SPC Network

Promoting competition and investment in fibre networks: Telecoms Access Review 2026-31 (“TAR”): Response to Ofcom regarding Physical Infrastructure Access (PIA)

Prepared by SPC Network on behalf of Fibrus, Gigaclear, Netomnia and nexfibre

June 2025

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About SPC Network

SPC Network was founded in 2003 and has worked for over 50 clients worldwide. We undertake Strategic Policy Development in platform and networked industries, by combining the knowledge of our consultants with specific and valuable skills to ensure rigorous analysis and exceptional advice. Our core consultancy team and network of partners have substantial experience in industry and consulting meaning that we understand the practical issues and challenges facing the market. Through advanced academic training, we have developed the key skills and rigorous approach needed to support our clients in the policy debate.

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FOREWORD

By Fibrus, Gigaclear, Netomnia and nexfibre

Access to Openreach's physical infrastructure has been, and continues to be, critical to the rolling out of fibre networks across the United Kingdom. The four companies that have commissioned this report from SPC Network (Fibrus, Gigaclear, Netomnia and nexfibre) recognise that Ofcom has made important proposals in this market review that will support continuing investment. We also agree with Ofcom's proposed finding that BT holds a position of Significant Market Power (SMP) in the Physical Infrastructure (PI), the Wholesale Local Access (WLA), Leased Lines Access (LLA) and Inter-Exchange Connectivity (IEC) markets and, therefore, has the incentive and the ability to harm competition, for example by setting wholesale prices in the PI market above competitive levels or by imposing a margin squeeze between the PI and WLA markets. Practices such as these are to the detriment of consumers and investors alike, as Ofcom recognises in the Telecoms Access Review (TAR).

As we move from network build to increasing take-up and usage of our networks, the cost of renting duct and pole access becomes an important part of our overall operating costs. This affects our ability to compete with Openreach in downstream markets and, therefore, to build the competitive wholesale solutions that, in turn, provide the inputs into new retail offerings for customers.

Our reliance on Openreach's Physical Infrastructure Access (PIA) means that this position of SMP will continue for the life of these networks and, for this reason, it is critical that all users of PIA have confidence and trust in the wholesale access product. The regulation of BT to deter it from behaving in anticompetitive ways will consequently remain essential. Therefore, we commissioned this report to set out the positive and realistic actions that Ofcom can take to move the market further forward in the interests of consumers, businesses, investors and economic growth.

SPC Network's report, the findings of which we fully endorse, highlights a number of concerns with the pricing of PIA, the transparency of both the cost model used to calculate Openreach's costs, and with the Regulatory Financial Statements (RFS) produced by BT. These problems are of particular concern to us because we need to be as certain as possible that we are not being discriminated against by both our largest supplier and our main competitor.

We wish to draw Ofcom's attention to the following key points in this report.

First, while we accept the principle that we should pay a fair share of Openreach's cost of supplying PIA, it is not clear to us that this is the case even after the reduction in fair shares proposed in the TAR. There is a lack of full transparency regarding both the information presented by BT in the Regulatory Financial Statements (RFS), particularly in relation to BT's own use of PIA products, and the inputs into Ofcom's PIA Charge Model. Whilst Ofcom proposals go some way to doing so, it is critical that Ofcom addresses all of these issues in this market review to ensure that we have the confidence that BT is recovering its legitimately incurred costs and earning a fair rate of return from its duct and pole infrastructure. If we are paying more than our fair share that means that our customers and investors are subsidising Openreach's customers and investors at a critical time for the development of a competitive market.

Second, whilst it may have been proportionate for Ofcom to impose a strict No Undue Discrimination (NUD) obligation to remedy BT's SMP in 2021 rather than imposing a full Equivalence of Inputs (EOI) remedy, the case is likely to be less clear five years on. The imposing of full EOI would ensure transparency in Openreach's internal use and external supply of PIA. This goes hand-in-hand in addressing the transparency concerns highlighted in the SPC Network report. In combination, taking these measures serves to improve the confidence of our companies and investors in the PIA product. We, therefore, support the proposals made in this report and would like to see Ofcom retain the option of imposing an EOI on BT if it fails to meet its transparency obligations.

Third, whilst Ofcom presents in the TAR a view on its approach to regulation post 2031 for other markets, it has not done so for PIA. Given the point made above that users of PIA will have a long-term reliance on PIA, it is critical for our companies and investors that we have certainty on Ofcom's regulatory approach over the long term. Indeed, we would encourage Ofcom to present its view on the direction of travel in PIA pricing likely to result from key events, for example, copper to fibre network migration.

We look forward to continuing to work with Ofcom to improve competition in this market for the benefit of consumers, businesses and the UK economy as a whole.

Fibrus **Gigaclear**

Netomnia **nexfibre**

June 2025.

1 INTRODUCTION

1.1 Background and Brief

1. This report has been commissioned by Fibrus, Gigaclear, Netomnia and nexfibre. The four companies are all Fibre Network Builders (FNBs – a term we use that excludes Openreach) and significant users of Physical Infrastructure Access (PIA) for both local access networks and the final connection to customer premises. The four companies form an increasingly important part of the competitive landscape of the fixed telecoms market. Collectively they represent over 5.5 million homes passed by fibre and they are building out their own fibre networks in competition with Openreach. They provide wholesale and retail (consumer and business) services using their own fibre and aim to compete on price, innovation and quality of service, bringing dynamic benefits to users of ultrafast broadband access.

2. A key objective of this report is to propose changes to BT's Regulatory Financial Statements (RFS) and Ofcom's PIA Charge Model so that Ofcom's proposed package of remedies will more effectively address the competition issues raised in Volume 2, Section 7 of the Telecoms Access Review (TAR).

3. The PIA rental charges that they, and other FNBs, pay to Openreach represent a significant element of their operating costs and will continue to do so for the foreseeable future. For these companies, and their investors, regulated access to Openreach's duct and pole infrastructure (DPA), the PIA Charge Model and the resultant regulated prices of PIA are crucial to their business and investment plans. In the years since the Wholesale Fixed Telecoms Market Review (WFTMR) in 2021, there has been considerably more investment in fibre networks than was anticipated at the time of that market review. There are now some 12.5 million homes passed by alternative fibre networks[1], as a result of many billions of pounds of investment, predominantly built using PIA. The cost of renting physical infrastructure from Openreach will continue to be a major element of FNBs' operating expenses into the future with no real prospect of a competitive provider who can challenge Openreach on either availability or price. Even if such an alternative PIA

[1] https://www.point-topic.com/post/uk-broadband-availability-2024.

provider did emerge it would most likely be cost prohibitive for the FNBs to move across to that new provider given the size and complexity of their existing deployments.

