Our detailed comments on the uDPA regulatory reporting requirements are set out in BT Group's response to Ofcom's separate consultation, published on 4 December 2018. In general we support Ofcom's proposals as consistent with the other remedies, should Ofcom impose them, and necessary for monitoring these.

26. However, given that the pricing approach to DPA will be reviewed by 2021 we do not consider it would be useful for stakeholders to introduce detailed cost reporting on the basis of the existing pricing structure and we therefore suggest that this requirement is delayed for one year to align instead with the final structure that will be put in place following the IMR. In the intermediate period we would we pleased to work with Ofcom in providing appropriate information to inform that review.

2. Market assessment

27. This section considers the explanation that Ofcom provides for the provisional conclusions that there is a market for 'wholesale access to telecoms physical infrastructure for deploying telecoms network' and that this is a market in which BT has SMP. As such this section represents Openreach's response to Questions 3.1 and 3.2 in the consultation document, namely:

> 3.1 Do you agree with our proposed market definitions? Please set out your reasons and supporting evidence for your response

> 3.2 Do you agree with our proposed SMP assessment? Please set out your reasons and supporting evidence for your response for your response.

28. In summary, Openreach does not agree with Ofcom's proposed product market definition. Ofcom has not started from an analysis of retail markets as it ought; and has not recognised (in either its market definition or SMP assessment) the use by CPs of other utilities' infrastructure to deploy telecommunications network.

29. Openreach also does not agree with Ofcom's proposed SMP assessment. This assessment lacks embedding within a framework which encompasses an adequate retail market analysis and, amongst other things, places undue weight on an alleged need for ubiquity. It also does not sufficiently take into consideration the strong competitive constraints that Virgin Media, other CPs but also the infrastructure deployed by the other utilities exercise on Openreach.

30. In this section we draw upon a report we commissioned from Analysys Mason who reviewed Ofcom's market analysis set out in the PIMR consultation document. This report is attached as Annex A to our response.

Market definition

(a) Ofcom has failed to take as a starting point a definition of the retail markets

31. Ofcom has until this review considered market power by focussing on specific categories of service supplied by Openreach, such as broadband and leased lines. Ofcom explains that this was because it sought to promote competition in the retail delivery of such services where, in the absence of regulation, BT would otherwise have SMP. Thus Ofcom has imposed regulation on copper access services (MPF and WLR), on wholesale broadband services (GEA) and on wholesale leased lines. In each case, the regulation has been founded on an SMP assessment at the retail level in the absence of regulation. For business connectivity services where no SMP was found, no wholesale obligations were applied.

32. In its methodology to date, Ofcom has been following long established EC Guidance,

- "The starting point for the identification of wholesale markets susceptible for *ex ante* regulation should always be the analysis of corresponding retail market(s)."[6]

33. However, Ofcom has not provided any analysis of corresponding retail market(s) to justify extending DPA to an unlimited basis except to make reference to their market analysis justifying other wholesale remedies in the

[6] https://ec.europa.eu/digital-single-market/en/news/communication-smp-guidelines

WLA market and in the business services markets. Such analysis cannot be used for the purposes Ofcom now proposes. In the case of WLA, Ofcom considered competition on the basis of a national market, not the four way division used in the PIMR Consultation, whilst the market review for business services is subject to a parallel consultation to which Openreach has responded.[7] Regarding the latter, Ofcom has not proposed to find BT to have SMP throughout the UK whilst in the PIMR the DPA remedy is proposed to be applied nationwide. This disjoint has come about because Ofcom has not started from, or provided, an analysis of corresponding retail market(s).

34. Instead, Ofcom appears to have identified (although without defining it) a retail market which consists of "retail services supplied by multi-service networks" without setting out what these services are (if different from current services) or why BT has SMP nationwide for these services (but not for current services). Instead, Ofcom offers only speculation about future networks and markets:

- "We cannot foresee all the different ways in which networks might be deployed. Nevertheless, we expect telecoms providers to increasingly deploy networks supplying the full range of downstream services to most premises within an area. The advantages of this business model, in terms of the economies of scale and scope that can be realised, as well as the flexibility to meet changes in demand, make it likely that this will be the predominant business model for competitive network deployment in future."[8]

35. The prospect that a specific form of business model may or may not develop is not an objective basis on which to define a new upstream market.

36. Ofcom claims in footnote 28 that, "It is not necessary to formally define downstream markets to define the upstream market, provided that upstream market definition considers any indirect constraints that exist." We do not believe that this approach is correct. Ofcom should have started the market definition process by analysing the retail markets that are relevant to the upstream market and assess whether these markets are competitive or not and/or are already regulated. It is wrong in our view for Ofcom to ignore this fundamental step. As set out by Ofcom, the reference to "indirect constraints" refers to the ability of downstream customers to substitute to telecommunications services provided over networks that use alternative infrastructure.[9] To consider the extent of this ability, Ofcom should have assessed and defined the retail markets in question[10] so that the analysis of demand side and supply side substitution effects can be properly conducted. Without this formal foundation, ex-ante regulation might be wrongly imposed in the upstream market where it is not justified because (a) there is no SMP at the retail level in the absence of such regulation

[7] We note that in relation to business connectivity the latest detailed market assessment made by Ofcom was in BCMR 2016 (the market definition parts of that review were overturned by the Competition Appeal Tribunal) and in the BCMR 2018 Consultation. Ofcom issued on 23 November 2017 a Temporary Statement but that relied heavily on the market findings it made in the 2016 BCMR market review. We believe it is wrong for Ofcom to seek to rely on the findings of BCMR 2016 given that the BCMR 2016 Statement was overturned by the CAT and that this review is based on data going back to approximately 2014. We also believe that it is wrong for Ofcom to seek to rely on the findings it made in the 2019 BCMR Consultation given that this document is only a consultation, it has not gone through the compulsory Article 7 review process and therefore is not legally in force.
[8] 3.17
[9] 3.100
[10] As set out by the European Commission, "Market definition, for the purposes of the Recommendation, is the prerequisite for assessing whether a particular market is characterised by effective competition or should be subject to *ex ante* regulation"… and that, "The starting point is the definition of retail markets over a given time horizon taking into account demand-side and supply-side substitutability from the end-users perspective…".
EXPLANATORY NOTE Accompanying the Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation, 9 October 2014, page 7
https://ec.europa.eu/digital-single-market/en/news/explanatory-note-accompanying-commission-recommendation-relevant-product-and-service-markets

or (b) the downstream markets are already regulated and therefore regulation at the upstream level is not necessary and disproportionate.

(b) The imposition of a UK wide uDPA remedy negatively affects the competitive parts of BCMR

37. We do not believe that Ofcom has the legal powers to impose a wide and significant remedy such as uDPA on a UK wide basis that affects not only the non-competitive parts of WLA and BCMR but also the competitive parts of BCMR (as identified by Ofcom in BCMR 2016 and in the 2018 BCMR Consultation) without doing first a detailed and compelling assessment based on evidence justifying the extension of this remedy to those competitive parts. To assist BT and the rest of the telecommunications industry, we invite Ofcom to explain in the PIMR Statement the legal powers it relies upon to extend DPA to the competitive parts of the business connectivity market and why extending the remedy in this manner is necessary and proportionate. We note that Ofcom has sought to address very briefly this issue in paragraph 5.33 (e) of the Consultation. In this paragraph, Ofcom notes:

"*We have considered the potential impact of unrestricted PIA on deregulated services and areas that are already competitive. Our current view is that PIA is not likely to have a distortive impact on competition in these markets. PIA should lead to additional competition in these markets, which would benefit consumers through lower prices and better services…*"

38. Ofcom makes very brief references to the impact of uDPA on the BCMR competitive markets in paragraphs A9.26 to A9.29 of the Consultation. In these paragraphs, Ofcom's main argument appears to be that UDPA "may lead to lower prices and better services" in these competitive parts; for this reason, it concludes that "uDPA is not likely to have a large distortive impact on leased line competition in the CLA". In our opinion Ofcom omits a fundamental point and that is the impact that the uDPA extension is expected to have on Openreach and, in particular, on the sale of its leased lines in the competitive market. Openreach currently sells leased lines on a wide scale basis including in the CLA and therefore extending DPA to those competitive parts will necessarily incentivise its CP customers to switch to DPA and no longer buy leased lines from it. We invite Ofcom to assess this point in the next stages of the Consultation.

(c) Exclusion of alternative physical infrastructures from the market definition and the SMP assessment

39. Ofcom is also of the view that other physical infrastructure networks are not substitutes for telecoms-specific physical infrastructure network and therefore are outside its market definition. The consequence of this conclusion is that such alternative networks are not viewed as constraining BT in any way, and are not considered as being relevant in the subsequent assessment of SMP.

40. In fact, as described by Analysys Mason in **Section 3** and **Annex C** of their Report, communications providers (CPs) are using non-telecoms physical infrastructure in the provision of telecoms services:

- In the UK, **TrueSpeed** has announced an agreement with Western Power Distribution to use its electricity poles to deploy FTTP. Whilst the target deployment of 75,000 premises by 2021 is not large, the WPD footprint is extensive with 7.9 million customers representing c.28% of UK premises.

- In Ireland, **Vodafone** is engaged in a Joint Venture with ESB (the Electricity Supply Board) to provide FTTP to 50 mid-size towns without using telecoms infrastructure. Although behind its intended schedule

SIRO (the Joint Venture), has reportedly passed 175,000 premises, rising to 225,000 by the end of the year,[11] SIRO's coverage is not dependent on DPA.

- In Italy, **Open Fiber** is making use of its parent Enel's electricity infrastructure. Analysys Mason report that at end of 2017, Open Fiber provided FTTP coverage to 2.4 million premises with plans to reach 9.5 million premises (representing 34% of Italy premises) using a combination of telco and non-telco assets; the vast majority of the FTTP network is, however, expected to make use of Enel's electricity infrastructure.

- In Germany, **Telekom Deutschland** has been using a number of different physical infrastructures to deliver fibre, including those owned by reginal governments and energy companies, with coverage of around 2.8m premises being achieved through such arrangements.

41. Evidence for the use of non telco infrastructure being used, or being developed, in this way is also contained in the Future Telecoms Infrastructure Review published by the DCMS:[12]

- "We are seeing many examples of commercially-led infrastructure sharing emerge across the country, both within the telecoms industry and also with other utilities:

- **SSE** and **Zayo** have partnered with Thames Water to use sewer networks to deploy fibre networks in urban areas across the country, including London.

- **Gigaclear** is running fibre optic cables under the Clifton Suspension Bridge, extending gigabit connectivity from Bristol into North Somerset.

- 'Dig once' policies: when there is any civil digging in an area, spare ducting – which can hold fibre – is installed at the same time. The policy has been adopted by Tameside Metropolitan Borough Council and also by Transport for London when upgrading its transport network.

- Municipalities across the country making their ducts available to wider use. For example the Tameside Metropolitan Borough Council is making its ducts available through a cooperative alliance which offers the passive infrastructure as a wholesale open access product."

42. Analysys Mason provide further examples of the latter developments.[13] In Bristol, a joint venture between ITS Technology Group (ITS TG) and Net Support UK aims to build, operate and commercialise a 75km duct infrastructure owned by Bristol County Council, and has an intention to expand the network to more than 180km (which includes some self-build). ITS TG has also signed a 10-year concession contract with Hammersmith and Fulham Council to access its 17km underground duct network (originally used for a CCTV network) to deploy its fibre network. City Fibre is making use of local authority infrastructure in Coventry (a 180km network) and Aberdeen (a 100km network) for its fibre network deployments.

