

Introduction and summary

We fully support Ofcom's intention to create a viable and effective DPA/PIA remedy. The absence of such a remedy is starkly at odds with regulatory practice in other major European markets that in consequence are further ahead on the road to competitive fibre infrastructure roll-out than the UK.

A viable and effective DPA/PIA remedy will contribute directly to CityFibre's ambitious plans for fibre rollout, which in turn contribute directly to the achievement of Ofcom's market objectives set out in the Digital Communications Review.

The basic architecture of Ofcom's proposals is sound. Ofcom has correctly identified that the key determinants of whether DPA/PIA will be used in scale are the nature and extent of process improvements, the removal of artificial usage restrictions and fair pricing.

DPA/PIA is not a panacea remedy, but it can make an important material difference to the rate and extent of competitive fibre network rollout. [X Confidential] As an adjunct to, rather than a replacement for, end-to-end infrastructure build it is important that Ofcom strikes the right balance to ensure the right 'build/buy' signals for OCPs.

We note the natural limits on the application of the equivalence principle to a product which BT does not currently consume, but welcome the proposal to apply EoI where BT and OCPs are in the same starting position – namely, where BT undertakes new network build activities. Nonetheless, there will be natural limits on how far equivalence can be expected to create internal incentives on BT to develop efficient processes and equitable pricing. It is right that this is recognised in terms of specific, granular regulatory requirements in these areas.

Ofcom may find it useful to think about its remedies as falling into two distinct forms: those that make DPA/PIA useable in the short term, and hence contribute to near-term network rollout by OCPs; and those that provide the right incentives for longer term network improvement and development, both by Openreach and other market participants. Remedies need to strike the right balance between removing obvious barriers to deployment and clearly unfair allocative decisions that penalise OCPs, without distorting OCPs 'make or buy' decisions or harming BT's own incentives to improve and where necessary overbuild its network.

We strongly endorse the principle that artificial usage restrictions should be removed. This is critical if OCP fibre rollout is not to be unduly frustrated. We regard the risk that DPA/PIA used in scale will have destabilising effects on BT's business model and hence on its ability to cover its costs as substantially overstated. The worst case scenario identified by Ofcom suggests a total 'cost' to BT of £80m, which would be dwarfed by the scale of benefits (including dynamic benefits) generated by large scale FTTP roll-out. If Ofcom remains concerned about the arbitrage risk, it should further examine possible pricing approaches that would mitigate that risk.

If Ofcom were to introduce some form of usage gating mechanism, to design a practical rule that can be applied will be challenging and will need to be carefully tested against the practical realities of commercial deployment. For example, if an OCP could only use DPA/PIA where it *already* has rolled out FTTP, this would be entirely inconsistent with our own business model where we secure 'anchor tenants' for rollout of network in a given geographic area. These anchor tenants can include large businesses, public bodies (including schools and hospitals), smart city applications and,

potentially, mobile networks, including the small cell infrastructure required to support 5G roll-out. A network built to address these market segments is then a natural jumping off point for a progressive roll-out of FTTP. But, critically, the build sequence is highly unlikely to be reversed: CityFibre would not speculatively build an FTTP network in the hope of subsequently securing incremental contracts from the market segments identified above.

At a practical level, a regulatory rule that relies on OCPs declaring upfront their planned uses of DPA/PIA founders on OCPs' deep reluctance to share such information with Openreach given its commercial sensitivity, and on the difficulty of remedial enforcement action by Openreach.

On balance we conclude that a continued usage limitation is undesirable and probably unnecessary, but more importantly we can at present see no way to introduce an enforcement mechanism which is robust and enforceable but nonetheless strikes the regulatory balance that Ofcom is seeking to achieve.

There *is* a legitimate concern that where duct capacity is scarce, unrestricted use could lead to sub-optimal allocation of that scarce capacity. There may be ways to address this through pricing and entitlement rules that also have the effect of addressing the perceived (though to repeat, in our view over-stated) arbitrage risk.

On DPA/PIA process, improvements in planning and surveying, ordering and provisioning and relaxation of cable jointing restrictions are all welcome.

Requirements in relation to Openreach addressing restrictions on duct capacity need to be carefully calibrated. On the one hand, there is of course a strong argument for requiring Openreach to remove blockages or artificial capacity constraints caused by, for example, redundant metallic path infrastructure being present in a duct. On the other hand, it is important not to distort 'build/buy' decisions by making it always vastly more attractive to force Openreach to overbuild rather than for an OCP to self-build, particularly for long network runs or straightforwardly replicable customer connections (e.g. to business parks). This is an area where the need to remove short term impediments to network build on the one hand, and creating the right long-term incentives to Openreach and OCPs to build new network on the other, need to be carefully balanced.

On overhead lead-ins, we welcome Ofcom's focus on this as it is a critical aspect as far as FTTP deployment is concerned. We propose a different approach to that suggested by Ofcom, though intended to achieve the same result.

One highly substantive issue that receives only cursory examination in the document is the question of entitlement for OCP staff/contractors to work on or within the Openreach network. The current position is that there is a complex and often contradictory set of requirements for accreditation, the net effect of which is already creating a bottleneck which will become a fundamental block on deployment once OCPs move into using DPA/PIA in scale. Moreover, what we see is that these accreditation requirements are often applied in what is a de facto discriminatory fashion between OCPs and BT itself. A solution to this, which may fall outside of Ofcom's direct regulatory remit, would be to work towards a recognised industry-wide accreditation standard to be overseen by recognised assessment bodies. In the short run, Openreach should be encouraged to remove

obviously discriminatory treatment of OCP and BT engineering staff and focus its restrictions on those elements of PIA which are genuinely service or safety critical.