4. The price of PIA is, therefore, of significant concern to these FNBs, meaning that the PIA Charge Model is not an exercise that is only of interest to regulatory staff and advisors but a **crucial input** to operational and investment decisions by company management and investors with both short- and long-term impacts. The analysis that we present here, therefore, should be considered in that context as we propose changes to the PIA Charge Model and RFS, which we believe will make them of greater use to managers and investors into the future.

Fair Share

5. Ofcom sets the objective of users of PIA paying a "fair share" of BT's costs for the provision of PIA. We take this to mean that the total amount FNBs pay for PIA should be approximately the same proportion of BT's total PIA costs as the share of the PIA estate used by FNBs.

6. Table 1 below shows our calculation of the proportion of BT's PIA costs incurred by FNBs in the 2023/2024 RFS using the current pricing of PIA products (Column C), along with the share of the PIA estate used by FNBs as shown on page 7 of BT's Regulatory Financial Commentary (RFC) on the 2023/2024 RFS (Column F).

7. For this report we have also included the total external revenues based on the expected fair share of PIA costs in 2031 as per Tables 4.1 & 4.2 in Volume 4, Section 4 of the TAR (Column D). The volume of each PIA service used, the total costs, and the share of the PI estate used by FNBs remain the same.

8. As can be seen, under the current fair share arrangement, FNBs pay 4.6% of BT's total costs and, under the proposed fair share, that will fall by 0.5 percentage points (10.9%) to 4.1%, *ceteris paribus*. This analysis, therefore, indicates that there is scope for further price reductions. Using the same approach, we have calculated that for the share of PIA costs paid for by FNBs to be 3.5%, a further price reduction of 19.5% across all PIA products would be needed.

Table 1: Fair Share Calculation

Column					
A	B	C	D	E	F
Total costs to recover (2024)	Total external revenue (2024)	2024 Proportion of costs recovered from FNBs	2024 Proportion of costs recovered from FNBs adjusted for proposed fair shares in final year of charge control	2024 Total external revenues from FNBs adjusted for proposed fair shares in final year of charge control	Share of PI used by FNBs (BT RFC 2023/24, p.7))
£m 712.5	£m 32.6	4.58%	4.12%	£m 29.4	3.50%

Source: SPC Network analysis

9. One significant caveat to the above calculation is that there is no transparency in either the RFS or the RFC as to how BT arrived at 3.5% of PI being used by FNBs, particularly given the diversity of units of usage that are involved. But, as this is a number used by BT in their commentary on the RFS, we have taken it at face value. To improve the transparency of this proportion, we have made suggestions below in Section 2.3 on how the data presented in the RFS could be amended.

The Use of PIA

10. To deliver Ofcom's desired benefits of coverage and take-up at speed, access to the physical infrastructure of Openreach (its ducts and poles) is a critical input. Between 31st March 2023 and 31st March 2024 there has been significant growth in the use of the PIA by FNBs of over 100%, as shown in Table 2 below. We expect this growth to continue into 2025 and beyond. However, the rate of growth could slow down because many FNBs which have invested in Multi Service Networks (MSNs) are concentrating on building diversified wholesale and retail service offerings, for example broadband and business connectivity services, and connecting customers rather than expanding their networks.

Table 2: External Use of PIA: 2023 – 2024

PI Rentals	2023	2024	Growth	Measure
Lead-in duct	95,144	177,107	86%	Lead-ins
Spine duct - 1 bore	10,377	28,682	176%	Km
Spine duct - 2 bore	3,489	8,960	157%	Km
Spine duct - 3+ bore	5,172	12,314	138%	Km
Poles multi end-user attachment	98,932	250,679	153%	Attachments
Poles single end-user attachment	121,909	411,869	238%	Attachments

Source: BT Regulatory Financial Statements 2023 and 2024. Section 6.1.1

11. As Ofcom has stated, PIA is important as an input because it is considerably more efficient than building a new physical infrastructure access network. This is for three main reasons:

- First, it prevents the duplication of an asset that already exists and can be used by operators other than Openreach.
- Second, if FNBs do not have to build their own infrastructure they can roll-out their networks much faster taking competition to consumers earlier.
- Third, if it is priced appropriately, using existing physical infrastructure is considerably more efficient than self-build and allows competition to develop in areas where it would not be economically viable for companies to deploy their own ducts and poles.

12. It is important that PIA users have a long-term view of the PIA pricing to maximise build efficiencies. Not only does this help support long-term operational forecasting, but it is also a key factor in FNB's choice between the rental of passive assets or self-build decisions.

13. Considering both the cost of building a duplicate physical network overlapping Openreach and the fact that FNBs have deployed full fibre networks across the UK, predominantly using Openreach PIA, it is highly unlikely that there will ever be a competitive national Physical Infrastructure market. On this basis, Openreach PIA will need to remain a regulated input on an ongoing basis.

14. When Ofcom first set an obligation on BT to provide universal access to its ducts and poles to other communications providers (CPs) there was little data on which to assess the costs

of supplying wholesale passive access since the infrastructure had not been used at scale by other CPs. This meant that some elements of the PIA Charge Model were based on best estimates.

15. Today, Ofcom has an evidence base of actual and forecast use as more information is, or should be, available. Both Ofcom and Openreach should, therefore, be better placed to calculate the costs of providing PIA more accurately and to ensure that cost over-recovery is kept to a minimum.

16. This response to the TAR follows on from our report of July 2024: SPC Network "*Improving the PIA Cost Model in light of the upcoming Telecoms Access Review*". There were three main reasons for SPC Network being commissioned for that report.

17. **First**, the BT RFS for 2023 showed a large discrepancy in the prices charged by Openreach to external customers for PIA and the internal prices it charged itself. The former were based on the regulated price set by the Ofcom in the 2021 Wholesale Fixed Telecoms Market Review (WFTMR), adjusted for the charge control, whilst the latter were set to ensure Openreach earned no more profit than its regulated cost of capital for the PI it "sold" to its downstream operations.

18. This led to the anomalous outcome where the external price resulted in a Return on Capital Employed (ROCE) massively in excess of BT's regulated Weighted Average Cost of Capital (WACC) and the internal price for duct related infrastructure turned negative. (The Openreach PI operation was effectively paying the Openreach downstream operations to use its passive infrastructure rather than the other way round.) This in turn resulted in a lack of transparency over the impact of this difference on Openreach's ability to compete, using its own WLA portfolio, with PIA-based competitors. In consequence there was, and remains, significant industry concern over the introduction of Equinox and Equinox 2 and their effect on competition.