43. Openreach notes the reasons given by Ofcom in paragraph 3.35 of the PIMR Consultation which Ofcom says imply non-telecom infrastructure "is either not viable, or involves relatively higher cost and operational complexity." We discuss some of these reasons in the market power assessment below. The central question is

[11] https://www.independent.ie/business/technology/well-win-regional-broadband-wars-with-fibre-cash-cow-says-siro-boss-37185516.html
[12] Future Telecoms Infrastructure Review, DCMS 2018, para 77
[13] Analysys Mason Report Section 3.2

not however whether there can be impediments to use of non-telco infrastructure (such as 'construction incompatibilities' or health and safety rules) but whether these are barriers which cannot be overcome without incurring unreasonable cost. The evidence is that this is not the case. For example, in contrast to all the reasons to the contrary given by Ofcom, sewers have been used for fibre, as have electricity networks. Dismissing all alternatives does not recognise what suppliers have been doing already, and questions the very purpose of the 2016 UK Access to Infrastructure Regulations (the 'ATI Regulations') which aim to promote such alternatives where these are cost effective.

44. Openreach does not therefore agree with Ofcom's proposed market definition in that it excludes all non-telecom infrastructure from the market.

Market power assessment

45. Ofcom defines four geographic markets for Physical Infrastructure services:

- *BT Only areas*, where there is no or limited alternative telecoms infrastructure to BT's;
- *BT and Virgin Media areas*, where Virgin Media's infrastructure is present but there is no or limited other alternative infrastructure;
- *High Network Reach (HNR) areas* excluding the Central London Area (CLA), where there are at least two alternatives to BT; and
- *CLA*, an area of uniquely high presence of rival leased lines infrastructure.

46. Ofcom then conducts three SMP assessments: (i) in BT and Virgin Media areas; (ii) in HNR areas excluding the CLA; and (iii) in the CLA, and concludes that BT has SMP in all markets. We believe that even if Ofcom's exclusion of non-telecommunications infrastructure is accepted, Ofcom's SMP analysis is still significantly flawed. Before discussing these three markets in turn we have some general comments about Ofcom's analytical approach to its SMP assessments.

<u>*General comments on Ofcom's analytical approach to SMP assessments*</u>

47. In none of its SMP assessments does Ofcom make any mention of other regulation which it imposes and which constrains BT's market power in the downstream markets e.g. LLU, GEA and wholesale leased lines. Under a Modified Greenfield Approach, it is clear from the EC Guidance that an SMP assessment must take account of <u>all</u> specific telecommunications regulation which is in place over the relevant period.[14] Ofcom has failed to do this in the Consultation. This demonstrates that Ofcom's assessment is fundamentally flawed because, for example, BT cannot have SMP in an upstream service if the downstream service which uses this input is itself subject to cost-based price regulation. This leads to double, disproportionate and unnecessary regulation that has distortive effects on the market.

48. Further, as discussed above in relation to the product market definitions, Ofcom has not started from an analysis of retail markets as it ought. Had it done so then it would have recognised that where a supplier faces competition in downstream markets from end-to-end suppliers, its control over any upstream inputs cannot be

14 The EC Guidance referred to in footnote 10 above states that,
"To this aim, NRAs should take into account existing market conditions as well as expected or foreseeable market developments over the course of the next review period in the absence of regulation based on significant market power; this is known as a Modified Greenfield Approach. On the other hand, the analysis should take into account the effects of other types of (sector-specific) regulation, decisions or legislation applicable to the relevant retail and related wholesale market(s) during the relevant period."

a source of SMP/market power. To the extent that Ofcom does refer to retail markets it dismisses this as being relevant for physical infrastructure owned by BT on the basis that (i) it has found BT to have SMP in the WLA market[15] and (ii) it has provisionally found BT to have SMP in the supply of CI services except in the CLA.[16]

49. We do not consider that the SMP finding in WLA 2018 can be relied upon. For example, the 80% market share figure for BT that Ofcom quotes in the PIMR[17] is not relevant as this figure (extracted from the WLA 2018) relates to the market share of BT in the UK excluding the Hull area and does not relate to <u>any</u> of the four geographical markets with which this Consultation is concerned. It obscures, for example, the strength of competition at the retail level imposed on BT by Virgin Media which accounts for about 44% of all broadband connections within its footprint.[18]

50. As set out in Openreach's response to the BCMR consultation,[19] Ofcom has not made the case that Openreach has SMP in the HNR Metro areas nor in the additional areas for the VHB segment (which evidence indicates should be assessed separately from the lower bandwidth segment, and indeed constitutes a separate market). Nor has Ofcom substantiated its assertion that SMP which BT may have in certain business markets "derives from" its control and ownership of physical infrastructure, as opposed to BT having invested earlier and at greater scale than its rivals in telecoms networks to provide business connectivity services. Ofcom's analysis also does not recognise that for there to be a competitive constraint on BT, it is not necessary for all CPs to be willing to use alternative infrastructure, just that a sufficient proportion can use alternatives to a degree that BT needs to respond (a point which also supports inclusion of alternatives in the market.

(i) SMP assessment in BT and Virgin Media areas

51. In the 'BT and Virgin Media areas', Ofcom argues that there are three principal reasons why Virgin Media does not constrain BT's market power:

- Virgin Media's network coverage is materially less than 100% (although the actual number is redacted) and so Virgin Media's coverage does not allow suppliers to address all broadband sites in a given area;[20]
- that the contiguous postcodes where Virgin Media coverage is high (defined as being over 90% of premises passed) are too small to form commercial geographical markets; and
- that Virgin Media lead-ins would be more expensive for entrants to use due to differences in the BT and Virgin Media access networks (particularly the 'lead-ins').

52. Ofcom also argues that Virgin Media's presence does not impose a sufficient 'indirect constraint' on BT in terms of competitive pressure from Virgin Media at the retail level. In addition, as noted above, Ofcom does not consider that non-telecommunications infrastructure is an alternative to BT's and Virgin Media's telecommunications networks and therefore does not exercise sufficient competitive constraints on those networks.

[15] Paragraph 3.95 of the PIMR Consultation.
[16] Paragraph 3.96 of the PIMR Consultation.
[17] Paragraph 3.95 of the PIMR Consultation.
[18] Virgin Media states it supplies about 20% of all the UK broadband connections. On the basis of the figures set out by Ofcom in Table 3.1 of the Consultation, this is equivalent to approximately 45% of total UK premises.
[19] Openreach's view of Ofcom's SMP assessment is in Annex F of the Response dated 18 January 2018.
[20] We note that suppliers can already access all residential sites by using DPA brought in as a remedy in the WLA market. Ofcom has failed to assess this fact in its assessment.

53. We do not believe that Ofcom's assessment is sound as we explain below.

The alleged need for ubiquitous coverage

54. Ofcom's view is that network ubiquity is a prerequisite for infrastructure substitution. For example, Ofcom argues that:

   - "…access seekers are likely to value a more ubiquitous physical infrastructure network wherever they are seeking to deploy. Therefore, this is a key characteristic we consider in assessing the strength of constraint imposed by alternative telecoms physical infrastructure operators on BT."[21]

55. That ubiquitous coverage has a value such that its absence creates a barrier to entry is not supported by any evidence, which all points to the contrary:

   - There is ample evidence that suppliers have been entering telecoms markets for years without perceiving the need to have ubiquitous networks and have, in contrast, usually chosen to target the most profitable customers and/or geographic areas that are essentially business connectivity in the dense areas. Examples include CityFibre, Gigaclear and a multitude of other CPs. Entry has occurred with new entrants targeting certain geographic areas and others targeting specific customers types. Entry on such a basis has been successful both in the UK and in other countries. Ofcom has failed to take this important consideration into account. It also has failed to provide any evidence or analysis as to why it believes ubiquity is a necessary factor despite new entrants having entered the market on a piecemeal basis.
   - That Virgin Media's coverage is materially less than 100% in its footprint demonstrates that ubiquity has not been viewed by Virgin Media to be central to its commercial model. Virgin Media has, in fact, been successful without ubiquity.
   - Suppliers do not need to rely on one physical infrastructure network to address all their customers and often choose a mix of self-build and rental, which demonstrates that breaking in and breaking out of different networks does not, in itself, constitute a barrier to entry. For this purpose, other utility infrastructure networks offer clear alternatives to BT's network. Analysys Mason give examples of such mix and match approaches being used in practice, such as by **Telekom Deutschland** which has signed a number of agreements with utility companies to expand its FttP network.[22]
   - If ubiquity was so important, the network assets of the new infrastructure providers (CityFibre, Gigaclear etc.) would have little or no value. This would be odd considering that those providers are able to secure from the financial market large funding to expand their networks.[23]

56. In their report, Analysys Mason have modelled payback periods that a CP would face for deploying a network that covers both residential and business connectivity customers in a given footprint (assumed to cover 100,000 broadband customers).[24] For example, on the Analysys Mason assumptions, payback is 4.3 years with

[21] Paragraph 3.108 of the PIMR Consultation
[22] Analysys Mason Report, Annex C, Section C.4
[23] Please see for example a press release issued by CityFibre in which it informed the market that it has successfully secured £2.5 billion to expand its fibre network https://www.cityfibre.com/news/cityfibre-announces-2-5bn-investment-plan-expand-full-fibre-network-unlock-uks-next-generation-broadband/
[24] Analysys Mason Report, Section 2.1

coverage at 90% for broadband and 65% for business connectivity services and 4.1 years at 100% for both broadband and business connectivity services.[25]

57. The following key conclusions can be taken from the model:

a. Ubiquity (100% coverage network) is not necessary for a CP to benefit from a reasonable payback period for its investments. It is, of course, the case that the greater the network coverage is, the less time it will take the CP to recover its sunk investment but this effect is largely incremental and progressive as coverage increases. However, there is no absolute requirement for 100% coverage for a business case to exist. Nor is there any 'cliff edge' for the level of required coverage (although a supplier will not roll-out a network throughout a footprint to serve just a few customers).

b. From a payback perspective, it is beneficial for a CP whose network addresses the residential market to also address the business connectivity market. However, the benefit of addressing the business connectivity market having constructed a fibre network with wide coverage will be marginal in most areas.

58. In placing so much weight on the importance of ubiquity, Ofcom in effect precludes any role for the UK Access to Infrastructure Regulations (the ATI Regulations). The purpose of the ATI Regulations is indeed to facilitate network expansion on a local or regional basis and certainly not on a UK wide basis. If Ofcom implements a uDPA remedy on a UK wide basis, it is unlikely that CPs would have recourse to the ATI Regulations to expand their network. In our opinion, this position would be inconsistent also with the views of the DCMS in its FTIR:

- "DPA can also be complemented by access to passive infrastructure owned by other utilities, where appropriate. Assets from utilities such as power, gas, water, and local authorities should be easier to access, and available for both fixed and mobile use. This not only includes multi-utility ducts and poles, but also potentially pipes in the case of water, sewers and gas. There are existing provisions for this, such as the Communications (Access to Infrastructure) Regulations 2016, but they have had limited success in the UK to date. The Government will carry out a review of these Regulations in 2019 to assess if there are improvements that could be made to further boost investment in infrastructure. Ofcom should also work collaboratively with other regulators to ensure that these opportunities are explored, and barriers addressed."[26]

59. One consequence of Ofcom's proposals is that the DPA regime could add to unnecessary costs being incurred by Openreach if it were to result in a requirement for Openreach to provide capacity relief and/or adjust its existing infrastructure when alternative non-telecoms infrastructure is available and suitable for network operators to use. The DPA regime should not 'crowd out' the use of such infrastructures and require the unnecessary duplication of physical networks which adds to overall deployment costs for fibre and for which customers will ultimately need to pay.

60. There is also the potential consequence that uDPA on attractive terms will effectively preclude use of other infrastructure and that this will be wrongly interpreted in future reviews as providing evidence of no substitutability between physical networks.

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[25] Analysys Mason Report Figure 2.1
[26] Future Telecoms Infrastructure Review, DCMS 2018, page 6

61. Even if Ofcom is correct (which we do not think they are) that other passive infrastructures (for example gas, electricity etc) are more of a complement than a substitute for telecommunications infrastructure, the ATI Regulations clearly show the potential use of 'mix and match' deployment options, with contracts made with various owners of physical infrastructure. Self-building of a network segment could lead to product differentiation such as physical resilient point-to-point (PTP) connectivity services to large businesses, as highlighted by CityFibre.[27] It is wrong to argue, as Ofcom does in effect, that because supply side substitution can involve some extra cost then all such options should be 'per se' disregarded.