However diligent the Ofcom regulatory process is at the outset, it is inevitable that the scaled-up use of DPA/PIA will lead to ongoing technical and process issues, and potential conflicts between Openreach and OCPs. As DPA/PIA becomes successful, it is also the case that the boundary will blur between the role of Openreach and the role of OCPs deploying their own mix of civil infrastructure and passive network components. The potential for OCPs' own ducts and poles to be subject to access requests under the ATI Regulations adds a further complication. Ofcom should consider whether it is worth building on the goodwill that has been generated in the existing PIA working group by setting up some semi-permanent supporting structures to help manage access to ducts and poles. This might be achieved through creating a body similar to the Equality of Access Office that Ofcom put in place to manage the equivalent transition to scale use of LLU in 2005/06.

On pricing, our starting point is that current rental charge levels are not an impediment to the use of DPA/PIA. We agree that they are in line with international comparisons. Indeed, our concern in some ways is that if pricing for DPA/PIA is pushed too far down, it will create perverse incentives, particularly around OCPs' 'build or buy' decisions. A safeguard charge control seems to us to strike the right balance between the various objectives that Ofcom has identified with regards to the levels of charges. More important, however, for CityFibre is a degree of certainty and predictability around future pricing evolution. CityFibre has found that the different charging levels for the use of different types of ducts combined with the inaccuracy of BT's network mapping information causes difficulty in accurately budgeting the network costs where access to BT ducts is used. Ofcom should consider whether the charging structure can be simplified.

A further impediment to the large-scale use of DPA/PIA is the uncertainty and unpredictability caused by ancillary charges for a range of Openreach supporting functions and activities. We welcome Ofcom's proposals to mitigate this problem by requiring some ancillary charges to be borne as a general cost attributed to all users of duct and pole infrastructure (for the avoidance of doubt, this should include BT), but consider that this needs further clarity before we can comment more conclusively. It is not clear whether Ofcom is proposing that some of these should be incorporated into the rental charges or remain separate charges and, if not, how the ancillary costs can be spread across all users of the infrastructure including BT. In any event, it will still be necessary to allow Openreach to recover an incremental fee for some ancillary activities, to ensure that OCPs make use of these ancillary activities in an efficient manner. Ancillary charges should also be the subject of further, developed guidance on charging principles.

Question 3.1: Do you agree with our aim of ensuring that other telecoms providers are not at a material disadvantage compared to BT's own internal consumption of duct and pole access?

Yes, for the reasons set out in the consultation.

Question 3.2: Do you agree with our approach to focus on two main areas of equivalence, processes and costs?

Yes, we think these are the critical issues in determining whether DPA/PIA can become an effective and scalable remedy.

Question 3.3: Do you agree that when BT installs ultrafast broadband services itself at scale it should use the same processes and systems as those used by other telecoms providers that consume PIA as far as is practicable?

Yes. We accept that it is not practicable to create an Eol regime that is retrospectively applied to pre-existing architectures. Whilst this would be the best guarantee of non-discriminatory and efficient provision of DPA/PIA, the time and effort it would take to force BT to redesign its own internal processes needs to be traded off against the time that would elapse before a workable remedy was in place. Although it will take several years for a critical mass of FTTP to be deployed across the UK, DPA/PIA will potentially be important at the earliest phase of rollout and therefore a remedy which itself is not in place by 2018 is of little practical benefit to our own network deployment plans.

However, we see no reason at all why BT should not use the same processes and systems itself where it is building new network infrastructure, such as new ultrafast services. On a definitional point, we understand Ofcom's expectation on this point to cover both future FTTP and planned G.fast rollout (paragraph 3.10). This is of critical importance given that our strong expectation is that G.fast rollout will occur on the same timescale as and be a competitive response to OCP FTTP deployment. Hence, an equivalent regime for both will be critical.

In relation specifically to the recovery of costs, we agree with the principle set out in the document (paragraph 3.16), although with one important proviso. This principle should, not be applied to requests for construction of new duct. If the costs of new duct construction were to be averaged out into the general rental charges, then this would likely encourage economically inefficient behaviour as OCPs causing such substantial costs to be incurred would bear no specific consequence of that request. The inclusion of new build costs in the rental charges would also cause a significant distortion of make or buy signals for OCPs, encouraging complete dependence on BT Openreach and causing those OCPs which build their own civil infrastructure where BT's is not available to cross-subsidise those which simply wait for BT to do so.

CityFibre considers that OCPs requesting BT to construct new civil infrastructure should be charged the equivalent of an 'excess construction charge' (ECC) representing the full capital cost. To achieve equivalence between BT and OCPs, BT should also be charged the full costs of any new duct construction it causes Openreach to construct. Further, to avoid over-recovery by BT, the ECC should be offset against BT's overall duct and pole costs. For costs incurred in making Openreach's existing duct and pole infrastructure suitable for third party access or general repairs, CityFibre fully agrees with Ofcom's cost recovery principle.

In general, requiring Openreach to allocate costs that contribute to the delivery of multiple different downstream services pro rata to all those services seems an equitable approach. Nonetheless, the principle of cost-causation may mean that some costs need to be directly attributable to the party that causes those costs to be concerned, not least to encourage cost minimisation. Over time therefore it might make sense to encourage BT to develop some form of cross-charging for internal processes so that BT business units that cause costs to be incurred themselves face the appropriate incentives to minimise those costs. The same pragmatic argument as noted above applies though – making the introduction of a fit for purpose DPA/PIA remedy dependent on BT re-engineering its internal processes (in this case to make cross-charging for event-specific cost incursion) seems unlikely to lead to timely introduction of that remedy.