19. **Second**, the FNBs recognised that at the time of the WFTMR there was little information about how PIA would be used by the FNBs and/or other communications providers and, therefore, the model used to calculate the cost of PIA was subject to several best estimates. However, in the intervening period, PIA has become more widely used than expected by either Ofcom or Openreach, so the best estimates from the last market

review have ended up understating the actual usage significantly. This in turn has meant that the impact of such usage has had a greater effect than anticipated.

20. **Third**, there had been a number of concerns about overbuild decisions taken by Openreach, some of which have been reported to the Openreach Monitoring Unit (OMU) by companies who commissioned the 2024 report and this 2025 TAR consultation response. These companies pointed out that Openreach made deployments that were not in its 'Fibre First[2]' plans which resulted in network overbuild. These build decisions were also in locations where Openreach had declared no intention to build as part of its National Rolling Open Market Review (OMR)[3] submissions. In some cases, Openreach was reported to have overbuilt in subsidised areas. The OMU assured the companies that detailed examinations of Openreach's business cases had been undertaken and no further action was deemed necessary. However, the risk of anti-competitive overbuild remains as the UK Government seeks to maximise availability, and indeed take-up, of gigabit-capable infrastructure to the extent practical. Ofcom's consideration in the TAR of Area 3 discounting for WLA prices is a case in point.

21. Following on from the 2024 report, SPC Network was asked to undertake a further detailed analysis of the draft TAR PIA Charge Model with a view to: (a) identifying the extent to which the changes suggested in the 2024 report had been addressed; (b) identifying where further changes could be made to improve the relevance, accuracy and transparency of the model and prices to account for the latest data available; and (c) exploring changes that could be made to the model itself and/or the relevant RFS schedules to improve the overall level of transparency between the external use of PIA by FNBs and the internal use of Physical Infrastructure by Openreach's downstream operations, particularly WLA.

1.2 Report Structure and Key Messages

22. This report is structured as follows:

- In **Section 2** we discuss the regulatory context and present our suggested improvements to the relevant RFS schedules.

[2] Fibre First is an Openreach initiative, launched in 2018, to utilise fibre as the default technology for new projects.
[3] This is/was a BDUK initiative that requires suppliers delivering gigabit-capable infrastructure to submit national data returns on a 4-monthly basis (January, May and September) to provide detailed build plans at the premises level.

- In **Section 3** we present the findings of our detailed review of the draft TAR PIA Charge Model and suggest improvements.
- In **Section 4** we review the suggested changes we made in our 2024 report and make further changes.

23. All issues we have raised in this report are important but there are five key messages that we particularly wish to bring to Ofcom's attention.

One – FNB are still paying more than their fair share of BT's PIA Costs

24. As illustrated in Table 1 above, collectively FNBs are contributing 1.08 percentage points (29%) more than their fair share under current pricing. Even after the proposed TAR fair share changes have been introduced in full in 2021, they may still be contributing 0.62 percentage points more than their fair share which would require a price reduction of 19.5% to rectify.

Two – No Undue Discrimination

25. In Volume 2, Section 7 of the TAR, Ofcom sets out the competition issues that arise from BT having SMP in the telecoms access markets (PIA, WLA[4], LLA [5]and IEC[6]), specifically:

- Exclusionary behaviour to prevent potential competitors from competing in the relevant market(s) or prevent them from gaining market share.
- Exploitative behaviour by BT at the expense of its wholesale access customers ultimately harming end-users who purchase services from BT's wholesale access customers in downstream markets.

26. In the PIA market, Ofcom places BT under an obligation of No Undue Discrimination (NUD), rather than Equivalence of Input (EOI). However, it interprets NUD as "*requiring **strict equivalence where possible** with discrimination permitted only in cases where Openreach can demonstrate that a difference in respect of a specific service, system or process is justified*" (Vol. 3, Para 4.47) (our emphasis).

27. Monitoring compliance with this obligation requires relevant information to be available to all stakeholders. The RFS and the PIA Charge Model are essential tools for making this

[4] Wholesale Local Access.
[5] Leased Line Access.
[6] Inter-Exchange Connectivity.

information available. This report, therefore, focuses on key revisions to the PIA Charge Model and RFS schedules that Ofcom is encouraged to adopt to increase transparency. This will in turn help both Ofcom and the FNBs monitor the actions of BT and assess the fair determination of inputs into the PIA Charge Model. Our analysis shows that the current NUD regime does not adequately demonstrate compliance with strict equivalence and needs to be rectified by Ofcom, failing which regulation of PIA under Equivalence of Input would be warranted.

Three – Ongoing transparency issues

28. Transparency in the regulation of PIA is fundamental to the confidence of FNBs and their investors in the product. We still have significant transparency concerns in two specific areas:

- The data reported in relevant RFS schedules is not sufficient. The current RFS disclosure does not enable FNBs to verify the fundamental BT Openreach data that inputs into the PIA Charge Model. We have suggested changes that Ofcom should make to improve transparency significantly.
- The PIA Charge Model uses randomisation for key inputs which makes the model unusable by FNBs, and other CPs, to assess its fitness for purpose and the appropriateness of the resultant proposed prices under the three scenario cases (low, base and high). We consider it important that Ofcom should update its approach to avoid randomisation entirely on the basis that, having SMP, the inputs should not be commercially sensitive to BT Openreach. However, if randomisation is maintained then Ofcom must ensure that its use is reduced dramatically and minimised and that the degree of randomisation should be no more than a couple of percentage points either way. Furthermore, the totals of appropriate inputs should still reconcile to non-confidential data so that FNBs and stakeholders can at least verify aggregated data in the model to equivalent data in the RFS.

The absence of transparency risks undermining the long-term confidence of FNBs, their investors and other stakeholders in the PIA product, and BT's compliance with its No Undue Discrimination obligation.

Four – An appropriate replacement to RPI for Asset Inflation

29. Whilst we acknowledge that a replacement to the use of RPI is necessary and fully support the use of a fixed rate throughout the review period, we do not believe that using the long-term target for CPI is appropriate. We propose that Ofcom adopts an adjustment of +0.9% over and above the forecast CAGR of CPI for the review period, which is approximately consistent with the previous use of RPI. We explain our reasoning in Section 3.3.

Five – PIA Service pricing to reflect multiple FNBs in same area

We appreciate that some account has been taken of the growing level of overbuild by multiple FNBs in the same area but consider that Ofcom should make consistent changes to all PIA services rather than just single-bore spine duct and multi-user pole attachments. Ofcom also needs to update the adjustment for multi-user pole attachments to be the same as that used for single-bore spine duct, as the same argumentation applies. We explain our reasoning in Section 3.5.