62. Ofcom has therefore not established that ubiquitous or near-ubiquitous coverage is required for entry either into business services or entry into business or residual service together. Competition does not require that there is a single ubiquitous physical network available for suppliers to access.

Contiguous postcode analysis

63. Ofcom argues that those areas where Virgin Media has most extensive coverage, and might therefore offer the strongest alternative to the BT network, are "unlikely to correspond to a desired deployment area and would not provide as much flexibility to expand, relative to the BT infrastructure" and that Virgin Media's business connectivity coverage "is lower than its coverage of all premises (in terms of premises passed)." In effect, these areas are too small to be of interest to network providers, and Virgin Media's coverage is incomplete anyway.

64. We strongly question Ofcom's assumption that a very extensive level of Virgin Media coverage is needed for entrants to have a business case. Virgin Media's own level of average coverage demonstrates that coverage does not need to be 90% or more. Further, it is also the case that even small areas can be attractive to competitors, as demonstrated, for example, by Hyperoptic and by suppliers who specifically target high value business sites.

Differences in lead-in costs

65. As well as Virgin Media's lower network coverage than BT, Ofcom also points to differences in lead-in costs between BT and Virgin Media as a justification for uDPA, and that lead-ins from Virgin Media's network would be more expensive for third parties than using Openreach's lead-ins. However:

   - As Analysys Mason show,[28] the Virgin Media network is usually built much closer to the customer premises (we believe less than 6 metres from the premise) than Openreach's (where 50% of premises are served by Openreach from a pole). That network further from the customer premises is the cheaper is counter-intuitive.

   - Ofcom's analysis that lead-ins are more expensive from the Virgin Media network relies on Ofcom's wrong assumption that a CP will need extra directly buried duct on Virgin Media's network. However, as Analysys Mason show, this is not the case in some instances and where extra duct is needed any extra cost will not be material over the lifetime of a customer contract given the often short distances and the limited costs involved.[29]

[27] Analysys Mason Report page 23
[28] Analysys Mason Report pages 12-14
[29] Analysys Mason Report page 14

- Such a theorised disadvantage would have impeded Virgin Media's own market entry, but this has not been the case – rather Virgin Media has been extending its footprint significantly (and all without the need for uDPA) under its Project Lightning build programme.

- Other utilities (water, electricity, gas etc) have generally ducts, pipes, poles or other facilities that are connected to the customers' premises. These connections can be used by new entrants under the ATI Regulations.

66. Furthermore, for many business sites, lead-in cost differences (were they to be substantiated) are likely to be small when compared with the value of the contract.

Proportionality

67. Differences between BT's and Virgin Media's network characteristics are not such as to justify such radically different regulatory remedies and as a result Ofcom's proposed interventions lack proportionality. Openreach has on average about 11 out of 20 broadband connections in the Virgin Media footprint but would have imposed on it very prescriptive regulation at multiple points through its value chain (DPA being the most upstream of the interventions), all designed to enable users of its network to compete against it; whilst Virgin Media with about 9 out of 20 broadband connections has no regulatory obligations imposed on it.

68. There are geographies in which Virgin Media has duct and Openreach does not and so presumably in these geographies, applying Ofcom's arguments in this Consultation, Virgin Media should have SMP. We believe altnets and indeed Openreach might value access to Virgin Media infrastructure in these areas and there is no reason why Virgin Media should not have some form of obligation to provide access to its infrastructure where it passes customers' premises.

(ii) SMP assessment in High Network Reach areas

69. Ofcom gives two principal reasons why it believes BT has SMP in these areas:

- Whilst HNR areas have a high presence of alternative infrastructure used to supply leased lines, the proportion of all premises passed by these alternative infrastructures is much lower than Openreach's network. Ofcom says this means these alternative infrastructures are not as attractive as BT's infrastructure, given that **there are costs with combining infrastructures** (using BT to service residential and other networks for business sites).[30] The same concern for Ofcom arises because any individual alternative infrastructure is only present in a subset of that HNR postcode sector, compared to the ubiquity of coverage that BT has,[31] and because a HNR area is smaller than what Ofcom considers to be a typical deployment area.[32]

- There are cost advantages in using the BT network as **alternative networks may require some infrastructure build** (Ofcom says they are on average 22m away) and convenience from being able to readily connect to a customer.[33]

[30] 3.121
[31] 3.121 b)
[32] 3.122 c)
[33] 3.122 b)

70. First, as set out in the Openreach BCMR response, we do not consider that Openreach has SMP in HNR areas and that these areas should not be subject to regulation.[34] The simple fact that BT's network is in place, whilst competitors may sometimes need to build some limited access infrastructure, does not mean that BT derives market power from its physical infrastructure without a (robust) finding that there would otherwise be SMP in a relevant downstream market.

71. Second, as Analysys Mason show in their Section 4 and in Annex C of their report, there are many examples of networks that are combined and the argument that ubiquity of DPA is a necessary precondition for competition in business services is clearly unfounded.

(iii) SMP assessment in the CLA

72. For business connectivity services in the CLA, Ofcom has already recognised that the market is competitive and BT does not have SMP. Nevertheless, in the Consultation Ofcom is of the view that there is a barrier to competition, including in the CLA, because, "in this review, we are assessing BT's position upstream in respect of a wider range of access seekers [than those serving business customers only], including those deploying multi-service networks."[35] In the PIMR Ofcom has failed to take into consideration an important element that is DPA mixed usage. Even if Ofcom was correct that alternative networks that focus on business connectivity services in the CLA are an inadequate solution for CPs who plan to deploy multi-services, it should have assessed whether it would be possible for those CPs to deploy those services by accessing BT's network on the basis of DPA mixed usage (with or without accessing at the same time other third parties' networks).

73. Further, as this makes clear, Ofcom has in effect not made any assessment of actual SMP but simply asserted that there is a need for UDPA for a supplier "deploying multi-service networks". Such a sweeping approach makes <u>any</u> geographical segmentation of the UK, as presented in the PIMR, irrelevant – even where there are multiple networks already providing business services Ofcom still deem that there is a need for DPA solely for business services. Openreach believes that upstream remedies ought to be confined to those situations where there is found to be a lack of competition i.e. where Ofcom has found SMP in a defined market.

[34] For example, Annex F, Section IV, "SMP in each Metro area and in HNR areas in the rest of the UK", paragraphs 54-61
[35] 3.127

3. Remedies

74. This section considers the general and specific remedies proposed by Ofcom in Sections 4 to 6 of its PIMR consultation, and covers our responses to Questions 4.1 to 6.3. The proposed remedies are closely aligned to those mandated by Ofcom for the Physical Infrastructure Access (PIA) product[36] in the WLA market review, and no changes are proposed for PIA product pricing and associated conditions (e.g. financial limits) for the period up to 2021.

75. Therefore, as Ofcom has committed to a fuller pricing review as part of the forthcoming Integrated Market Review (IMR), we accept that from spring 2019 to March 2021, the PIMR PIA product should be priced on the same basis as the current WLA PIA offering. This is based on the current understanding that relatively low incremental volumes are anticipated for this interim period despite the move from a 'mixed usage' to an 'unrestricted' product scope.

76. The PIMR consultation is also running in parallel with the implementation period for the regulatory obligations arising from the WLA market review with a major deliverable due on 1 April 2019 (i.e. the new WLA PIA product launch). Therefore although this response is focussed on the PIMR consultation it has been necessary to reference various aspects of the parallel work on the WLA PIA product as well, as this is the baseline for any PIMR reference offer and product launch. Where necessary, we have drawn a distinction between where we are commenting on the WLA deliverable separately from the PIMR proposals.

77. In our responses to the WLA market review[37] we raised issues which remain relevant to the new unrestricted form of the PIA product, and potentially more so in the longer term (i.e. from 2021) should significant demand materialise or patterns of usage change significantly. Therefore in this response, we have set out a summary of these issues where they relate to the new PIMR specific proposals.

Question 4.1: Do you agree with our proposed general remedies? Please set out your reasons and supporting evidence for your response.

78. We support Ofcom's high-level objectives set out in the PIMR consultation, and we have supported the Physical Infrastructure Access (PIA) product since its inception in 2010 continuously implementing new and improved product processes and systems based on extensive trials and feedback from our PIA customers.[38]

79. Throughout 2018, we have also been actively engaged in OTA led industry discussions to implement the regulatory changes arising from the WLA market review. Firstly by implementing the required 'mixed usage' and tariff changes on 1 May 2018; secondly by the publication of draft reference offers on 1 August and 16

[36] We largely refer to the Physical Infrastructure Access (PIA) product, rather than the DPA remedy in this section of the response, as the majority of comments relate to the Openreach product (i.e. PIA). At this time we have no plans to change the product name after completion of the PIMR process.
[37] Ofcom WLA consultation published 6 December 2016: https://www.ofcom.org.uk/__data/assets/pdf_file/0029/98246/Openreach.pdf
Ofcom WLA consultation published 20 April 2017: https://www.ofcom.org.uk/__data/assets/pdf_file/0017/104714/Openreach.pdf
Ofcom WLA consultation published 1 August 2017: https://www.ofcom.org.uk/__data/assets/pdf_file/0023/107195/Openreach.pdf
[38] We now enable PIA customers to have all the relevant on-line information they need to plan and build their ultrafast broadband networks in the way they choose and with the same flexibility that Openreach does. Our new product processes and Digital Maps system has resulted in the largest use of PIA to date with over 1000km of duct in use or in planning by PIA customers. Our systems and processes have been specifically designed to enable PIA customers to access the same detailed network information available to Openreach planners so that they are able to survey, plan and build their networks with the same degree of flexibility as Openreach. CPs can 'self-serve' our network records without any Openreach intervention to identify suitable ducts, poles and cable chambers to plan their fibre deployments, and automatically download large scale UK data into their GIS systems without any Openreach involvement. Since September 2018 CPs can also place their Notice of Intent (NoI) order on the PIA digital maps system without any Openreach involvement.

November 2018; and thirdly through working extensively with PIA customers and the OTA to make significant progress on the new PIA reference offer due for launch on 1 April 2019.

80. Therefore we are supportive of the range of general remedies proposed by Ofcom. However, as noted above we have some concerns which may remain relevant to the longer term position of the DPA/uDPA remedy depending on demand, customer behaviour and future patterns of usage.

81. Broadly the issues split into substantive points, which we address under their own specific headings in this section, and other points of detail which we note against the individual conditions in Annex B at the end of this response. The areas of concern relate to no undue discrimination (NUD), Reference Offer publication (the IRO) and Regulatory Financial Reporting. We also make some brief comments on Ofcom's approach to the ATI Regulations and proposed implementation timetable as these topics are also covered in Section 4 of the consultation.

82. Our other concerns on DPA/uDPA specific remedies covered in Sections 5 and 6 of the consultation relate to Network Adjustments, Financial Limits, and PIA product specific requirements for the Reference Offer and these are covered under our responses to Questions 5.1 to 6.3 below.

ATI Regulations

83. As we set out in Section 2 of this response the ATI Regulations already impose obligations on CPs and other infrastructure providers which could enable viable access to their physical infrastructure subject to fair and reasonable terms and charges.

84. In our view, Ofcom has given insufficient weight to the relevance of the ATI Regulations in the PIMR consultation. Rather than trying to address and resolve any usability issues, Ofcom takes the approach that the ATI Regulations will not address Ofcom's competition concerns, and do not explore in any depth how the dispute resolution process enshrined in the ATI Regulations and under Ofcom's control might be used to make the Regulations more effective.

85. As noted in Section 2, the ATI Regulations recognise that communications networks can utilise a wide variety of civil infrastructures to build fibre networks and that Openreach is not the sole supplier of suitable infrastructure. For example, electricity distribution network companies (DNOs) own and operate large scale national pole infrastructures, and, as a case in point, Openreach itself uses selected DNO poles to deliver its services. Also many companies with large civil engineering infrastructures, such as SSE have to date based communication market entry on utility infrastructure. In short, Openreach's infrastructure is not the only option for CPs.