Question 4.1: Do you agree with our assessment that broadening the uses of the PIA remedy could allow telecoms providers to design their networks flexibly, respond better to changes in consumer demand and provide innovative services?

Yes. This is a point we have made extensively in the past to Ofcom and we are heartened to see it recognised in this document.

The availability of DPA/PIA is an adjunct to the design and development of a ‘well planned city’ architecture. It is highly unlikely that a fibre rollout in such a city would involve complete use of existing Openreach passive infrastructure but DPA/PIA would reduce the capital costs of building new passive infrastructure [X Confidential]. However, importantly when considering this specific question, such a cost reduction estimate relies on our being able to use DPA/PIA at the outset of a well-planned city build programme, when the customers who come onto the network will be businesses, public sector users, and (potentially) mobile operators building 5G infrastructure.

Openreach’s historical network architecture was developed over time to meet quite distinct customer needs from those of today’s market. In particular, the networks that BT has built to provide mass market connectivity on the one hand (broadly, the market covered by the WLAMR) and point to point high capacity connectivity on the other (broadly, the market covered by the BCMR) are to some extent physically and often geographically distinct. We agree with Ofcom that in a fibre optic network, capacity is substantially more ‘fungible’ and can readily serve different categories of customers and point to point as well as point to multipoint architectures. It is also the case, and indeed there is some interesting preliminary evidence from the York FTTP trial, that there will be increased substitutability of products currently thought of as point to point and sitting within the BCM, and point to multipoint and sitting within the WLAM. [X Confidential]

From our perspective, were the existing restriction to be maintained, it would substantially restrict the applicability of DPA as a remedy. To make the obvious point, as we roll out our network for all categories of customers, it makes no sense to make use of DPA for only a sub-set of those customers.

Question 4.2: Do you agree with our definition of economies of scope? Do you agree with our overall assessment on the economies of scope and their likely sources?

Yes.

Although BTOR’s point to point and mass market access architectures remain largely distinct, there are, nonetheless, some shared costs and BT therefore enjoys economies of scope particularly where passive infrastructure such as ducts is used to provide connectivity serving both markets.

If duct and pole access are to offer a viable and effective remedy, OCPs competing with BT must be able to at least replicate those economies of scope. But these economies of scope may in any event be substantially greater in a well-planned city full fibre optic architecture. In CityFibre’s case specifically, our architectural model for building fibre infrastructure assumes a substantial degree of economy of scope in its core design, and hence a substantial proportion of the costs of our network are shared between categories of connectivity product that fall into the WLAM and the BCM. It is also the case that our experience shows that businesses and public bodies requiring fibre connectivity are spatially distributed across much the same geography as residential customers (leaving aside business parks and central business districts) and therefore a fibre ring architecture

built out for either business or residential purposes is then also available to serve the other market segment(s).

CityFibre does not, however, agree with Ofcom's assessment that the economies of scope are only significant for an OCP starting by serving the mass market and subsequently moving into the point-to-point market. Our experience is that there are considerable scope economies when building a well-planned city network, starting by addressing the point-to-point market and subsequently moving on to construct the FTTP network for mass-market point-to-multipoint connections.

It would be strikingly at odds with Ofcom's goal of creating an equivalent regime if OCPs were artificially precluded from exploiting that economy of scope between the two connectivity markets.

4.3: In relation to your fibre deployments plans, if any, can you provide us with any evidence regarding the economies of scope your company is likely to achieve if leased lines are allowed as part of a fibre-based broadband deployment?

CityFibre has to date focused on the roll out of point-to-point networks, and therefore has limited actual experience of adding the point-to-multipoint network. [Redacted Confidential] The benefits of the economies of scope are largest in the first stage of building the point-to-multipoint network, where the pre-existing core network means that the initial up-front costs are substantially reduced and it is possible to start adding revenue generating customers at a relatively early stage compared to if the network needed to be built as a stand-alone investment.

Question 4.4: Do you agree with our assessment on the potential options to relax usage restrictions, their benefits, risks and challenges? Is there any additional option we should consider? What do you consider to be the best option?

Question 4.5: In your opinion, how can we design and enforce a mixed usage rule? What characteristics should it have and how can it be enforced? Do you think a mixed rule would materially constrain telecoms providers' network designs and business plans?

We think it is most appropriate to answer these two questions together.

We understand the starting point for Ofcom's analysis of this issue. A DPA remedy will be anchored on a finding of SMP in the WLAM. CityFibre has also argued that DPA/PIA should be made available as a remedy under the BCM, and that matter currently forms one of the bases of our appeal to the Competition Appeal Tribunal of Ofcom's BCM Final Statement.

Regardless of the specific market review, and hence sub-component of the wider connectivity market DPA is applied in, the general argument outlined above applies. An effective DPA remedy, along with other appropriate remedies in the WLAM, will, if successful, lead to a substantial re-ordering of the wider connectivity market and potentially to changes in the boundaries between the existing WLAM and BCM markets. From first principles it would be perverse to constrain such a remedy so as to limit its impact only to what sits within the WLAM market today. That is particularly important (and ought to be a consideration for BT) as an effective DPA remedy, encouraging parallel infrastructure build, also offers the prospect of substantial deregulation in all the downstream markets that it serves.

For this reason, we remain strongly of the view that the appropriate way to introduce DPA is in a way that does not seek to restrict usage to products that fall specifically into the downstream WLAM as it exists today – i.e. the option identified by Ofcom as ‘unrestricted usage in the local access area’. Restriction is in our view wrong from first principles.

We have considered the counter-argument that unrestricted DPA may damage Openreach’s ability to recover its costs. We have studied the arguments on this point set out in Annex 4 carefully. It seems to us that the scale of losses predicted on even the worst-case scenario outlined in that paper suggests that any impact would be dwarfed by potential dynamic benefits resulting from the earlier and faster rollout of FTTP and 5G networks.