2 REGULATORY FRAMEWORK ISSUES

2.1 Introduction

30. Volume 2, Section 7 of the TAR sets out the competition concerns arising from BT's position as the SMP operator in the telecoms access markets (Physical Infrastructure (PI) and Wholesale Local Access (WLA), in particular). Two specific problems are identified:

    - Exclusionary behaviour to prevent potential competitors from competing in the relevant market(s) or prevent them from gaining market share.
    - Exploitative behaviour by BT at the expense of its wholesale access customers ultimately harming end-users who purchase services from BT's wholesale access customers in downstream markets.

31. Ofcom then sets out more specific concerns in each of the TAR markets. One of the two specific competition concerns Ofcom has in the PIA market is BT's provision of access to Fibre Network Builders (FNBs) on less favourable terms compared to those obtained by its own internal customers, specifically WLA.

32. To deter such behaviour by BT, Ofcom relies on an obligation of No Undue Discrimination (NUD) in the PIA market. Ofcom interprets NUD as "*requiring strict equivalence where possible with discrimination permitted only in cases where Openreach can demonstrate that a difference in respect of a specific service, system or process is justified*" (Vol. 3, Para 4.47).

33. Openreach provides both PIA and downstream services that utilise that physical infrastructure, namely WLA, Leased Line Access (LLA) and Inter-Exchange Connectivity (IEC). This vertically integrated structure, together with BT's SMP, give it both the incentive and the ability to behave anti-competitively. It is, therefore, particularly important that FNBs have access to the information necessary to ensure Openreach complies with the NUD obligation to at least prevent Openreach having the ability to act anti-competitively, if not its incentive to do so. This requires the utmost transparency of information published by BT so that any potentially anti-competitive behaviour can be identified.

34. This section of our report examines Ofcom's proposals regarding the Regulatory Financial Statements (RFS) BT is required to publish as the SMP operator. Issues relating to the PIA Charge Model are addressed in Section 3.

2.2 Regulatory Financial Reporting

Importance

35. One of BT's annual obligations, due to its status as a Significant Market Power (SMP) operator, is the publication of a formal set of Regulatory Financial Statements (RFS). For investors in the companies funding this report, the RFS is an essential document to allow them to assess whether or not BT is complying with its No Undue Discrimination (NUD) and Equivalence of Input (EOI) obligations and, therefore, the risk their investments face from potential anticompetitive behaviour by the SMP operator. They should not, therefore, be considered as being of interest only to regulatory experts, but as having wider commercial uses.

36. Ofcom describes the purpose of the RFS as "*monitoring whether BT is complying with its non-discrimination and cost orientation obligations in the relevant markets"*.[7] This purpose reflects that stated by the Competition Appeals Tribunal in *BT v. Ofcom* (March 2011) as "*to ensure that the appropriate data is published to enable compliance with SMP conditions to be monitored.*"[8]

37. It is, therefore, essential that the RFS has the appropriate data published and that this is done in a manner that is sufficiently transparent and understandable to ensure that BT's compliance with relevant obligations can be monitored. Without such transparency, FNBs and their investors face an increased risk that BT is not complying with its obligations (in particular No Undue Discrimination) which, in turn, increases the risk faced by BT's competitors, including consumers of PIA. This increased risk leads to an increased cost of capital and, hence, a greater risk of firms exiting the market.

38. The current lack of transparency in the RFS results in FNBs and other stakeholders being unable to verify fundamental inputs into the PIA Charge Model and, therefore, undermines their confidence in the NUD regime and, ultimately, in the PIA product.

[7] Ofcom *"Changes to BT and KCOM's regulatory and financial reporting 2012/13 update"* April 2013, Para. 3.52.
[8] CAT Case Number: 1146/3/3/09 Para. 161.

2.3 Suggested Changes to RFS Tables

Introduction

39. Volume 6, paragraphs 4.71 – 4.75 of the TAR discuss how the allocation of PI costs to downstream Openreach services can be improved as stakeholders currently have little to no visibility of this allocation. We support this move in principle as it will improve transparency and should help correct any misallocation of PI costs to downstream markets.

40. However, there are three specific changes which we suggest Ofcom makes to the RFS schedules that we believe would further and greatly improve the overall level of transparency for PIA stakeholders. Two of these are specific to schedule 6.1.1 of the RFS, both current year and prior year. The third could be placed elsewhere, but we feel it might be of most use to PIA stakeholders if it was included as an additional note at the bottom of schedule 6.1.1.

Change 1: Units of Use (Measure)

41. Openreach has previously argued that it does not 'purchase' physical infrastructure internally in the same way that it is sold to the FNBs externally. There are probably three main reasons for this:

- Its own use of the infrastructure pre-dates the obligation to provide PIA to the FNBs.
- This 'internal' usage is now an amalgam of legacy copper usage and modern equivalent fibre usage.
- BT is not currently subject to Equivalence of Input (EOI) regulation.

42. The current units of use for external volumes represent an auditable measure of the quantities actually sold to the FNBs. For internal volumes, however, there is no 'sale' taking place and the quantities do not reflect anything tangible. This is evidenced by the fact that there is no description of how the internal volumes have been assessed.

43. Initially, we considered whether adaptations to the table layout might assist in improving transparency, for example by breaking out BT/Openreach use of PI in areas covered by FNBs from areas where there is no FNB usage. However, we concluded that the internal measures would still remain artificial, and thus not transparent to PIA stakeholders.

44. A much better, and simpler, solution would be to instruct BT to use true internal measures that are meaningful to them, and, as such, are auditable. We have illustrated this below with the additional information highlighted in light blue.

Figure 1: Proposed changes to Measure in RFS 6.1.1

6.1.1. Physical Infrastructure Summary
For the year ended 31 March 2024

	Internal Revenue	External Revenue	Total Revenue	Internal Volume	External Volume	Measure
	£m	£m	£m			
Inputs to downstream services						
Lead-in duct	59.4	-	59.4	9,334,757	-	**total # lead-ins**
Spine duct - 1 bore	216.2	-	216.2	770,367	-	**total # trench km**
Spine duct - 2 bore	55.6	-	55.6	360,018	-	**total # trench km**
Spine duct - 3+ bore	71.5	-	71.5	581,368	-	**total # trench km**
Facility hosting (per manhole entry)	71.0	-	71.0	6,888,817	-	**total # manholes**
Facility hosting (per joint box entry)	83.5	-	83.5	55,402,773	-	**total # joint boxes**
Poles - multi-end-user attachment	34.5	-	34.5	2,765,703	-	**total # attachments**
Poles - single-end-user attachment	68.0	-	68.0	20,303,457	-	**total # attachments**
Pole top equipment	7.6	-	7.6	2,513,940	-	**total # attachments**
Cable up a pole	3.1	-	3.1	1,201,364	-	**total # attachments**
Total Inputs to downstream services	**670.4**	**-**	**670.4**			
PI rentals						
Lead-in duct	-	2.0	2.0	-	177,107	**billed lead-ins**
Spine duct - 1 bore	-	10.0	10.0	-	28,682	**billed km**
Spine duct - 2 bore	-	2.2	2.2	-	8,960	**billed km**
Spine duct - 3+ bore	-	2.0	2.0	-	12,314	**billed km**
Facility hosting (per manhole entry)	-	1.7	1.7	-	161,063	**billed entries**
Facility hosting (per joint box entry)	-	5.4	5.4	-	2,135,032	**billed entries**
Poles - multi-end-user attachment	-	1.6	1.6	-	250,679	**billed attachments**
Poles - single-end-user attachment	-	1.0	1.0	-	411,869	**billed attachments**
Pole top equipment	-	0.4	0.4	-	232,253	**billed attachments**
Cable up a pole	-	0.2	0.2	-	171,677	**billed attachments**
Total PI rentals	**-**	**26.5**	**26.5**			