86. Therefore, Ofcom's PIMR proposals increase the risk of distorting the competitive dynamics in relation to the market for access to physical infrastructure. In this respect, Ofcom's proposals and very favourable rules on network adjustment cost recovery for PIA product customers are likely to mean Openreach is always chosen as the preferred physical infrastructure access provider and other owners of ducts and poles may be foreclosed from the provision of access to physical infrastructure.

87. Consequently, Ofcom's PIMR proposals could also result in an unnecessary duplication of assets as DPA/uDPA access seekers are most likely to require Openreach to provide capacity relief or adjust its existing infrastructure knowing that Openreach will be mandated to fund the cost rather than seeking to use any spare capacity available in ducts or on poles of other utility/communications providers. In summary, Ofcom's

proposal is likely to deprive the ATI Regulations of any concrete application, and may effectively confine them to the statute books.

88. In light of this, Ofcom may have too readily dismissed the potential for its policy objectives to be supported, at least in part, by the ATI Regulations, and consequently not evidenced why the move to an unrestricted DPA obligation on Openreach is an *essential* regulatory step.

89. Finally, we note that it is unclear why Ofcom does not explicitly include the safeguards enshrined in Regulation 4(5) and 6(3) of the ATI Regulations respectively when it comes to accepting or rejecting a request for access to information and a request for network access. With respect to Section 6(3) of the ATI Regulations, an access provider can refuse access where inter alia, the provision of access raises safety or public health concerns; could compromise the security or integrity of the network; may cause technical difficulties because the proposed access does not comply with recognised standards; or may interfere with existing technologies. Ofcom's proposals provide for no explicit safeguards. Moreover, because other network providers will be able to refuse access to Openreach by relying on the safeguards enshrined in the ATI Regulations, Ofcom's proposals create a material risk of distorting competition. Therefore, we request that Ofcom consider how its PIA proposals could reflect the safeguards enshrined in the ATI Regulations.

No Undue Discrimination (NUD)

90. We agree with Ofcom's conclusion and reasoning that Openreach should not be required to consume the PIA product on an equivalence of input (EOI) basis. To go beyond this pragmatic approach, as Ofcom notes in paragraph 4.32, would increase costs and generate operational inefficiencies through additional internal hand-offs within Openreach and would likely require costly new systems and processes to be developed. As Ofcom explains, such impacts could adversely affect both existing services (e.g. LLU, WLR, Ethernet etc.) as well as future super/ultrafast investment. Diverting Openreach resources in this way would directly impede our ability to deliver the benefits of ultrafast technology and innovation to the UK and have potentially major impacts on service quality across the board.

91. We also fully support Ofcom's previous and more detailed analysis of the issues associated with setting a specific EOI obligation on a sub-set of Openreach activities (namely ultrafast networks). The risks of increased costs, increased complexity, and loss of efficiency in delivering new investment to the UK are multifarious, and would not support Ofcom's strategic focus. We also recognise and support Ofcom's comment on the difficulties of introducing a second form of 'functional separation' within Openreach.[39] This would be an unnecessary and disproportionate action and introduce an extremely challenging layer of additional regulation given the already significant changes which have taken place with regard to Openreach's legal separation from BT Group.

92. As Ofcom notes in paragraph 4.31, Openreach is not in the same position as an infrastructure investor making a discretionary investment in a new Fibre to the Premise (FTTP) network. Openreach needs to rely on its physical infrastructure to meet all its existing obligations as well as being able to compete commercially with operators that have their own networks and delivery platforms (e.g. TV, cable and wireless).

[39] Ref 5.35.1 Ofcom's April 2017 consultation.

93. Therefore, as Ofcom has acknowledged in its previous DPA related consultations,[40] Openreach's requirements of its own physical infrastructure are necessarily very different and more demanding than those of a typical PIA product customer. It is of utmost importance that Ofcom considers these multiple commercial, regulatory and legal pressures including price controls, quality of service and USO regulation already imposed on Openreach across copper, fibre and business services to reach a reasonable basis on which to assess the NUD obligation.

94. In light of this, and as we have discussed with Ofcom in relation to the new WLA PIA product, we will be looking to Openreach's 'Fibre First' towns and cities programmes as the primary benchmark to assess the WLA NUD obligation. Given our understanding that the primary policy objective underpinning the proposal for a PIMR unrestricted PIA product is to support widespread fibre investment in the UK, we would also intend to apply the same NUD benchmark to the PIMR product. It would be helpful if Ofcom can confirm that this is its understanding via guidance in the PIMR statement, with even greater clarity achieved by an appropriate amendment to the legal instrument for Condition 4. We have made a suggestion in Annex B at the end of this response.

95. If we can agree a pragmatic approach to NUD with Ofcom we believe it will actually be beneficial for Openreach and its PIA customers. For example, as PIA customers have different needs to Openreach, we were able to implement a new and specifically tailored system for the WLA PIA product (i.e. a different system to our internal legacy system PIPeR), to proactively enhance the PIA product and enable PIA customers to undertake much more efficient consumption of the PIA product via the Digital Maps system. This enabled PIA customers to plan and record network deployments in a comparable manner to Openreach accessing the same underlying physical infrastructure record information as Openreach planners do (via the Digital Maps tool and a web services interface) but using a much more flexible and adaptable system. In summary the system:

- enables PIA customers to download and import network data into their own GIS network planning tools;
- provides estimated capacity information calculated from Openreach's inventory systems which is presented in a suitable format to enable PIA customers to estimate duct availability and;
- includes all relevant duct, pole, joint box and manhole information at a sufficient level of granularity for planning, ordering and billing, and with the required attribute information.

In addition, there are already a significant number of other developments underway which are being progressed with PIA customers and the OTA through the Passives Industry Working Group (PIWG), and these PIA systems developments can only be this reactive to PIA customers' needs because they do not impact Openreach's legacy PIPeR system.

96. These systems developments are an excellent example, as Ofcom notes in paragraphs 4.31 and 4.32, of the flexibility of the NUD approach compared to an inflexible EOI obligation. Openreach has been able to work with its PIA customers, plus openly share its progress with Ofcom, to develop a system for its customers tailored to access the key physical infrastructure data they require for plan and build.

97. Looking forward, it is not easy to identify at this time which new platforms or processes are likely to be designed and implemented from the outset in a fully equivalent way (paragraph 4.37), as even for a relatively new system such as the Digital Maps development the requirements for a PIA customer are different to those

[40] For example please see Ofcom's explanation in paragraphs 5.28-5.29 of its 'WLA Market Review – Consultation on Duct and Pole Access remedies' published 20 April 2017.

of Openreach.[41] However, regardless of these likely differences, and in line with Ofcom's regulation and guidance, we are committed to reviewing all future platform developments as they occur and, where appropriate, ensuring full equivalence on a forward looking basis.

98. We also strongly support Ofcom's approach to compliance as set out in paragraphs 4.40 to 4.46. As Ofcom is aware we are committed to working openly with Ofcom on all aspects of compliance including potential KPIs, other performance metrics which may be requested by Ofcom, and on the substance and detail of the internal reference offer (IRO) to be published on 1 April 2019.

99. We also note that there is an important line to be drawn between (i) access to the physical infrastructure layer of Openreach's network and (ii) Openreach's own innovation in active network plan and build techniques. Openreach needs to be able to maintain the incentives to innovate and differentiate in the plan and build of active networks, without having to make these available to PIA customers. If not, there is a real and tangible risk that the NUD obligations will distort real network competition and fail to deliver long term and sustainable benefits. Openreach already faces significant commercial and technological pressures at this time from competing networks and platforms (namely cable, mobile and satellite) and we must be able to respond quickly and effectively to such changes in technology and the market. Openreach's ability to do this may be seriously impacted if any change in active network build policy or process is incorrectly linked to a dependency to change the existing PIA product and associated terms, conditions and prices.

100. Finally we did raise discrimination concerns with Ofcom's cost recovery framework for network adjustments in the WLA consultation process. Our view was that Ofcom had not taken sufficient account of the possible impacts on Openreach's ability to invest should large scale demand for PIA materialise, and generate a demand for large scale network adjustment funding. We also noted that this risk could be compounded if PIA customers did not have sufficient incentives to minimise their civil engineering costs in the same way as Openreach does. Clearly, should Ofcom's PIMR proposals generate incremental PIA demand, which is its intention, then this overall risk to Openreach and its non-PIA customers is increased and would need to be considered as part of the IMR consultation process. We cover these issues further in response to Questions 6.1 and 6.2 below.

Internal Reference Offer (IRO)

101. The PIMR internal reference offer (IRO) draft condition[42] referred to in paragraph 4.60(g) is highly dependent on the existing WLA IRO condition[43] which is currently the subject of discussion with Ofcom.

102. We aim to publish the WLA IRO by 1 April 2019 as requested by Ofcom. Given that both the WLA and PIMR conditions state that an IRO is required when the regulated party *'provides to itself network access that … is the same, similar or equivalent to that provided to any Third Party… in a manner that differs from that detailed in a Reference Offer in relation to network access provided to any Third party…'* then an IRO will need to be based on two information sources. Firstly, a final external reference offer which governs the access provided to Third parties, and secondly a benchmark set of internal activities which can be compared to the external reference offer.

[41] As an SMP provider of a full range of telecoms services throughout the UK Openreach requires significantly more detailed and national scale inventory information available for all technologies and at all layers of the network architecture (both physical and active), whereas a PIA customer is looking for specific physical layer information often in a specific geographic area to link into its own infrastructure inventory.
[42] PIMR consultation - Annex 10: Draft Condition 7.4
[43] WLA Final Statement (published 28 March 2018) - Annex 33: Condition 8.6

103. Clearly should another part of BT outside Openreach (for example, a downstream part of BT) purchase the PIA product then the IRO exercise would be likely to be very straightforward as the product would in all likelihood be sold on an EOI basis and only trivial differences would be identified. However, because Ofcom has requested that the WLA IRO condition should reflect a virtual internal boundary within Openreach, then the IRO exercise is necessarily much more difficult (and subjective) as there is no internal network access PIA product purchased by Openreach from itself. Additionally, and as Ofcom acknowledges in paragraph 4.32, Openreach's legacy systems and processes do not recognise such a virtual internal boundary within Openreach.

104. Further, a comparative task such as this becomes even more challenging if the huge complexity and profusion of Openreach's internal systems, processes and operations across all its different technologies (e.g. copper, broadband, business connectivity etc.) and the variation that exists in the way these technologies are deployed (e.g. pre-planned roll-outs, on demand services etc.) are all subject to the condition. Therefore we need Ofcom's guidance to consider which operational activities and technologies are the most appropriate benchmarks and have the greatest relevance to the PIA IRO condition.

105. In light of this, as discussed above, we will be looking to use Openreach's 'Fibre First' towns and cities programmes as the primary benchmark for the PIMR IRO.

106. Further we are currently working with our PIA customers and the OTA in the Passive Industry Working Group (PIWG) to finalise the new WLA PIA reference offer due to be implemented on 1 April 2019. Given notification obligations we plan to publish the formal offer by 4 March 2019. Therefore, because the final offer is subject to change up to that date we would not be able to fully complete the WLA IRO exercise until we have finalised the external WLA external reference offer, hence our target date for publication of 1 April 2019.

107. Following completion of the WLA IRO exercise we would then need to review the outcome of the PIMR consultation process and incorporate any requirement to change the IRO for any PIMR impacts. However as noted above, it would be very helpful if Ofcom can clarify that no immediate changes are anticipated and in Ofcom's view the benchmark remains FTTP based and not Openreach's much wider set of technologies and operational activities.

Regulatory Financial Reporting

108. Our response to Ofcom's Regulatory Financial Reporting proposals in Section 4 of the PIMR consultation are covered in Section 5 of this response.

Implementation Timeframe

109. We are concerned at Ofcom's proposals for an implementation period of one month. This is because we do not yet know the date that the final PIMR statement will be published (if the proposals are confirmed) or the full impact of the PIMR process on the existing WLA PIA product, and therefore any changes to the reference offer, contracts and product documentation that might be required.