Having considered the alternative approach of a form of mixed usage restriction, we do not think such an approach is practicable for reasons that Ofcom itself appears to recognise.

It should be noted that our commercial strategy for a well-planned city does contemplate an FTTP rollout. We do not therefore have a reason to object to a rule that links a relaxation of the current restrictions to an OCPs’ rollout of FTTP. (Indeed, in some ways, that might provide CityFibre with competitive advantage over other business-only infrastructure providers). Nonetheless, we think there are formidable practical difficulties in designing such a rule that would not be either unenforceable or have unfortunate unintended consequences.

As we noted above, and as Ofcom recognises in paragraph 4.33, an OCP such as CityFibre, in considering whether to build new fibre networks in a given town and city, will consider all the possible usage cases – whatever current regulatory market definition these customers’ needs may fall into – when making a decision of whether to invest. Moreover, in all likelihood, larger customers – businesses, local authorities, and MNOs – will provide the initial, upfront revenue streams that anchor that investment. Usage requirements such as those outlined in paragraph 4.35, that formally link entitlement to use DPA for larger users to after an FTTP network has been rolled out, would therefore run counter to the likely sequence in which network connections are built. Hence it would mean, in effect, that DPA would not have a material effect on the upfront investment decision as it would not materially address the initial rollout to customers and the capital expenditure required to make that investment. Further, the scope for using a DPA/PIA service once the full point-to-point network is in place will be limited and thus reduce the benefits that could be expected from the remedy.

The option set out in paragraph 4.36 of a more mechanistic and less qualitative approach is less inherently problematic, but the question it raises is who gets to conduct the assessment of an OCPs’ business plan to assess whether a given request for DPA does indeed form part of a large scale/mass market fibre deployment. In our view, there can be no question of OCPs submitting plans to Openreach that reveal their hand in terms of future commercial strategy, for the very obvious reason that this would involve handing a potential competitive advantage to a major competitor. And it should be noted that this concern does not fall away as a consequence of Openreach being legally separated from BT Group: for CityFibre, it is Openreach, not the downstream businesses of BT, that is our principal competitor. Indeed, we have made the point previously that the emergence of rival primary infrastructure competitors to Openreach raises fundamental questions about whether ‘Chinese Walls’, however strengthened, between Openreach and the rest of BT actually

address what are likely to be emerging questions of commercial confidentiality when requesting DPA.

Even if a mechanism could be developed in which 'bids' for DPA/PIA were subject to some kind of assessment along the lines suggested, it is not at all clear that a declared use could be policed after the event. If, for example, an OCP ordered DPA/PIA on the basis of speculative orders for both 'BCM-type' connectivity and FTTP from other OCPs, but the latter pre-commitments then fell away for commercial reasons, would it really be proportionate or practicable to then rip out fibre optic capacity installed for the former purpose? We think this is highly unlikely to be a practicable way forward.

Question 4.6: In your opinion, how can we design and enforce an any usage rule? What characteristics should it have and how can it be enforced? Do you think an any usage rule, limited to the local area, would materially constrain telecoms providers' network designs and business plans?

In our view, the key issue to be addressed if unrestricted use is permitted is the one that Ofcom notes in paragraph 4.41, namely how to manage access to what may, in certain circumstances, be a scarce resource. As far as duct is concerned, we note that this issue is linked to the question of where, at what price, and on what timescale, Openreach would be required to over-build duct capacity. As we see this as a longer term remedy (even if appropriate – see below) we do believe that there is a need to at least create a gating mechanism for DPA/PIA requests where capacity constraints exist.

The obvious and logical way to do this, that also addresses at least in part Ofcom's apparent concerns about 'cherry-picking' of DPA/PIA for highly specific point to point uses, is where a potential capacity constraint exists, to permit priority to be given to DPA/PIA orders that will have the greatest impact either measured by the footprint of potentially served customers or the greatest number of potential use cases. The first of these seems the easiest to design a rule around, as it is a simple, fact-based measure that does not require the sharing of commercial information beyond that required to submit orders to Openreach. If some form of 'sealed bid' mechanism was adopted for access to capacity constrained infrastructure, the incentive properties of such a gating mechanism would tend to align with Ofcom's objective to promote the most ambitious fibre rollouts and to maximise the economic benefits available from the use of this scarce resource..

The problems of enforcement referred to above would still apply, and it is possible that parties might submit DPA/PIA requests for the purpose of 'sterilising' competitive rollout as a defensive measure. It should be borne in mind though, that, assuming that there was cost-reflective pricing, reserving duct capacity merely to prevent others from obtaining it would be a highly expensive strategy. And it should also be borne in mind that accessing existing passive infrastructure is always an alternative to self-build, so that a strategy of this kind would not actually guarantee the exclusion of a rival business.

We recognise that developing such rules would require considerable care. Nonetheless, of the various options available to Ofcom, this seems to us to be the most promising if there is a genuine concern that scarce capacity may be locked up as a result of DPA/PIA 'cherry picking'.

Question 5.1: Have we correctly identified the problems currently faced by telecoms providers using PIA in relation to planning and surveys?

Ofcom's analysis is correct. The current planning and survey processes are not fit for purpose. A general theme of our response is that Openreach needs to face the right incentives in both the short and the long term to remove impediments to use of DPA/PIA, but also to incrementally develop and improve its own infrastructure. The same basic logic also applies to survey and planning: Openreach must be encouraged to offer information in a more immediately useable way, but it also needs to face incentives to improve the overall quality and standard of its record-keeping. We have found from our experience in Southend that the issue is not simply that we need to obtain data previously held internally, but that this data may itself be inaccurate or incomplete.