Source: BT RFS 2023/24, SPC Network

45. For spine duct we have changed the measure (units of use) to 'trench km', and for manholes and joint boxes to the actual quantities of those rather than a measure of the number of 'entries'. For Lead-ins and pole attachments, we have kept the existing measure. Note that in the illustration above, we have added the word 'total' for internal volumes, and 'billed' for external volumes just to help emphasise that different measures are being used.

46. The internal use section could still be broken down into areas where there is no FNB present and areas where there is at least one present, and this would add more transparency which would be valuable to FNBs.

Change 2: Additional Columns on the Cost Side

47. We also propose that four additional columns are added on the cost side of the schedule comprising of two pairs. These are:

- Internal and External Current Cost Accounting (CCA) Return. These are simply calculated results obtained by multiplying the Mean Capital Employed (MCE) by the Return on Capital Employed (ROCE).
- Internal and External Total. These, again, are simply calculated results, this time obtained by adding together Internal (External) Opex and Internal (External) CCA Return.

48. We have illustrated this below with additional information highlighted in light blue.

Figure 2: Proposed Changes to Returns RFS 6.1.1

6.1.1. Physical Infrastructure Summary
For the year ended 31 March 2024

	Internal Opex	External Opex	Internal CCA Return	External CCA Return	Internal Total	External Total
	£m	£m	£m	£m	£m	£m
Inputs to downstream services						
Lead-in duct	11.6	-	47.6	-	59.2	-
Spine duct - 1 bore	42.7	-	172.7	-	215.4	-
Spine duct - 2 bore	10.5	-	45.0	-	55.5	-
Spine duct - 3+ bore	12.2	-	59.7	-	71.9	-
Facility hosting (per manhole entry)	13.5	-	57.4	-	70.9	-
Facility hosting (per joint box entry)	15.0	-	68.6	-	83.6	-
Poles - multi-end-user attachment	25.7	-	8.8	-	34.5	-
Poles - single-end-user attachment	51.3	-	16.8	-	68.1	-
Pole top equipment	5.7	-	1.9	-	7.6	-
Cable up a pole	2.3	-	0.8	-	3.1	-
Total Inputs to downstream services	**190.5**	**-**	**481.4**	**-**	**671.9**	**-**
PI rentals						
Lead-in duct	-	0.5	-	1.5	-	2.0
Spine duct - 1 bore	-	2.7	-	7.3	-	10.0
Spine duct - 2 bore	-	0.6	-	1.6	-	2.2
Spine duct - 3+ bore	-	0.5	-	1.5	-	2.0
Facility hosting (per manhole entry)	-	0.5	-	1.2	-	1.7
Facility hosting (per joint box entry)	-	1.4	-	4.0	-	5.4
Poles - multi-end-user attachment	-	1.9	-	(0.4)	-	1.5
Poles - single-end-user attachment	-	1.3	-	(0.3)	-	1.0
Pole top equipment	-	0.4	-	-	-	0.4
Cable up a pole	-	0.2	-	-	-	0.2
Total PI rentals	**-**	**10.0**	**-**	**16.4**	**-**	**26.4**
Ancillary charges (excl. network adjustment	-	2.0	-	4.2	-	6.2
Network adjustments above financial limit	8.9	-	0.2	-	9.1	-
Rounding	-	0.1	-	-	-	0.1
Total Physical Infrastructure	**199.4**	**12.1**	**481.5**	**20.5**	**680.9**	**32.6**

Source: BT RFS 2023/24, SPC Network

49. Our reasoning for the first two additional columns is simply that the CCA Return represents the 'cost' that needs to be recovered. Our reasoning for the second two is that they provide a very clear total amount for internal use of the physical infrastructure (£680.9m in the illustration above) that can then be traced through to the other schedules.

Change 3: Summary and Reconciliation of Cost Flows to other Schedules

50. Our third recommended change is to include a simple and clear table to illustrate to the reader a) to which downstream business units the internal costs flow; and b) that the total, and only total, amount of internal PIA costs is 'consumed' by downstream business units. We have illustrated this below.

Figure 3: Proposed Additional Table RFS 6.1.1

RFS Schedule	Item	Amount (£m)	
CY 6.1.1	**Total Internal use of PI**	**680.9**	
CY 7.1.2	WLA Area 2	244.4	
CY 7.2.2	WLA Area 3	133.3	
CY 5.2	**Attribution of PI costs**		
	WLA Area 2	244.0	36%
	WLA Area 3	133.0	20%
	LLA Area 2	32.0	5%
	LLA Area 3	23.0	3%
	LLA HNR	2.0	0%
	IEC	11.0	2%
	Non SMP	214.0	31%
	Rest of BT	19.0	3%
	Rounding	2.9	0%
		680.9	100%

51. Whilst this summary and reconciliation table could be included in a number of places in the RFS, we consider that it would be best if it was included as an additional note to schedule 6.1.1

52. We have highlighted one row in the above table – 'Non SMP'. This indicates that more than 30 percent of 'internal' PI costs are not addressed by the main regulated markets (WLA, LLA and IEC). This was something that only became apparent to us when we compiled the above table and, thus, is a clear example of a lack of transparency in the current presentation used by BT in preparing the RFS. There is no indication provided of the services to which 'Non SMP' refers.

53. As Ofcom states in Volume 4, paragraph 1.91 it *"would be concerned if Openreach sets its FTTP prices at a level that undermines the opportunity for a reasonably efficient competitor to recover its costs."* **We hope that Ofcom will appreciate our concern that allocating over 30% of 'internal' PI costs away from WLA with zero justification harms transparency and the ability to calculate whether there is a margin squeeze taking place between WLA and PIA. This proposed table is an illustration of how the use of the RFS extends beyond the regulatory community to commercial managers and investors.**

3 THE PIA CHARGE MODEL

3.1 Introduction

54. In this section of our report, we address various aspects of the PIA Charge Model to improve transparency and to ensure that FNBs are paying their fair share of overall PIA costs. We address the following six points specifically:

- Randomisation of inputs
- Inflation
- Revised approach to poles
- Multiple FNBs using the same PIA
- Lean-in Service
- Simplified Lead-in service.