110. This is particularly important to us given that our operational, product and legal teams (and the OTA and our PIA customers) are fully committed and focussed on implementing Ofcom's WLA regulation for 1 April 2019. Even without this major parallel activity, our experience from the WLA process is that one month is not sufficient to:

- fully review the final statement,

- map any required changes to the existing reference offer,
- draft, share and agree proposed text with our customers and the OTA,
- carry out any consequential amendments, and then
- publish the final amended reference offer, contract and product information.

111. An inflexible one month period would be more likely to impact Openreach's PIA team resources if the PIMR statement is issued at an inappropriate time and clashes with our parallel obligations to launch the new WLA PIA product on 1 April 2019. In such a scenario Openreach would necessarily have to try to implement the changes without any industry review and discussion.

112. Further, we have already agreed with our PIA customers and the OTA that we would not be imposing the 'mixed usage' conditions for a period of 12 months, hence a one month implementation date has no commercial impact whatsoever, other than to squeeze the time in which Openreach and its customers can discuss and agree the necessary amendments.

113. Openreach is also committed to continuing its discussions with industry for a 'Day 2' product[44], and an inflexible one month period would not enable any potentially available 'Day 2' changes to be incorporated with the PIMR related changes in a co-ordinated way into a single new reference offer.[45]

114. Therefore, our preferred option is that Ofcom does not impose an inflexible one month obligation, but allows a longer period which enables a joint review of the PIMR outcomes by Openreach and its customers and a follow up discussion at the Passives Industry Working Group (PIWG) before publication of the required changes. A longer period will also allow us, if required, the opportunity to be more flexible and prioritise and reschedule activities to meet both WLA and PIMR related obligations.

115. If Ofcom remains concerned about ensuring implementation within a short timeframe then a possible approach could be to state that we are required to implement the changes by agreement with the OTA and our customers and/or as Ofcom may direct. Potentially a further backstop of 90 days could also be set, but we do not believe this is required as we will work with our customers to implement the changes at the earliest possible opportunity.

Question 5.1: Do you agree with our proposed specific remedies? Please set out your reasons and supporting evidence for your response.

116. As noted in response to Question 4.1 above we support Ofcom's high-level objectives for the PIMR consultation, and the existing PIA product, and have continuously implemented new PIA-specific product improvements and systems since its inception in 2010. Therefore we are supportive of the range of general remedies proposed by Ofcom. However, as noted earlier in this section we have some concerns which may remain relevant to the longer term position of DPA/uDPA depending on demand, customer behaviour and future patterns of usage.

[44] 'Day 2' refers to further product enhancements Openreach and industry are working on jointly to follow the PIA product launched on 1 April 2019.

[45] This is because 'Day 2' changes will also need to be made to the existing reference offer and the contractual and product documentation, plus amendments will necessarily need to discussed and reviewed with our customers prior to coming into effect.

117. Broadly the issues split into substantive points, which we address under their own specific headings in this section, and other points of detail which we note against the individual conditions in Annex B at the end of this response. Our primary concerns in relation to the specific PIMR remedies proposed relate to the conditions covering the unrestricted PIA product, Network Adjustments, Financial Limits, and PIA specific requirements for the Reference Offer. We also comment briefly on a related topic raised in Annex 9 of the consultation *'Adverse effects of proposed physical infrastructure access remedy'*.

Specific PIMR access obligation to provide PIA (i.e. unrestricted PIA)

118. Please see our detailed analysis and response on market definition and assessment of significant market power in Section 2 of this response. In broad terms we accept the underlying logic of Ofcom's PIMR PIA product proposals, but we do have concerns on whether the analysis presented to support the *necessity* to extend the scope of the WLA DPA remedy is robust and provides sufficient evidence to underpin the change in approach.

119. In implementing an unrestricted PIA product (if confirmed), Openreach is assuming that it continues to be required to provide unrestricted access to its physical infrastructure only as needed to address any market power in downstream wholesale fixed access markets (and associated retail markets). This would be consistent with the economic underpinning for Ofcom's intervention and its policy objective of encouraging fibre network build. It would be helpful if Ofcom could confirm this to be the case.

Network Adjustments

120. We set out our position on Network Adjustments for the WLA PIA product in our responses to the WLA consultation.[46] Broadly, this set out that Openreach should only be required to bear the upfront costs of Network Adjustments where there are clear and demonstrable benefits to the Openreach infrastructure and its customers and which are subject to appropriate approval processes and strict financial controls.

121. We also recognised that Ofcom took many of our concerns on board in the Final WLA Statement published on 28 March 2018, and placed a number of limitations on the obligations in order to reduce the risks to Openreach and its non-PIA customers, and these have now been carried over into the PIMR consultation. This means that:

- A valid 'PIA Adjustment Service' order would need to be necessary, feasible and efficient (paragraph 5.54).
- It would also need to be within Openreach's existing physical infrastructure footprint, and a permanent adjustment (paragraph 5.56).
- Such adjustments should not be expected to *'resemble the construction of new parallel physical infrastructure'* (paragraph 5.56), for example large amounts of new capacity or long lengths or new duct.
- The distinction between installation activities and physical infrastructure network adjustments is also maintained.[47]
- Financial limits should continue to be applied.
- Openreach should decide the most efficient way of undertaking network adjustments (paragraphs 5.71-5.73), and

[46] See Footnote 37.
[47] Cable installation tasks being classified as temporary adjustments and therefore the responsibility of the PIA customer in terms of operations and costs.

- The obligations to undertake pole adjustments also remain limited to those which are unusable or at maximum dropwire capacity.

122. Therefore, given that the PIMR proposals incorporate these network adjustment principles we are able to support the PIMR network adjustment remedy in broad terms.[48] In this context, these principles should also be taken forward into any IMR proposals setting the longer term framework for DPA/uDPA from 2021.

123. However many of the concerns we raised in terms of operational and financial controls still remain. Our experience of current industry discussions around the WLA network adjustment process have done little to allay our concerns in this area, with *some* third parties not prepared to engage in reasoned commercial debate on matters of real operational and financial significance to Openreach:

- **PIA customers need to have incentives to build efficiently** – A key concern for Openreach is that Ofcom's network adjustment proposals mean that PIA customers are not subject to the same incentives as Openreach when it comes to minimising civil engineering costs. Network adjustments should not be a 'digger's charter', and PIA customers must proactively drive down the incidence of unnecessary civils that Openreach has to carry out and pay for, in the same way that Openreach does for its own programmes.
- **The Network Adjustment validation process is key** – PIA customers need to take their share of the responsibility to minimise network adjustment requests. On our part, our processes need to be efficient/timely in approving valid adjustments, but also strict enough to prevent invalid or fraudulent orders. Openreach and PIA customers need to have a straightforward dispute resolution process to avoid all parties being drawn into wasteful disputes, and we are keen to work with customers to develop a 'competency' based framework to streamline this process.
- **Accurate and detailed forecasting is essential** – We will not be able to resource for large PIA customer's projects by geography unless customers commit and provide reasonable forecasts with sufficient lead-times. We do this ourselves when carrying out similar scale or regionally focussed projects.
- **Potential effect on the availability of civil engineering resource** – Linked to the forecasting point above (i.e. inaccurate forecasts in total and by geography will mean inaccurate resource provision in total and by geography). However, the civils resource available to Openreach will also depend on the overall demand for, and supply of, civils resource in the UK.
- **The capacity of Openreach's physical infrastructure** – Openreach ducts, poles and chambers are not designed or built to house multiple CPs' full fibre networks. Beyond a certain level of demand the existing physical infrastructure will not be able to be 'adjusted' to accommodate further CP equipment, and it is likely that 'new parallel infrastructure' will be required. Investors and stakeholders need to recognise this in their plans.
- **Efficient overhead final drop processes** – There is still significant work to do as an industry on determining best practice to enable multiple CP overhead drops.[49] For example, it is still not clear whether complete removal of copper connectivity on fully loaded poles is the most efficient way forward, and/or what removal would mean for copper regulation and potential CP customer/end-customer impacts (i.e. new copper connections would be more costly if Openreach copper is removed by a fibre provider). There are also new and innovative solutions which may offer CPs and Openreach better options (such as 'back to back' pole brackets) which could be adopted.

[48] We consider that further limitations or changes may be required in the longer term, for example the points we make on financial limits and application to leased line only PIA network adjustments under questions 6.1 and 6.2 below

[49] There is also an industry SoR related to these issues from CityFibre no. 8515 which is still be assessed in part.

- **SLA/SLGs and associated KPIs** – We need to agree pragmatic and proportionate approaches on SLA/SLGs and the agreed way forward with stakeholders. The 'bedding in period'[50] should be very helpful in this respect. We recognise that clear and unambiguous KPIs will be required to evidence non-discrimination, but we also need to be able to identify inefficient PIA customers which are generating large civil engineering bills, and enable corrective actions to be taken.

124. In our view, there is a lack of realism in some quarters of the industry group that they need to take the overall level of civils work they generate as seriously as Openreach does. Perhaps this is unsurprising given that the network adjustment regime means such activity is effectively free to PIA customers but very costly to Openreach. Openreach needs at a minimum to have strong financial and budgetary controls and authority over any costs incurred (per job and in total), and it should be expected that we will not accept requests or pay for invalid network amendments. We look to Ofcom to support us on this through the PIMR consultation process, so that we are able to protect Openreach operationally and financially (and the interests of its customers and end-users).

125. We consider that the more network adjustments that CPs are able to carry out and fund for themselves, and are incentivised to carry out, the better the outcome for both Openreach and CPs. We note that Ofcom also considered this as potentially the most effective means of deployment in the WLA market review.[51]

Additional cost and resource requirements imposed on Openreach

126. We disagree strongly with the Ofcom analysis in paragraphs A9.21 to A9.25. As we set out in detail in our WLA submissions, for any large scale project, a PIA customer would need to do much more than just provide a simple forecast to Openreach (paragraph A9.24(c)). To enable large civils activity to be supported, resources would need to be agreed, prioritised and planned jointly in advance with Openreach and its suppliers; that is unless the majority of the responsibility for carrying out and funding such works lay with the individual CP.

127. Both Openreach and civils contractors could face potential challenges of resource recruitment, training and allocation, plus sufficient funding would need to be in place for the designated deployment period. Even relatively small projects may have specific and unique requirements for a geographic area and resources may need to be obtained and/or reassigned depending on the nature of the project. Civil engineering suppliers would also need to carry out similar analysis and planning exercises, and any SLAs/SLGs required on build completion would need to be properly backed off with contractors, with one of the inevitable consequences being higher prices. For large scale projects, there would also need to be reasonable financial and contractual commitments by PIA customers to occupy the infrastructure.

128. In paragraph A9.34 Ofcom suggests that '*any adverse impacts*' on Openreach are justified by significant benefits to consumers in the long run from greater network competition. Our view is that this is a highly speculative assumption particularly if PIA customers are not appropriately incentivised to control the civils burden they place on Openreach. The operational reality is that there may be many potential negative impacts on other Openreach services, on the civils supply chain, as well as on Openreach's own personnel. It is not reasonable to take the view that the PIA network adjustment obligations are unconstrained. They need

[50] We are using the term 'bedding in period' to refer to a period after the new WLA PIA product is launched on 1 April 2019, where contractual SLGs are set to zero until a new industry agreed SLG scheme is implemented. Openreach is committed to working with the OTA to bring this to a conclusion as soon as possible.
[51] For example,see Ofcom's comments in paragraphs 6.134 to 6.138 of its 'WLA Market Review – Consultation on Duct and Pole Access remedies' published 20 April 2017

to be agreed in the context of Openreach's overall resource capabilities and its other obligations and responsibilities.

129. We would encourage more PIA customers to do their own civils work rather than seeking this as an input from Openreach. Openreach faces its own challenges with network deployments requiring civils, as there are so many local factors that are not under Openreach control or under the direct control of our contractors. These include such aspects as natural geography, obtaining wayleaves, street works regulations, and adverse weather to name just a few.