Question 5.2: Do you agree with our initial views around how the planning and survey systems and operational processes should be improved under PIA?

Yes. The specific proposals for improvements in format and content of network records, the principle that this should be made available with the same level of granularity as is offered to Openreach makes available to its own planners, and the specific obligation that network records should be offered in a digital format suitable for importing into OCPs' own GIS network planning tools are all very helpful.

We acknowledge that some progress is already being made – e.g. the recent making available of an online planning tool for OCPs. Nonetheless, the principles outlined by Ofcom for equivalent treatment of planning and survey systems and operational processes – that these should as far as possible mirror those that BT itself uses – is clearly correct and subject only to questions of practicability.

Specifically on capacity records, this is an area where we have found Openreach's information to be substantially inaccurate in many cases. On this, it is necessary to create the right incentives for Openreach to itself progressively map and maintain accurate records. At present, the risk from an OCP perspective is that we are charged for the privilege of conducting surveys which then provide Openreach with accurate data that it really ought to itself be holding. It may be necessary to augment the specific obligations on provision of information with either a general obligation to conduct more extensive and accurate capacity surveys, or to introduce a process whereby OCPs can cross-charge Openreach where OCP activities themselves generate more accurate and up to date information on network availability/capacity than is held by Openreach. If this is considered unduly complicated, the experience of conducting surveys as a 'voyage of discovery' for both OCPs and Openreach suggests the costs should simply be borne as a general cost proportionately attributed to all downstream uses.

Question 5.3: Do you agree with our initial views around how systems development costs should be recovered?

Yes. This is consistent with our view that these activities generate benefits which are attributable to a wide range of downstream uses of the infrastructure. As noted, where OCP activity generates more accurate records than those currently held by Openreach, there may be a case for cross-charging this to Openreach.

Question 5.4: Have we correctly identified the problems currently faced by telecoms providers using PIA in relation to the network deployment stage?

Yes, Ofcom has correctly identified issues and problems associated with deployment of networks using the current PIA process. Other areas of concern are the inaccuracy and scale of the Openreach mapping data, referred to above.

There is also a lack of resources to carry out surveys. This is linked to the issue of accreditation for the purpose of accessing Openreach's physical infrastructure. This is a major issue for us and one which we have not seen discussed in much detail.

Understandably, Openreach wants to restrict access to its physical infrastructure to trained staff, but the processes for accrediting engineers to undertake activities on Openreach's infrastructure are in our view highly inappropriate at present. The training and certification that Openreach recognises is lengthy and expensive, and perhaps more importantly there is a shortage of qualified trainers to provide this. We also believe that the accreditation process, and specifically the restrictions that Openreach imposes on OCP engineers in relation to what tasks they can perform having received different tiers of accreditation, are inconsistent with the restrictions that are imposed on Openreach's own staff, and hence do not satisfy the 'equivalence' treatment. We have some evidence of this as a result of having employed contractors who are permitted to perform certain tasks when working for Openreach that they are *not* permitted to undertake when working for CityFibre.

This question of the appropriate standards for and accreditation of engineers is a good example of the practical problems that, whilst seemingly trivial, can have a material cumulative effect on the attractiveness of DPA. For that reason, we ask Ofcom to consider whether in addition to specific remedies that address particular factors there is a case for establishing a body with a similar role and remit to the Equivalence of Access Office established to shepherd the process of scale introduction of Local Loop Unbundling. Such a body could take on a role of issuing guidance on practical matters such as accreditation standards and resolving disputes between Openreach and OCPs.

Question 5.5: Do you agree that the PIA remedy will be ineffective if Openreach is not required to make adjustments to its infrastructure?

We agree that the DPA/PIA remedy will be ineffective if neither Openreach or an OCP can make the necessary adjustments to the network infrastructure. Our experience from the Southend trial is that this would mean that large swathes of network would be isolated, raising OCPs' own costs and also producing uncertainty as to whether DPA/PIA is in fact viable over a given geography.

We agree though that the focus should be on what Ofcom terms 'incremental augmentations' (removing blockages etc) rather than on extensive continuous lengths of infrastructure. If OCPs want Openreach to construct the latter, this should be subject to an ECC regime.

Question 5.6: If so, do you have any views on how the limit on Openreach's requirement to make adjustments should be specified?

It ought to be possible to construct a regulatory rule that requires Openreach to repair or replace short runs of duct or specific chamber points, whilst allowing them to charge an ECC for requests that involve building extensive new infrastructure.

More generally, transparent pricing and manageable SLAs for Openreach would be required to address the problems experienced under the current PIA. There also needs to be a clear mechanism to establish whether Openreach action or self-provision is the right way to proceed.

Question 5.7: How should certainty about delivery of build works be improved?

Question 5.8: Could a self-provision model work in practice? Are the benefits of self-provision sufficiently large to warrant adopting this approach or would it be better to improve the delivery of build works by Openreach through, for example, introducing a set of SLAs and SLGs?

We address these two questions together.

For CityFibre, self-provision would certainly be the most reliable method in managing the process for larger scale network deployment. Self-provisioning would work for OCPs that have the functionality to construct networks, it would not be available to those who do not have the relevant skills systems and experience (or the ability to contract it) within their organisations. The ability for the OCP to manage his contract resource within the confines of standard (non Openreach-specific) accreditation such as NRSWA modules will allow the OCPs to tap into a larger market of labour and the subsequent benefit of improved costs and availability.

Where self-provision is offered, OCPs should also be allowed to construct chambers (or breakout points) along the Openreach ducted network to improve the flexibility and use of the asset.