3.2 Randomisation of Inputs

Importance

55. It is very important for FNBs who use PIA to understand from where and how inputs to the PIA Charge Model are derived. Without a high level of transparency, the value of the model for FNBs and their investors is diminished. This makes it harder for them to make the appropriate management and investment decisions. To promote investment, therefore, it is important that the PIA Charge Model has a high level of transparency.

56. In our experience of other countries, regulators are generally very proficient at explaining the background to, and reasoning behind, the decisions they make, and Ofcom is an excellent example of this. However, when those decisions depend on the outputs of Excel-based cost models the level of transparency can be significantly lower.

57. At the extreme, regulators sometimes neglect to make their cost models available to stakeholders. In other cases, large and complex models are sometimes published with comparatively little time for review and scrutiny by the industry. We have also seen occasional cases in other jurisdictions where, even though a model has been published, all the inputs have been zeroed with the excuse generally made that all inputs are confidential and/or the stakeholders should be expected to enter inputs that are suitable to their particular situation.

58. The problem when faced with a model that has had its inputs zeroed is that the model calculations then lack context because the reviewer has been provided with no idea of what inputs the regulator thinks are appropriate. Regulators have historically responded to such criticisms by agreeing with the SMP operator(s) which inputs are deemed to be "confidential" and then to "randomise" those inputs. This is generally driven by SMP operators claiming that virtually every single input in the model is strictly confidential and, if made public, would seriously damage their business.

59. However, a direct consequence of randomised inputs is that transparency and context decreases making the model less useful for stakeholders. This is compounded when the degree of randomisation is significant, for example if one input is increased by 20% and a neighbouring one is reduced by 20%, or if one set of inputs rises by 20% and another set falls by 20%. After all, if the actual input is 100, then such variances result in potential input swing of 80 to 120, the latter being 50% higher than the former.

The Issue

60. Most of the inputs in the draft PIA Charge Model continue to be randomised, which we understand is due to BT/Openreach claiming that the data is confidential. The randomisation that has been included is a random +/- 20% adjustment of each actual input individually. The compound impact of these adjustments is stark, such that the "Implied X" values that the draft model outputs bear no relation to the Low, Base or High ranges included within the TAR documentation (Volume 4, Table 4.3). The implied X for only two PIA products (Joint boxes and Multi-user attachments) fall within the low to high range. We have illustrated this below.

Figure 4: Values of X

	Draft Model	TAR doc: Table 4.3, page 63 of Vol 4 Sec 4		
	Implied X	**Low**	**Base**	**High**
Lead-in duct	-10.4%	-14.4%	-12.8%	-11.1%
Spine duct – single bore	3.4%	-2.1%	-0.1%	2.2%
Spine duct – 2 bores	5.9%	0.6%	2.5%	4.2%
Spine duct – 3+ bores	3.6%	-2.1%	-0.1%	1.8%
Joint boxes	4.2%	2.8%	4.8%	6.8%
Manholes	6.1%	-1.6%	0.1%	1.7%
	Implied X	**Low**	**Base**	**High**
Facility on pole for Multi-end-user attachment	-1.3%	-3.9%	-1.6%	0.6%
Facility on pole for Single-end-user attachment	-3.2%	-10.0%	-7.9%	-5.7%

Source: SPC Network and TAR Vol. 4 Table 4.3

61. Another example can be seen in the inputs of the current draft for post 2018/19 LDD[9] costs in worksheet [Input data], which has the Net Replacement Cost (NRC) greater than the Gross Replacement Cost (GRC).

Figure 5: LLD Costs

LDD Costs		
		2022/23
Post 2018/19 assets GRC	Opening GRC	£1,477.3m
	Net asset registrations	£409.1m
	Price movement	£262.2m
	Write outs and Other adjustments	£0.0m
	Closing GRC	£2,148.6m
Post 2018/19 assets NRC	Duct Opening NRC	£1,828.6m
	Net Asset registrations	£517.0m
	OCM depreciation	-£53.6m
	Price movement	£280.7m
	Other CCA adjustments	£0.0m
	Closing NRC	£2,572.7m

Source: draft cost model, worksheet [Input data]

62. We would also like to draw Ofcom's attention to Volume 4, Paragraph 4.26 where Ofcom explicitly states that the costs used for the base year "*use costs relating to the 2022/23 RFS for this Consultation but expect to update our base year to a more recent RFS for the Statement*". The costs contained in the RFS are clearly public, and thus non-confidential. The only difference between the costs used as inputs in the cost model are, therefore, that the latter might be in a slightly disaggregated form, which in our opinion is not sufficient justification for them to be deemed confidential in the context of setting prices for PIA services.

63. These issues do not give PIA Coalition members confidence when trying to answer questions from their investors about the potential impact of the TAR with respect to prices covering the next review period. This will result in investors increasing the perceived level of risk attached to both new and on-going investment in the business, potentially increasing their cost of capital.

64. The model has been released to the industry in draft form for consultation review for which the coalition members are very grateful. However, it is not practical for them to

[9] LDD is a BT Class of Works code used for ducts.

"run" the model to replicate the three cases, Low, Base, High, presented by Ofcom in the TAR documentation. Whilst, of course, they could adjust the various inputs and, eventually, replicate the percentages in the documentation, they would clearly have no idea about the validity or relevance of the numbers they had used.

Commentary by Input Type

65. There are a number of different types of input that have been randomised. These are by worksheet:

[Input data] worksheet

- Average usages (this is limited to the duct-related aspect of the Simplified Lead-in Service)
- Installed base quantities (km of duct, # manholes/junction boxes, #single/multi-user attachments)
- Installed base by type of pole (% attribution of total number of poles by pole type)
- Base year cost data (CCA operating costs, and MCE)
- Base year GRC and NRC information
- Asset unit costs:
    - For duct related assets (per km cost of duct, unit cost of manholes/junction boxes, unit cost of poles) used in conjunction with installed base quantities to allocate CCA operating costs and MCE across the different asset types.
    - For poles – this is no longer used within the model, so changing the input makes no difference to the model outputs.
- Base year adjustments to "pay and non-pay costs" – small adjustments, around 3% uplift in total, that consequently only have a minor impact on model outputs.