130. If there are elements of our processes which could be improved and over which Openreach has control we would be more than happy to work with PIA customers and Ofcom to improve performance on these aspects, but the default approach should not be to attribute these complexities to failings of Openreach.

Breaking in and out of Openreach's Physical Infrastructure

131. We fully agree with Ofcom's conclusions on this point. PIA customers are likely to deploy hybrid networks (i.e. Openreach plus one or more other infrastructures) using a mixture of Openreach's physical infrastructure and their own infrastructure. Therefore, to make effective use of Openreach's infrastructure, they will need to be able to break in and out of our infrastructure to connect with their own. In addition, the ability of PIA customers to overcome unusable sections of physical infrastructure depends on the ability to do this at appropriate points.

132. This industry requirement is provided for by the proposed obligation on Openreach to provide necessary ancillary services, but it is not a Network Adjustment. By definition it is outside Openreach's physical infrastructure footprint and is not required for the purpose of making Openreach's existing infrastructure ready for use, but rather to enable a PIA customer to deploy network into a hybrid physical infrastructure.

PIA specific requirements for the Reference Offer

133. We have a number of detailed points to raise in relation to the PIA specific requirements for the reference offer which are captured along with the general requirements by Condition 7 of the draft legal instrument. Please see Annex B at the end of this response where we have set out our comments on both aspects and proposed changes to the draft text.

Implementation Timeframe

134. Please see our comments in response to Question 4.1 above, where we set out reasons why we believe one month is not a sufficient period in which to implement potential PIMR related changes to the existing PIA reference offer.

Question 5.2: Do you agree with our assessment not to impose a dark fibre backstop remedy in this review period? Please set out your reasons and supporting evidence for your response.

135. We fully support Ofcom's assessment that it is not appropriate or proportionate at this time to include a PIMR requirement for dark fibre. As Ofcom notes in paragraphs 5.37 to 5.39, access to physical infrastructure is possible when there is space available, and as such, dark fibre provision would only be required where qualifying network adjustments are not possible and cannot release space for the PIA customer.

136. Hence, dark fibre provision would only be requested and only possible to provide, where spare optical fibre capacity exists as additional fibre could not be installed. Therefore, the number of instances when such a remedy would be required and available would be very limited.

137. We also note Ofcom's observations that only three EU countries, Portugal, Spain and Ireland, have imposed a dark fibre backstop type remedy, and that to date none of these countries has seen any significant take up of the product.

138. Notwithstanding the fact that we do not think such a proposal is required or proportionate at this stage, we do agree with Ofcom that should it become a possible requirement at a later date, then it would be open to CPs to utilise the Statement of Requirements (SoR) process (to the extent that such a request comprises a reasonable request for network access under the PIMR or a related condition). As Ofcom notes such an approach would allow any such product to be shaped by CP requirements and potential demand at the time it is required, avoiding the risk of an inappropriately specified and mandated product at this stage.

139. We also note Ofcom's analysis of Openreach's duct occupancy estimates indicated that there was space available in the majority of Openreach duct.[52] Therefore there is likely to be significant availability in the first instance, added to which Openreach is required to make necessary, feasible and efficient network adjustments to free up existing space. It is not then appropriate or proportionate at this time to include such a requirement within the PIMR proposals.

140. More generally, Openreach believes that uDPA will allow the market for dark fibre to evolve naturally and Ofcom should not look to impose any additional regulatory requirements to supply dark fibre alongside uDPA before the end of Ofcom's first five year IMR. Where dark fibre is commercially available as a product in the market place, the terms on which it is supplied will be a balance between a range of complex factors relevant to the supplier and the purchaser – e.g. ensuring efficient use of existing fibre strands and deployment of new electronics equipment by the purchaser; ensuring the supplier can fully recover the costs of assets in place and is not left exposed. It is therefore preferable to allow competitive dynamics around the supply of dark fibre to play out, driven by the availability of uDPA, rather than risk cutting across these complexities by introducing specific regulatory obligations.

Question 6.1: Do you agree with our proposed approach to the recovery of network adjustment costs? Please set out your reasons and supporting evidence for your response.

141. We have previously set out our position on the recovery of Network Adjustments costs for the PIA product as part of the WLA consultation process[53]. Broadly, we agree that Openreach will bear the upfront costs of Network Adjustments (up to the financial limit) where they are necessary, have clear and demonstrable benefits to the Openreach infrastructure and its customers, and which are subject to appropriate approval processes and financial controls. Also that Network Adjustments should only qualify for Openreach funding within the parameters and controls set out by Ofcom in its PIMR consultation (see paragraphs 5.43 to 5.73).[54]

[52] For example, see Ofcom's comments in paragraph 4.25.3 of its 'WLA Market Review – Consultation on Duct and Pole Access remedies' published 20 April 2017.
[53]. See Question 7.2 in the response to the April 2017 PIA consultation.
[54] And as summarised in response to Question 5.1 in the section headed 'Network Adjustments'. Also please see the points we have made under Question 5.1 regarding the status of current stakeholder discussions on the control processes around network adjustments.

142. We also agree that it is reasonable to construct a cost recovery framework whereby qualifying network adjustment costs (i.e. those that are potentially beneficial to the Openreach infrastructure and its customers) are pooled and shared across all users of the infrastructure in an appropriate way.

143. However, it is highly speculative to suggest, as Ofcom does in paragraph 6.8, that Openreach is guaranteed to recover such costs even if PIA customers businesses fail. Most importantly, failing businesses which might use up civil engineering resource and generate excess cash costs for Openreach and its customers is not a benign outcome, and secondly given that the asset life is often of the order of 40 years there is no real certainty in any meaningful sense that short term cash costs will ever be recovered in the long term. Further, there is an argument to suggest that lifting usage restrictions might even stimulate more short term (or risky) business models (i.e. no requirement to plan long term to invest in fibre broadband networks).

144. Therefore to the extent that the PIMR remedies may stimulate additional demand for network adjustments or shift the mix of those adjustments from a more balanced 'mixed usage' framework towards leased lines deployment, then the IMR consultation process will need to assess whether such costs are being fairly distributed and/or whether the remedy is actually supporting Ofcom's policy goal of large scale full-fibre deployment across the UK. Ofcom would be able to cross check both these aspects by using its information gathering powers to request the relevant deployment information from CPs which use the PIA product.

145. In conclusion, we also note Ofcom's comments in paragraph 6.9 that its network adjustment cost recovery proposals are intended to enable telecoms providers to *'face the same risk and cost profile'* as Openreach when it is facing an investment. We do not agree that the proposals achieve this. It is standard commercial practice that the key test for any potential investor is a detailed consideration of its discounted cash flows (DCF); and Ofcom's approach conflates cost accounting practice with DCF analysis. Openreach cannot just 'account away' its up-front cash costs. Businesses make investment decisions based on cash flows, and the network adjustment cost recovery proposals do not recognise this fundamental principle. Our views on this issue have been covered extensively in our previous submissions.[55]

146. Our comments on the scope and level of the financial limits are set out below in response to Question 6.2.

Question 6.2: Do you agree with our proposal regarding the level of the financial limit? Please set out your reasons and supporting evidence for your response.

147. We have previously set out our position on the level of the financial limit for Network Adjustments costs in our responses to the WLA consultation process.[56] We strongly supported Ofcom's logic to introduce financial limits, and therefore we support Ofcom's proposal that a financial limit should be set for PIMR network adjustments.

148. Despite this broad agreement, our view is that there are a number of issues related to the financial limit which will need to be considered more fully as part of the IMR consultation process. This is because the PIMR DPA/uDPA remedy is so closely linked to the existing WLA remedy. In our view:

- The financial limit was set too high for the current WLA remedy (and has now been proposed as the PIMR limit).

[55] See Footnote 37.
[56] See Footnote 37. See Question 4.1 in the response to the August 2017 PIA consultation.

- If, under uDPA, network adjustments are now to apply to stand-alone leased lines , then the financial limit set in the WLA of £4,750/km looks excessive for a leased line (according to Ofcom's own figures at paragraph 6.21). This should be reviewed as part of the DPA pricing review in 2021.
- Pole adjustments should also be included in the financial limit framework; and Ofcom could helpfully clarify the elements PIA customers would be responsible for funding (e.g. the costs of any new additional poles they require for their network build, which are not replacements for unusable poles).[57]

149. These concerns remain applicable for the newly proposed PIMR PIA product, and need to be considered as part of the IMR consultation process. We refer Ofcom to our previous analysis[58] but in summary Ofcom's WLA financial limit proposals had four problems as we saw them:

i) The baseline costs in the financial limit appeared to be built up from an inappropriate list of network adjustment activities, and these would need to be reviewed as part of the IMR.

ii) The estimated costs were then uplifted further which potentially exacerbated the overstatement, by taking the baseline costs and adding a mark-up to cover cost variations and then rounding up.

iii) Ofcom's intention that the mark-up should cover a range of costs above the average to take account of some variation of costs in different areas was understood, but there was no discussion or proposal of how excessive CP expenditure would be controlled[59] and prevented from driving up average network adjustment costs for Openreach towards the limit rather than driving costs down to an efficient level (i.e. normal business practice).

iv) The limits as set did nothing to help resolve the issues of unnecessary network adjustment requests. Even with use of financial limits, the correct contractual and procedural controls need to be put in place as part of the associated reference offer so that unnecessary and invalid network adjustments are not ordered or progressed in the first place.[60]

150. We also note for the record that Ofcom itself stated the limitations of its analysis in the August WLA consultation at paragraph 4.15 noting "it is not possible to estimate the incidence of all network adjustments with any degree of precision". This adds to our concern that the current financial limit is therefore at risk of not achieving Ofcom's own stated objectives, which were (i) to ensure greater certainty of upfront costs and possible negative impacts on Openreach and consumers; and (ii) to expose access seekers to costs on more expensive routes so that they will have an incentive to look for alternative approaches to optimise their deployments. We strongly agree with Ofcom's objectives and note the alignment with our own views.

151. Put simply, our concern is that by setting an artificially high limit, significantly above average costs, there is no incentive for PIA customers to maintain cost controls on network adjustments and operate efficiently. Ultimately, this means that Openreach's non-PIA customers would be required to cross-subsidise PIA users and part of Openreach's cash flow comes under the control of external parties with no incentives to drive down costs.

[57] The new additional poles are not 'network adjustments' for an unusable pole but new infrastructure.
[58] See Footnote 37. See Question 4.1 in our response to the August 2017 PIA consultation.
[59] For financial and cost control purposes the 'budget limit' would need to be based on something less than the Ofcom 'financial limit' as Ofcom's stated intention is that the limit should cover a 'typical or normal' range of network activities. It would not be consistent with this principle if the budget was based on the upper limit for 'free' adjustments.
[60] Although Ofcom's financial limit, if imposed, may include an allowance for the cost of repairing a duct that does not mean that any individual order for a repair is valid as suitable alternative routings may be available or the PIA customer may be able to deploy by an alternative method.

152. The proposed extension of the DPA remedy to be unrestricted in the PIMR further adds to these concerns.[61] In paragraph 6.21 Ofcom states that it estimates the average network adjustment cost for a leased line to be £2,400/km. As set out above, this has significant and potentially very detrimental implications for CP incentives.

153. In all likelihood, Ofcom's proposals, as set out in this and earlier consultations, are not rigorous enough to incentivise the correct behaviours, and therefore as part of the IMR process, Ofcom should consider an approach which does not set an excessively high limit in the first instance. It would be far less damaging to all involved to set a reasonable starting point, and if necessary correct upwards over time, than have to redress out of control costs and unnecessary civils works in retrospect.

154. We also note for the record that we did test the overall reasonableness of the financial limit in three different ways as part of the WLA consultation process[62]. All of these approaches indicated a lower limit was required:

- Firstly, after working through and adjusting Ofcom's calculations and methodology we reached a figure of £1,400 per kilometre.
- Secondly, we reviewed a small sample of infrastructure costs incurred on the PIA product. Very broadly this resulted in a cost estimate of between [✂] and [✂] per kilometre[63].
- Thirdly, we carried out a short analysis of analogous network adjustment costs for a major Openreach fibre programme which resulted in an estimate of approximately [✂] per kilometre[64].