Question 5.9: Would there be merit in adopting both approaches (i.e. Openreach required build and self-provision), perhaps allowing self-provision for specific types of build works where close coordination is required?

This question to our mind links to the question of what benefits Ofcom hopes to derive from the introduction of improved DPA/PIA. Generally speaking, as noted above, self-provision will tend to favour OCPs who have the scale and the footprint of network deployment to take on civil infrastructure functions internally, manage the necessary accreditation and so on. So a regulatory bias in favour of self-provision would tend to favour such OCPs over those wanting to use DPA/PIA for more niche or limited applications.

Having said this, there may still be some circumstances where even OCPs that predominantly self-provide will find it more practicable to ask Openreach to conduct certain activities, for example particularly in sensitive (e.g. security-restricted) areas. Some degree of flexibility may therefore be desirable, but with a clear procedure for generating 'build/buy' decisions at the outset of the process.

Question 5.10: Do you agree with our initial views relating to improving the process for enabling works by allowing telecoms providers greater opportunity to carry out these activities?

We agree with Ofcom's proposals here.

Question 5.11: What, if any, SLAs and SLGs should apply to the process for enabling works?

The SLA would be typically associated with the number of blockages and the physical location. To make the process more effective we would suggest:

- Response from Openreach within five days of request;
- A Planned Date of Works within ten days of request (though dependent on the noticing and road space request).

In addition, when a blockage is identified the works should include the proving of the 'box to box' section associated with the network reservation request to prevent multiple requests and visits.

Question 5.12: Do you agree with our initial views relating to the relaxation of cable joints restrictions? Are there other technical specifications that we should consider to ensure telecoms providers are able to deploy access networks in an efficient manner and on an equivalent basis to BT?

Relaxing current rules to allow the placing of cable distribution joints within Openreach chambers is critical to make DPA/PIA an effective and scalable remedy. Some additional work will also need to be undertaken to ensure the engineering documents reflect that the chamber is to be used for multiple OCPs, and to specify that fire joints and tubes that may be self-supporting and not require bearers are primarily used.

Question 5.13: Have we correctly identified that replacing dropwires would be a simple and low cost option where poles are capacity constrained?

Yes, the drop wire would be the chief constraint on deploying an aerial FTTH/P network. The connectorised joint at the top of the pole would also be subject to capacity-related issues, and a method would need to be developed to manage the connection between the networks and drop wire for multiple OCPs.

Question 5.14: Have we correctly identified the particular problems for telecoms providers using PIA where there are overhead lead-ins?

Yes, we agree with Ofcom's analysis.

Question 5.15: Under our proposed approach to cost recovery for build works are there remaining issues for telecoms providers using Openreach's poles for overhead lead-ins that represent barriers to the use of PIA?

A hybrid dropwire solution installed by the OCP would be the most cost-effective solution in allowing aerial FTTH/P networks to be constructed, as the OCP would be able to build capacity at the top of the pole and effectively market the poles' capacity. By allowing the OCP to install the hybrid cable, installations could be deployed by sending an engineer up a pole on an 'individual customer' basis rather than having to upgrade large areas en masse. This is an area where the technical issues and the commercial costs of deployment are strongly interleaved, and we would encourage Ofcom to take this issue forward as a separate area of technical investigation alongside the early introduction of duct access.

Question 5.16: Do you agree with our initial view that a dropwire upgrade approach could provide an effective and viable remedy for overhead lead-ins?

Question 5.17: If we were to take forward a dropwire upgrade approach for overhead lead-ins what are the specific issues that we would need to address in developing the PIA remedy?

Question 5.18: If we were to take forward a dropwire upgrade approach should this

apply to all overhead lead-ins or only where a pole is capacity constrained?

We answer these three questions together.

The use of a hybrid dropwire would be an effective delivery solution but the OCP would need to visit the pole to fit a Distribution Point at the top of the pole during network construction. The alternative of a mass change-out by Openreach would add time and co-ordination complexity to deployment. The OCP, by carrying out on-demand dropwire upgrade, would be more cost-effective and would improve the speed of delivery of FTTP/H services.

Question 5.19: Do you agree with our initial views for how duct lead-ins should be treated under PIA?

We agree in principle with the general approach outlined on duct lead-ins. However, wayleave issues are not discussed in the consultation. Openreach needs to be incentivised to assist an OCP in obtaining an amended wayleave to allow it to add a cable into Openreach infrastructure where this is required.

Question 6.1: Do you think that the flexibility afforded to BT under the current basis of charges condition is a concern?

Yes. Ofcom's arguments are in our view correct that the uncertainty over the potential for future material changes in the charging methodology would undermine confidence in OCPs' willingness to use DPA/PIA. CityFibre agrees that PIA should be priced in a way that ensures stable and predictable prices over time, and that the current arrangements do not ensure this.

In particular, BT has considerable flexibility in the details of the costing methodology used, including the attribution of common costs. CityFibre notes that Ofcom's definition of common costs includes infrastructure such as duct which is shared by multiple products or markets, and that this represents a substantial proportion of the total costs. It is therefore important that the attribution of these cost is by causal drivers, and that appropriate restrictions are placed on BT's freedom in this area.

We further note that the PIA charges are presently based on BT's LRIC model (including common cost mark-ups) and that BT's LRIC model is presently not subject to audit obligations and thus subject to less general scrutiny than BT's RFS which use the CCA FAC methodology. If DPA/PIA becomes a core part of the regulatory toolbox, then Ofcom should consider ensuring that the cost base is as transparent as possible.

We note the existence of the possibility under the existing condition to bring charging disputes to Ofcom on the basis that the obligation to offer cost-oriented charges had been breached. However, this is not an attractive alternative given the time that would elapse before such a process would provide the necessary certainty in comparison with that which would result from a more robust and predictable charge control model.