[Parameters and Assumptions] worksheet

- Pole volume forecasts for each year in the review period
- Duct and manhole/junction box growth percentages for each year in the review period
- Capex forecasts (separately for ducts and poles) for each year in the review period

[Network Adjs] worksheet

- Forecast amounts for duct-related network adjustments for each year in the review period
- Forecast amounts for pole-related network adjustments for each year in the review period

66. For data to be deemed confidential there must be a significant risk of harm to BT's commercial interests, should the actual values for the data be known to the FNBs, and that this harm outweighs the need for transparency and No Undue Discrimination relating to BT's SMP status.

67. It is our considered opinion that this test is not met for any of the inputs currently subject to randomisation. At worst, we consider that the degree of randomisation should be reduced dramatically from +/-20% to a level that will not cause the model outputs to differ significantly from those published within the TAR documentation. We clearly cannot test this ourselves but suspect that this would require a reduction down to +/-2% at most.

68. We provide below specific comments for each of the input types listed in the bullets above which explain why actual data does not need the above test and so why the data does not need to be randomised.

[Input data] worksheet

- Average usages (this is limited to the duct-related aspect of the Simplified Lead-in Service).
  As far as we are aware, these are based on BT data that is only based on a sample.
- Installed base quantities for duct related assets (km of duct, # manholes/junction boxes, #single/multi-user attachments).
  The FNBs are already provided with full access to information on the duct and pole infrastructure of BT/Openreach. Therefore, we fail to see how summarised totals could be confidential.
- Installed base quantities for pole related assets (#single/multi-user attachments).
  This data has not changed from that in the current draft model. Ofcom has informed us that up-to-date data is now available and will be included in the final version but potentially does not distinguish between copper and fibre-based

attachments. With such uncertainty attached to the data, we argue it is paramount that it is made available to FNBs, so that they at least can form a view on the totals.

- Installed base by type of pole (% attribution of total number of poles by pole type).
  As far as we are aware, these are based on BT data that is only based on a sample.
  Even if it were not based on a sample, the total number of poles is published in section 6 of the RFS and so is not confidential.

- Base year cost data (CCA operating costs, and MCE).
  This information is available in section 6 of the RFS.

- Base year Gross Replacement Cost (GRC) and Net Replacement Cost (NRC) information.
  This data is essentially the CCA equivalent to Gross Book Value (GBV) and Net Book Value (NBV) information published in a standard set of accounts and, as such, should not be confidential, particularly given BT's SMP status with regards to PIA.

- Asset unit costs:
  - For duct related assets (per km cost of duct, unit cost of manholes/junction boxes, unit cost of poles) used in conjunction with installed base quantities to allocate CCA operating costs and MCE across the different asset types.
    The actual numbers here are irrelevant as long as their relative size remains constant. We see no reason why any randomisation deemed necessary could not be applied equally to each asset type e.g. all +10%, all -5% etc.
  - For poles (per installed pole).
    This is no longer used within the model, and thus changing the input makes no difference to the model outputs.

- Base year adjustments to "pay and non-pay costs" – small adjustments (around 3% uplift in total) that consequently have only a minor impact on model outputs.
  As far as we are aware, these are based on BT data and are only approximations.

[Parameters and Assumptions] worksheet

- Pole volume forecasts for each year in the review period.
  Both pole additions and pole replacements are important items for the FNBs to be aware of as part of PIA availability and usability, and indeed for transparency and

no undue discrimination reasons given Openreach's internal use for WLA, so we fail to understand why these should be deemed confidential.

- Duct and manhole/junction box growth percentages for each year in the review period.

  Duct and chamber additions are important items for the FNBs to be aware of as part of PIA availability and usability, and indeed for transparency and no undue discrimination reasons given Openreach's internal use for WLA, so again we fail to understand why these should be deemed confidential.

- Capex forecasts (ducts) for each year in the review period.

  These costs represent around a 10 percent uplift in 2026/27, decreasing to around 5% in 2030/31, in the total NRC for post 2018/19 ducts and chambers and, as such, have a direct impact on the model outputs. As with the quantities, duct and chamber capex spend is very important for the FNBs to be aware of as part of PIA availability and usability, especially as we suspect that much of this spend will be related to duct and chamber improvements rather than new rollouts. Once more there is the need for transparency and no undue discrimination related to such forecast spend given Openreach's internal use of PI for WLA. Thus, again, we fail to understand why these forecasts, which after all are only forecasts, with the future "actuals" essentially being reported in future RFS publications, should be deemed confidential.

- Capex forecasts (poles) for each year in the review period.

  These costs represent almost a 20 percent uplift in 2026/27, decreasing to around 7% in 2030/31, in the total NRC for poles and, as such, have a direct impact on the model outputs. Indeed, the NRC of poles is forecast to rise by a huge 60% comparing 2030/31 with 2025/26. As with the quantities, pole capex spend is very important for the FNBs to be aware of as part of PIA availability and usability, especially as we suspect that much of this spend, 73% in 2026/27 rising to 85% in 2030/31, is related to pole replacements and testing rather than new rollouts. Once more there is the need for transparency and no undue discrimination related to such forecast spend given Openreach's internal use of PI for WLA. Thus, again we fail to understand why these forecasts, which after all are only forecasts, with the

future "actuals" essentially being reported in future RFS publications, should be deemed confidential.

[Network Adjs] worksheet

- Forecast amounts for duct-related network adjustments for each year in the review period.
  Again there is the need for transparency and no undue discrimination related to such forecast spend given Openreach's internal use of PI for WLA and the direct impact these amounts have on the model outputs. Thus, once more we fail to understand why these forecasts, which after all are only forecasts, should be deemed confidential.
- Forecast amounts for pole-related network adjustments for each year in the review period.
  Again there is the need for transparency and no undue discrimination related to such forecast spend given Openreach's internal use of PI for WLA and the direct impact these amounts have on the model outputs. Thus, once more we fail to understand why these forecasts, which after all are only forecasts, should be deemed confidential.

3.3 Inflation

Importance

69. The way in which a model using Current Cost Accounting (CCA) deals with inflation, in particular asset price inflation, is critical to ensuring stability and transparency, and again facilitates efficient decision making by managers and investors. The inflation spike in 2022 led to perverse outcomes in the RFS with "internal" Openreach prices being negative, which made it difficult for FNB management to understand whether they were being discriminated against. Finding a different way to deal with inflation whilst maintaining the benefits of using CCA is, therefore, more than an academic exercise, but vital to FNBs' managers and investors.

70. The PIA Charge Model forecasts costs in nominal terms based on the Current Cost Accounting (CCA) methodology, which is the standard approach taken by Ofcom to ensure that the PIA service prices take account of increases in replacement costs due to inflation.

Costs in the model are adjusted each year for inflation using, historically, RPI for assets and CPI for operating costs.