Poles Adjustments

155. Our view is that Ofcom did not reach robust conclusions on the operational and financial impacts on Openreach of its WLA related pole adjustment proposals. This is particularly important given its proposals for pole adjustments were not subject to a financial limit. Therefore, we request that Ofcom gives further consideration to how best to place reasonable limits on the obligations related to overhead network adjustments. . In this respect, it would be helpful if Ofcom can clarify in the final PIMR statement that the pricing review planned ahead of 2021 will consider this issue.

156. More generally, Openreach has already considered many of these overhead deployment challenges as part of its future network plans. Openreach's investment programmes build on significant innovation in the standards and equipment being used, and the mix of technology (G.fast or FTTP) is selected on the basis of optimising coverage, cost and performance and efficient use of physical infrastructure. Therefore, in a situation:

- where there exists a technology, such as G.fast, which could be used to deliver an ultrafast service, and is efficient in its use of *existing* overhead physical infrastructure,
- but a CP chooses to deploy a technology which is potentially inefficient in its use of *existing* overhead capacity (for example full fibre),

[61] As noted in response to Question 5.1 the draft Reference Offer for the 'mixed-usage' variant of WLA PIA restricts the recovery of Network Adjustments to the primary use of PIA (that is, the roll-out of broadband networks) and we believe that, given our understanding that Ofcom's policy objective has not changed, this should remain the case for unrestricted PIA with PIA customers covering the full costs of network adjustments relating to standalone leased lines. We suggest a possible modification to Condition 6 of the legal instruments to reflect this in Annex B at the end of this response.
[62] Which we set out in detail in our response to Ofcom's August 2017 PIA consultation (Question 4.1).
[63] Note that this was based on costs incurred by Openreach and not any network adjustments that could have been undertaken directly by the CP.
[64] We recognised that we may not have mapped exactly to Ofcom's model, but again it was indicative of the Ofcom limit being overstated.

- then it is very difficult to see why there would not be a case for the CP facing, at least in part, some of the network adjustment costs it generates, plus the full cost of any new additional overhead infrastructure it requires.

157. There is immense detail to be considered on multi-CP pole access and this is the subject of continued PIWG discussion and industry SoRs. At this point the proposed PIMR changes may not have a major impact in the next control period but we do need to consider these concerns in more detail as part of the lead up to the new regulatory framework for April 2021.

158. For completeness, we also note the point we make in Section 1 of this response that Openreach is assuming that it would be required (if confirmed by Ofcom) to provide unrestricted access to its physical infrastructure (and any related activities such as network adjustments) only as needed to address any market power in downstream wholesale *fixed access* markets and associated retail markets. This would be consistent with the economic underpinning for Ofcom's intervention and its policy objective of encouraging *fibre network* build. It would be helpful if Ofcom could confirm this to be the case.

Question 6.3: Do you agree with our proposed approach to the recovery of productisation costs? Please set out your reasons and supporting evidence for your response.

159. We set out our position on the recovery of productisation costs for the PIA product as part of the WLA consultation process[65]. To the extent that the PIMR remedy is likely to increase demand for PIA, network adjustments, SLA/SLG calculations and more complex and costly PIA systems then these issues need to be considered as part of the IMR consultation which will set the longer term framework for PIA from 2021.

160. Broadly, our view is that efficient investment decisions should be based on the merits of the case including forward-looking judgements on prospective revenues and the consequential costs generated, amongst other things. This is the case when Openreach makes systems development decisions for its own operational purposes. We have to face the full up-front costs, and assess benefits, resource implications and the priority of any investment decision. In Ofcom's proposal, PIA customers have no direct incentive to be efficient in their PIA systems requirements.

161. We do however welcome Ofcom's overall approach on future systems developments,[66] namely that they should be taken forward by industry and Openreach through the Passive Industry Working Group. Systems developments can then be aligned with PIA customers' priorities and in parallel with the development of the PIA product whether WLA or PIMR related.

162. Investments in systems will need to be proportionate to the scale of actual demand and the potential efficiencies to be achieved, and any future proposals (and/or those contained in the Mott MacDonald report[67]) will need to be carefully considered and prioritised by the industry group and in-line with known/committed demand. We have no objection to considering further developments as long as they are justified, proportionate and that PIA customers have demonstrated their use of the newly enhanced systems and processes at scale.

[65] See Footnote 37.
[66] Which is set out in Ofcom's final WLA statement published on 28 March 2018.
[67] We included initial comments on the Mott MacDonald report at Annex B of our response to the April 2017 consultation: https://www.ofcom.org.uk/__data/assets/pdf_file/0017/104714/Openreach.pdf

163. We also note that we have already demonstrated our ability and willingness to deliver efficient and flexible systems developments for the PIA product. The Digital Maps system was built separately from Openreach's PIPeR system by utilising alternative systems functionality to minimise development costs, increase design flexibility and enable rapid deployment. These were also carried out prior to formal obligations being placed on Openreach.

164. In the light of Ofcom's proposals for the PIMR, and to the extent that any additional productisation costs are incurred, we would expect to be able to fully recover these costs from PIA customers and/or through Ofcom's proposed pricing approach. Such mechanisms should be given due consideration in the forthcoming IMR pricing review.

4. Cost recovery and pricing

7.1 Do you agree with our proposed approach to the regulation of PIA charges?

165. In Chapter 7, Ofcom proposes to regulate maximum prices for PIA services at the levels set out in the March 2018 WLA Statement, adjusted by CPI inflation for 2018/19. Ofcom accepts that there will be incremental increases in PIA volumes in the period to April 2021 as a result of the proposed removal of usage restrictions. However, Ofcom believes these higher volumes would have an immaterial impact on the WLA forecast of the costs of network adjustments and productisation costs during this period. Ofcom is therefore of the view that the maximum charges established for mixed usage PIA in the 2018 WLA Statement would still support full cost recovery from April 2019 if usage restrictions were lifted, as proposed.

166. As of today, the costs of our physical infrastructure assets are recovered from our provision of active services. The costs of physical infrastructure assets are attributed to services within our regulatory accounts and, where active services are charge controlled, these attributed costs will be included within Ofcom's modelling of the forecast costs of supply of those services. Where active services are not charge controlled – for instance, in effectively competitive markets – prices will still need to be set at levels that support full recovery of physical infrastructure costs.

167. We currently have a fairly detailed pricing structure for PIA services with, for instance, different per metre prices for different duct types (lead-ins, single-bore, dual-bore and multi-bore), entry to junction boxes and manholes and various prices for using Openreach poles. Price levels have been set by reference to derived unit costs[68] based around a combination of current utilisation of assets in support of Openreach active services and assumptions about how different physical infrastructure assets might be shared in the future. For instance:

- prices for accessing 25mm sub ducts within multi-bore spine ducts are based on our current occupancy of those duct types (expressed in 25mm sub duct equivalents);
- prices for accessing 25mm sub ducts within single-bore spine ducts are based on an assumption that two CPs will share access to these ducts;
- prices for accessing lead-in ducts are based on an assumption that only one CP would be supplying active services in such ducts; and
- prices for facilities up poles are based on assumptions about the future average number of active lines that will be supported on each pole.

168. Ofcom's intention must be to establish prices that, if paid by all users of the physical passive infrastructure including Openreach, are expected to recover the costs of making the relevant assets available for use – i.e. if considered on a stand-alone basis, the passive part of the Openreach business would earn a fair return on PIA assets and supporting ongoing investment in the assets such that the infrastructure network is capable of meeting demand. However, the extent to which the maximum price levels proposed will fully support cost recovery for our infrastructure access assets is sensitive to:

[68] Including a return on asset values, depreciation, maintenance costs and attribution of overheads.

- The number of network investors actually sharing the different types of PIA services: e.g. how many network providers will seek to access our multi-bore ducts in building networks; and

- The volume of each PIA services they purchase – e.g. metres of sub duct, number of 25mm sub ducts in each duct type, pole attachments, etc – to support provision of active services over the networks they build.

169. There are various dynamics that may play out here in terms of use of our passive infrastructure network and the nature and pace of alternative network build– e.g. the extent to which we will see scale multi-functional full fibre network build versus more targeted use of uDPA to provide high value business connectivity services. Furthermore, our own use of the physical infrastructure will change over time as we replace copper connections with full fibre. Many scenarios are possible.

170. If actual consumption of our PIA services from own use and new network providers and is lower than that required to support cost recovery at the passive level – i.e. lower than the data used on occupancy and assumed number of networks sharing assets in deriving the PIA prices – then for overall cost recovery we would need to attempt to make up the shortfall from revenues from our active services. But this would create an unlevel competitive playing field as the Openreach active network would effectively be paying/imputing higher charges than other network providers sharing our infrastructure assets. Given that network providers using PIA will be aiming to gain a significant share of active revenues and placing downward pressure on active prices, this may then become unsustainable – i.e. we will be unable to maintain active prices at levels that can support the revenues needed to make up any shortfall in cost recovery at the passive level.

171. The approach to setting maximum PIA prices in the 2018 WLA and in this market review therefore raises significant concerns about cost recovery. Openreach cannot be in a position where we have to provide access to our passive infrastructure on terms that will not support cost recovery on long lived assets.

172. We note that in this market review Ofcom would only be setting regulated price ceilings for PIA charges for a 2-year period from April 2019 to March 2021. During this period, although PIA volumes will grow rapidly, they are still likely to be at relatively modest levels. As such, the materiality of 'errors' in the assumptions used to set maximum prices and the risk of overall under-recovery is likely to be small. The vast majority of PIA asset costs would continue to be recovered via charges for Openreach active services in the same way they are today and contributions from new PIA users in the period for March 2021 would be small.

173. However, we are concerned that the price structure and price levels in place today may be broadly retained over the longer term. While Ofcom signals the need to review pricing in 2021, reference is also made to the need to provide longer term certainty to potential network investors as they consider where and how to use our physical infrastructure. Given that long term cost recovery is sensitive to the way the factors highlighted above play out over the next decade and beyond, it is critical that a full and thorough review of PIA pricing is conducted as part of the IMR that will conclude in 2021.

174. At a minimum this would need to reassess forecast costs and usage assumptions – regulated prices should always be set on a reasonable expectation that they would support efficient cost recovery during the period under review. But the IMR pricing review should also consider the risks to cost recovery that could arise under the various market scenarios if the current pricing approach was simply updated with fresh assumptions. Given the scale of uncertainty about how the market will develop, Ofcom should assess options for eliminating or mitigating those risks through the design of any pricing controls and/or the way they are applied. In the long run, full cost recovery on our physical infrastructure assets will be threatened if the share

of costs paid by individual network operators using the assets diverges from the share of total value those operators can drive from the assets – i.e. in supplying active services over their networks. Ofcom should therefore give full consideration to a pricing approach based on the share of active market value driven by network providers sharing the assets.

175. We also believe there is scope to simplify/rationalise the current pricing structure without compromising efficient use of the various assets and will be looking to make proposals ahead of 2021. This could have benefits for financial reporting of DPA usage internally and externally and hence for transparency.

176. In its Final Statement on the PIMR, Ofcom should be clear about its position on these issues. Ofcom should be clear about the extent of the pricing review planned ahead of 2021 and set out clear principles for how it will approach the review. Specifically, we would like to see statements confirming that any price levels/structures for PIA set beyond 2021 will always be designed to (a) provide a fair opportunity for Openreach to recover efficient costs of maintaining a set on physical infrastructure assets that can be shared by network providers and (b) ensure a level playing field for the provision of all active services between network providers. Ofcom should be clear that this would require:

- Agreement about the starting value of PIA assets in place today and the allocation of asset values between the different elements sold (which may change following any simplification of structures)
- A reasonable forecast of additional investments required to support shared access over the period of each subsequent pricing review (expected to be five years). This would include the productisation and network adjustment costs. Given the level of uncertainty, Ofcom could consider explicit triggers to ensure that Openreach is not be left exposed to forecast errors on these amounts given that forecasts will be made with limited experience.
- A commitment to ensuring prices are set in way that shares cost recovery fairly across users of the assets and acknowledgement that, in the longer-term, the level of contribution made by each network sharing the assets reflects the share of value of active services that those networks are driving from the PIA assets.