Question 6.2: Do you agree with our assessment of the challenges of undertaking our own charge control modelling at this stage?

CityFibre recognises the theoretical complexity in applying a charge control via Ofcom's usual methods, and in particular the identification of internal and external contributions to cost recovery. The information presented does not allow us to make an independent assessment of how difficult it

would be for Openreach to create a more robust methodology for internal charging, and hence to move to a different, and more strictly equivalent, charging methodology.

We can understand the argument that setting a charge control based on CCA FAC methodology would be difficult at this stage, given forecasting uncertainty. Again, without visibility of all the relevant numbers it is difficult to know how material this potential uncertainty would be.

Question 6.3: What are your views on setting a charge control based on the current methodology? Do you have alternative suggestions for how we might set a charge control?

Our starting point is that, in the context of a regulatory intervention designed to promote infrastructure-based competition, DPA/PIA pricing should be assessed in the context of its impact on competition and investment incentives. For DPA/PIA to be effective as a remedy, pricing must be set so as to encourage efficient use of the remedy where it is a genuinely viable alternative to building new duct and pole infrastructure. It is therefore important that the prices are also compared with the costs that would be incurred by BT or the OCPs to install new self-built infrastructure.

Rental charges at their current level would not be an impediment to the use of DPA/PIA, particularly once the adjustments relating to productisation costs that Ofcom proposes have been made. This does not make DPA/PIA a panacea, and the contribution of DPA/PIA to the overall capital cost of rolling out new fibre networks is material but not [§< Confidential].

CityFibre considers, therefore, that the current methodology, using LRIC+ of BT's own costs as a basis, is appropriate as a starting point. Even if the process for arriving at these charges is sub-optimal, from a commercial perspective there is no overwhelming reason to recalculate them, particularly if this (as seems likely) would extend the timescale for the introduction of an effective DPA/PIA remedy.

We therefore think setting a cap with starting charges based on those that exist today is a pragmatic option, and does not preclude doing more detailed work with Openreach on developing a more robust and transparent costing methodology in the future; given the complexity, this more detailed work should be started at an early stage so that a more robust cost calculation is in place for future WLAMRs.

Question 6.4: What do you think about the option of supplementing the existing basis of charges condition with guidance? What do you think the guidance should cover?

We are wary of relying solely on guidance, which as Ofcom notes cannot in any event bind any decision it makes on future disputes. A charge control approach is therefore our preferred mechanism for providing greater regulatory certainty.

Having said this there may be an additional need for guidance as regards the calculation of ancillary charges. Guidance could be refined over time as, for example, some of the forecasting uncertainties and inadequacies of the internal BT cross-charging regime discussed earlier in the document were addressed. Guidance could cover definition of the methodology (at the level given in Annex 5), attribution of common costs, and how the principle of equivalence would be applied.

Question 6.5: Are there other options for providing greater certainty which we have not identified?

Consistent with setting a charge control but providing further guidance on the setting of ancillary charges, it may be possible over time to recover some of the costs covered by ancillary charges through the rental charge, particularly as more robust forecasting data is developed and a clearer cross-charging methodology is developed where BT's own downstream businesses lead to the equivalent costs being incurred. Transitioning some ancillary charges into the main rental charge seems to us to be consistent with the evolution of DPA/PIA from a niche offering to a remedy that is used at scale. Realistically, it might be appropriate to consider an evolutionary path towards a mature version of a charge control that would be applied under the next WLAMR, given that a fibre build programme is realistically going to take until the expiry of that charge control period to reach critical mass.

The current rental pricing structure, in which there are different prices for access to different types of ducts (at present, for example, different prices are set according to the number of bores of duct, yet this is not indicative of the availability of spare capacity within those bores), makes it very hard for an OCP to budget the costs of network roll-out. This is partially because it is unpredictable what mix of the different duct types will be deployed by BT for the connections required by the OCP and additionally because BT's map information is frequently inaccurate so, even after receiving the information enabling the OCP to calculate the costs of the connection, this cost could change considerably. Ofcom should consider options for streamlining the rental charges to make the charging more transparent and predictable. Although the current structure may have been intended to reflect the level of space available in an individual stretch of ducting, our experience is that that is not the case in reality.

Question 6.6: Do you agree with our proposed approach to upfront costs?

Yes. We agree with Ofcom's rationale for the apportionment of these costs. We welcome the specific reference to the costs of the Online Planning Tool being recovered in this way.

Question 6.7: Do you agree with our proposed approach to per order costs? What do you think is the most appropriate approach to the recovery of these costs?

We are unclear whether in paragraph 6.28 Ofcom is proposing that these costs should be recovered as a common cost attributable to all users of infrastructure (including BT) or still recovered as an ancillary charge but one that is also levied on all users of the physical infrastructure (including BT, which as far as we understand would not incur these per order costs?).

There is an argument that the principle of cost-causation should be followed when it comes to the cost of manually processing individual orders – not least, because that provides the necessary incentives to those making requests for orders to furnish them in a way which minimises the processing cost.

There are, however, two possible counter-arguments. The first is that allowing Openreach to recover in full the cost of manual order-processing will blunt its incentives to migrate to more efficient order-handling processes that may be more appropriate for the use of DPA/PIA at scale. Second, if we understand BT's internal processes correctly, there is no functional equivalent of this order processing when BT's own downstream businesses (including downstream services within BT Openreach) make use of duct and pole infrastructure. For that reason, the spur to efficiency that would result from full equivalence does not exist.

Taking these arguments together, it seems to us that the right approach would be for the majority of per-order costs to be recovered as a common cost attributable across all users of the physical infrastructure, but for there to be some component of the charge that is recovered directly from OCPs to encourage efficient and timely submission of orders on the OCP side.

Question 6.8: Do you agree with our initial views around deferring rental charges for PIA? Should the deferral mechanism be bounded and what would be an appropriate way(s) of doing this?

Our starting point is that it is clearly unfair for OCPs to face rental charges for orders whose fulfilment is subject to long delays as a result of Openreach needing to undertake works to fulfil the order. From first principles therefore we welcome the proposed approach that rental charges are recovered only following the completion of works and that OCPs can commence deploying infrastructure ahead of the completion of works without incurring rental charges.

Nonetheless, as Ofcom notes in paragraph 6.32, care will be needed to ensure that the resultant regulatory requirement cannot be gamed unfairly, and does not lead to inefficient 'build/buy' signals to OCPs.

There appear to be 3 possibilities for DPA/PIA order fulfilment:

1. Ordered infrastructure is available, and can be used immediately after the capacity is reserved;
2. Ordered infrastructure is partially available, but there are issues to resolve (e.g., blockages);
3. Ordered infrastructure includes new build by Openreach.

In the first case, CFH agrees that rental charges should commence at the time the infrastructure is available for use.

In the second case, delaying the rental charges until the issues are resolved would increase the incentives for Openreach to reduce lead times. However, care will be needed to ensure that such a rule is not 'gamed'. For example, OCPs could in theory submit orders containing several items (some of which are known to be subject to delays), in order to game the process unless sufficient financial penalties are applied to order cancellation.

In the third case, the right 'build/buy' signals are important. OCPs always have the option of building their own facilities and for large scale deployments or long links, this will usually be the more economically efficient approach. If nonetheless, OCPs wish to request such works from Openreach, CFH believes that some form of excess construction charge (ECC) should be applied as otherwise OCPs may cause costs to be incurred inefficiently as they do not bear the full costs of their actions¹. Provided an excess construction charge is levied so that appropriate build/buy incentives are maintained, it is acceptable that rental charges should be deferred until the order is fulfilled.

¹ And BT should also be charged the ECC for all new construction of physical infrastructure. This would help ensure equivalence. The ECC charges should be offset against BT Openreach's total costs to prevent over-recovery.

Question 6.9: Do you think the current basis of charges condition is sufficient for regulating ancillary charges?

No. As we noted in response to question 6.5, there is an argument for providing further guidance in relation to ancillary charges and over time to increasingly fold ancillary charges into the overall rental charge, subject to the price control.

Question 6.10: Are there any ancillary charges which you think are problematic?

OCPs are not able to build new chambers in the Openreach network, but the prices charged by Openreach to do this are prohibitively high, and no SLA is available.

In cases where third party damage occurs, and the costs are recoverable, the benefits should be shared with OCPs as well as Openreach.

Question 6.11: Are there any other issues with PIA pricing which we have not identified?

As we noted in our response to question 6.8, it appears that Openreach may be obliged to construct new infrastructure in response to orders which cannot be fulfilled via the existing infrastructure. The consultation document does not consider whether such orders should be priced according to the standard PIA price list, or whether some form of excess construction charge should be applied. CFH believes that extra charges should be imposed in this case, but that the prices should be carefully determined to ensure that they reflect the efficient costs of modern network build, and hence send the right build/buy signals to infrastructure competitors.

Additionally, Ofcom should consider which pricing structure would be most suitable to meet the overall objectives of the new DPA/PIA remedy. Ofcom's consultation addresses only the cost analysis for the PIA remedy and neglects to review different pricing structures to consider which may be the most appropriate.

For example, Ofcom sets out in Annex 4 of the consultation its calculations of the possible impact of arbitrage if the usage restrictions were to be partially or wholly lifted. The Consultation does, not however, identify whether there may be options open to Ofcom to reduce the incentives and opportunities for arbitrage, through pricing structures or through other aspects of the remedy definition.

Annex 4 describes scenarios of possible/likely arbitrage under different usage restriction options and estimates the impact of these. The maximum impact in the worst-case scenario being an impact of £80m/annum in a scenario with no usage restrictions on PIA with a lower impact scenario under a partial restriction rule of £20m/annum.

We have already noted that we think the arbitrage impact of the remedy is substantially dwarfed by the beneficial impact, particularly the dynamic competitive benefits that would result from large-

scale competitive fibre deployment. If Ofcom is nonetheless concerned to minimise this perceived arbitrage risk, measures other than the proposed use restriction should be considered

Ofcom's concern regarding arbitrage is specifically focused on the use of PIA for leased lines which could result in BT not recovering all its costs. Pricing options to overcome or minimise the risk of this could include:

- Different price levels for FAM and BCM use: We note, however that this is subject to the verification/enforcement problems described earlier in this document;
- A sliding price gradient depending on number/kms of duct used within a local geography: this would make it more expensive for OCPs to purchase ad-hoc duct single connections, compared to OCPs building a full network. This would also contribute to the objective of the duct being used in a manner that optimised the wider economic benefits (see our comments on question 6.4).
- Minimum order size – if there is a minimum km duct access threshold that an OCP must order, then this would discourage ad-hoc orders for single BCM connections. This could also be linked to the pricing gradient option above.
- A further way to discourage arbitrage is to mandate that any OCP using BT's ducts must offer wholesale access services (e.g. dark fibre). This would likely make it less attractive for OCPs to use DPA/ PIA for the provision of individual BCM connections and would at the same time ensure increased economic benefits from the access, extending the benefits to other OCPs than the one using the DPA/PIA service.

CityFibre Holdings Ltd
31 January 2017