5. Regulatory Financial Reporting

177. Ofcom proposes the imposition of accounting separation and cost accounting obligations on BT in respect of the Physical Infrastructure markets in the Consultation (in paras 4.95 to 4.116). It sets out the details of the obligations in a separate consultation document "BT Regulatory Financial Reporting" dated 4 December 2018.

178. Ofcom notes that the imposition of an accounting separation obligation is "required to monitor the overall impact and effectiveness of the remedies proposed, and especially to monitor BT's activities with regard to its proposed non-discrimination obligation. The proposed obligation is also necessary to support transparency by providing a greater detail of information on the relevant market than that derived from BT's statutory financial statements and give visibility, and thus reassurance, to stakeholders that BT has complied with its SMP conditions"[69] while a cost accounting obligation supports this "by ensuring that the rules attributing revenues and costs to individual markets and services are fair, objective and transparent. "[70]

179. We agree that the imposition of these remedies would be consistent with the other remedies proposed for this market, in particular the imposition of price controls and non-discrimination obligations, and its imposition in that context would meet Ofcom's objectives above.

180. Concerning the proposed details of these obligations, BT Group's response to the separate consultation supports Ofcom's proposals in the following areas:

- To report PIA results on a national basis
- To provide certain disclosures concerning network adjustments
- To provide certain service level information
- To report DPA as a single network component
- To attribute cumulo costs to active service markets, not to PIA

181. However, we do not consider it would be useful for stakeholders if we were to introduce detailed cost reporting on the basis of existing price structure for the year 2020-21 because we expect the pricing approach to DPA is likely to change following the IMR. We therefore recommend that we should continue reporting in the summarised way Ofcom propose for 2019-20 with detailed reporting delayed until 2021-22 so that it can be aligned with the final pricing structure. In the intermediate period we would we pleased to work with Ofcom in providing appropriate information to inform the review of the pricing structure.

182. We explain under our answer to Q4.1, our reasons for asking Ofcom to confirm that Openreach's 'Fibre First' towns and cities programmes would be the pragmatic benchmark for our No Undue Discrimination obligations. It would be in the interests of all stakeholders for any NUD reporting in the Regulatory Financial Statements to be applied on the same basis as Ofcom's final guidance on this point.

183. We concur with BT Group's comments on the detailed reporting proposals for the PI Market, as set out in section 4 of its response to the reporting consultation.

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[69] PIMR consultation, para 4.104
[70] PIMR consultation, para 4.109

Annex B: Comments on PIMR Annex 10 – Draft Legal Instruments

Please see our comments on each individual condition. Where appropriate, we have also suggested revised wording for the SMP conditions. Our comments on the legal instruments related to regulatory financial reporting are included in Section 5 of this response, and please also see BT's response to Ofcom's consultation 'BT Regulatory Financial Reporting' which was submitted to Ofcom on 18 January 2019.

Condition	Openreach Comment note 1
Part 2 Interpretation 1(l) 'Physical Infrastructure Access'	We suggest that the definition is amended as follows: "**Physical Infrastructure Access**" means network access comprising predominantly of the provision of space, anchorage, attachment facilities and/or such other facilities as may be reasonably necessary to permit a Third Party to occupy the **fixed components** of the Dominant Provider's Physical Infrastructure sufficient to facilitate the establishment, installation, operation and maintenance of the **fixed** electronic communications network of a Third Party at that location
2	The implications of this relatively simple condition are immense for Openreach affecting the definition of the PIMR PIA product, the PIMR PIA reference offer, the cost and demand for network adjustments etc. It also impacts Conditions 6 and 7. We have made significant comments on these matters in the relevant headed sections of Questions 4.1 to 6.3. In particular please our response to Question 5.1.
4	This condition may have significant operational and commercial impacts for Openreach and its customers, therefore please see our response to Question 4.1. We also propose that the primary focus of the No Undue Discrimination condition on Openreach's 'Fibre First' towns and cities programmes could be clarified by the addition of a further condition (e.g. Condition 4.4) *'4.4 This Condition shall only apply to the provision of Physical Infrastructure Access including such PIA Ancillary Services as may be reasonably necessary for use of Physical Infrastructure Access where the activity carried on by the Dominant Provider is the building and construction of new fibre to the premises services'*
5	Please see our response to Question 7.1.
6	Please see our response to Question 7.1. Additionally, please note we have written to Ofcom separately regarding some detailed PIA price and product changes (including product withdrawals) that we are proposing[71]. These are likely to have an impact on the services listed under Condition 6 and the associated annexes. We request that Ofcom carry out a review with Openreach of the services listed to ensure alignment with the latest industry discussions and agreements regarding implementation of the new WLA PIA reference offer (effective from 1 April 2019). We would be pleased to discuss these points further with Ofcom prior to completion of the PIMR consultation process.
6.6	The definition of what constitutes a **'PIA Order'** and how this interacts with the application

[71] Mike Hoban's email to Brice Le Cannu dated 21 December 2019.

	of the financial limit of £4750 per kilometre is currently the subject of detailed industry discussions leading up to the new PIA reference offer due to implemented on 1 April 2019. It is likely that this will result in a different set of definitions being required to those proposed in the draft legal instrument for the PIMR. We would be pleased to discuss further with Ofcom prior to a draft or final PIMR statement being issued.
6.11(c)	We suggest that the definition of **"PIA Adjustment Services"** is at minimum amended to be in line with Ofcom's guidance in the consultation at paragraphs 5.42 to 5.75 (i.e. that a valid 'PIA Adjustment Service' order would need to be necessary, feasible and efficient (5.54) but also within Openreach's existing physical infrastructure footprint and permanent (5.56). Ofcom also set out guidance that such adjustments should not be expected to 'resemble construction of new parallel physical infrastructure' (5.56), for example large amounts of new capacity or long lengths or new duct.
6.11(e)	We suggest that the definition of **"PIA Pole Adjustment Service"** is also amended to reflect Ofcom's guidance as identified in response to 6.11(c) set out above.
6.11(f)	As noted above under 6.6 the definition of what constitutes an order and how it relates to the financial limit is currently the subject of detailed industry discussions, and may therefore change the way it is defined within the contract/reference offer.
Annexes to Condition 6 Parts 1 and 2	As noted above, we have written to Ofcom separately regarding some detailed PIA price and product changes (including product withdrawals) that we are proposing[72]. These are likely to have an impact on the services listed under Condition 6 and the associated annexes. We request that Ofcom carry out a review with Openreach of the services listed to ensure alignment with the latest industry discussions and agreements regarding implementation of the new WLA PIA reference offer (effective from 1 April 2019). We would be pleased to discuss these points further with Ofcom prior to completion of the PIMR consultation process. For the avoidance of doubt, we note that there are a number of items currently on the PIA price list (e.g. Operative Accreditation) that are not included in the Annexes to condition 6, and we presume that this means Openreach are able to charge for these items as incurred and that they would not count towards the threshold limit. We believe that this is the correct approach as these items are all discretionary items that a CP may choose to order, but are not required in order to deliver a network adjustment. We strongly disagree with the inclusion of a new pole in the Annex Part 2 list on the basis putting up a new pole is extending our current network footprint and should not be construed as providing additional capacity. In relation to the inclusion of "Retention, Refix and Renewal of drop wire" in this list, we note that Ofcom itself has acknowledged that its previous dropwire proposals represented "a new form of network access"[73]. Similarly, we consider swapping out a drop wire does not represent access to existing Openreach duct or pole infrastructure but rather forms part of the construction of a new FTTP network. We think further clarity could be added here, by clarifying that we would only be required to fund the costs where the 'retention,

[72] Mike Hoban's email to Brice Le Cannu dated 21 December 2019.
[73] See Ofcom's comments in paragraph 6.152 of its 'WLA Market Review – Consultation on Duct and Pole Access remedies' published 20 April 2017.

	refix or renewal' of a drop wire is required in order to provide capacity or replace an unusable pole, in accordance with Condition 6.11(e) as amended, in accordance with our suggestions above.
7	This includes comments on both the general requirements for a reference offer as well as the specific requirements set out for PIA. • The substance and content of the new PIA Reference Offer is currently the subject of detailed industry discussions leading up to the new PIA reference offer due to be implemented on 1 April 2019. It is likely that this will result in a changes to selected definitions to those proposed in the draft legal instrument for the PIMR. We would be pleased to discuss further with Ofcom prior to a draft or final PIMR statement being issued. • We are unclear whether Ofcom require Openreach to publish four PIMR reference offers (i.e. one for each PI market) or whether a single PIMR reference offer applicable to all four markets is sufficient to meet the condition. Our intention would be to publish a single PIMR RO to meet the condition. However we would be happy to discuss further with Ofcom if this is not what was intended. • Also, the PIMR internal reference offer (IRO) draft condition[74] referred to in paragraph 4.60(g) is highly dependent on the existing WLA IRO condition[75] which is currently the subject of discussion with Ofcom. Therefore we have a number of further comments to make which are captured in the section headed 'Internal Reference Offer (IRO)' in response to Question 4.1. • We are unclear why Ofcom has added additional conditions 7.3 (l) parts (iv) and (v) specifically related to poles. We are currently working with the OTA and our PIA customers on specifying network adjustment processes (including the requirements for, and feasibility of response and completion SLA/SLGs. Given the complexities in this area we request that Ofcom is not as prescriptive as set out in draft Condition 7.3(l), but takes account of the final industry agreed arrangements for the new WLA PIA reference offer effective from 1 April 2019.
7.4	The substance and content of the internal reference offer (IRO) for the existing PIA product is currently the subject of discussion with Ofcom, but we are due to publish by 1 April 2019. It is unclear at this stage how it would be impacted by Ofcom PIMR proposals, but we understand that Ofcom's intention is that it should remain broadly similar and focussed on full-fibre as the primary benchmark. Therefore, we propose that as the primary focus of the No Undue Discrimination condition is on Openreach's 'Fibre First' towns and cities programmes then the IRO condition could be clarified by the addition of a further condition (e.g. Condition 7.4(c)) *'7.4(c) This Condition shall only apply to the provision of Physical Infrastructure Access including such PIA Ancillary Services as may be reasonably necessary for use of Physical Infrastructure Access where the activity carried on by the Dominant Provider is the building and construction of new fibre to the premises services'*

[74] PIMR (published 2 November 2018) - Annex 10: Draft Condition 7.4
[75] WLA Final Statement (published 28 March 2018) - Annex 33: Condition 8.6

8	This looks to be based on Ofcom's standard regulatory approach to notification, however we require clarification for the PIA product regarding draft condition 8.7 (which is linked to draft condition 7.4) and relates to notification on internally provided services. We are unable to understand how Condition 8.7 could be applied in any meaningful sense to Openreach's own use of its physical infrastructure as it is not ordered, priced or utilised in the same way as an external party would order PIA (i.e. it is not an EoI service). We would be pleased to discuss further with Ofcom prior to a draft or final PIMR statement being issued. We also note for Ofcom's information that the draft text for Condition 8.3 appears to contain an error referring to 'Condition 9.2' whereas Ofcom appears to intend to refer to 'Condition 8.2'.
10	We have no detailed comments to make on this Condition at this time but would be please to discuss with Ofcom should any such intervention be considered.
11	This interpretation of this condition in terms of cost accounting, accounting separation and regulatory reporting obligations may have significant operational and commercial impacts for Openreach and we have a number of comments to make. Please see our comments on Regulatory Financial Reporting in Section 5 of this response. We also note for Ofcom's information that there appears to be an error on page 221 where Condition '12.37' appears to be incorrectly numbered.

Note 1: Where we have proposed amendments to the legal instrument, our proposals should not be interpreted as agreement with the PIMR condition. We reserve our right to make further comments on any proposed legal instrument should Ofcom issue further PIMR related consultations or draft statements.