71. Under CCA, depreciation is adjusted for underlying increases in the replacement cost of an asset by means of the inclusion of holding gains or losses, should the replacement cost decrease over time. The impact of this is that the net replacement cost of an asset does not reduce as quickly as it would if there was no asset inflation.

72. The effective depreciation is therefore lower, whereas the mean capital employed remains higher. These differences feed through to both the forecasted model outputs, and indeed to the RFS, which are based on actual inflation rather than the modelled forecasts.

73. Where there is a significant disjoint between the inflation forecasts in the cost model and the actuals in the RFS, this can have significant implications for the internal prices 'paid' by Openreach downstream services for physical infrastructure compared to the regulated external prices paid by the FNBs. There was a stark illustration of this resulting from the inflation spike during the first half of the 2020s.

Current Ofcom Proposals

74. Following the issues that arose out of the inflation spike, together with feedback provided by the FNBs during 2024, Ofcom has proposed making a number of changes to how the impact of asset inflation is treated within the PIA Charge Model[10], and consequently the relevant schedules of the RFS[11]. The changes currently proposed are:

- Asset inflation will be set at a constant rate over the forecast period covered by the model.
- The constant rate for asset inflation will be 2%, reflective of the Bank of England's long-term CPI target.
- Opex inflation will continue to be set at the forecast CPI for each modelled year.

[10] TAR Volume 4, Paragraph 4.6.
[11] TAR Volume 6, Paragraph 5.78.

Suggested Amendments with Reasoning

75. We agree that it makes sense to use a constant Compound Annual Growth Rate (CAGR) rate for asset inflation over the period covered by the model.

76. The same approach should apply with regard to opex inflation with that also being set at a constant rate. Based on the current draft model, this would result in a CAGR for opex inflation of 2.07%, though clearly this would need to be updated for the final version of the model.

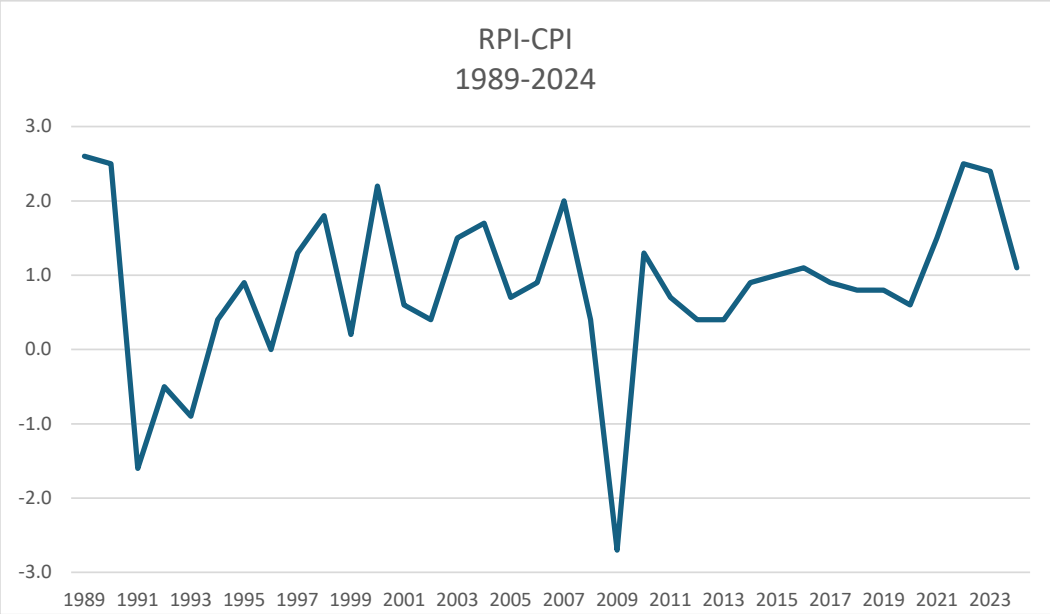
77. In 2012, Ofcom concluded that CPI would not be an appropriate measure for asset price inflation and RPI was selected as being more reflective of inflation trends for assets, which tended to be higher than CPI, whilst still being a widely known and accepted index. Ofcom explains in Volume 6, Paragraph 5.70 that RPI was chosen in 2012 *"… as it was a widely used and understood index and appeared to sit within a range informed by a building cost index adjusted for potential national build discounts.*"

78. Our own analysis of past trends of RPI and CPI since 1989, using data from the Office of National Statistics (ONS), shows that on average RPI has run at 0.9% above CPI over the period. This tallies with the Office for Budget Responsibility, which estimated RPI as 0.9% higher than CPI over the long term.[12] We have illustrated this in the chart below, which shows the difference between RPI and CPI (expressed as RPI minus CPI) over the period 1989 through 2024.

79. It is clear from the chart that RPI has always been higher than CPI, other than in a few exceptional periods. We, therefore, propose that Ofcom sets asset inflation at a constant 3%[13], representing the 2.07% used for opex plus a 0.9% uplift on the CAGR for CPI over the period modelled to represent the long-term difference between RPI and CPI.

[12] https://obr.uk/box/the-long-run-difference-between-rpi-and-cpi-inflation/.
[13] Adjusted as appropriate to take account of the final forecast CAGR for CPI over the review period.

Figure 6: RPI vs. CPI 1989 - 2024



Data Source: Office of National Statistics. Analysis SPC Network

3.4 Revised Approach for Poles

Importance

80. Poles are a vital part of PIA for many network operators and represent a significant operating cost. To promote investment and competition, it is important for FNBs that poles are priced fairly and there is sufficient transparency for management and investors to see this fairness. Any lack of transparency or perceived fairness can act as a barrier to entry and expansion by rivals to Openreach's downstream operations, such as WLA, potentially reducing investment and competition.

81. The current approach for assessing per unit prices for pole-related PIA services, as used in the WFTMR version of the PIA Charge Model, is somewhat convoluted and difficult to follow at least in the sense of having confidence that it a) makes sense; b) will be recovering BT's cost in a fair and reasonable way; and c) will be sending suitable signals to the PIA users on how to utilise the pole estate to its best advantage, for example, by not inadvertently encouraging the use of one pole-related service over others.

82. We accept that there is no single "right" way to allocate pole costs to the various PIA services. However, in our opinion the method adopted should be:

- Straightforward and understandable to a reasonably qualified costing professional.
- Transparent in the way that costs are being recovered on a fair and reasonable basis.
- Auditable by Ofcom to ensure that the methodology fulfils the objectives of fair cost recovery.

83. The approach used in the WFTMR PIA Charge Model did not, in our view, achieve the objectives we have detailed in the above bullets, as we pointed out in our 2024 report. Ofcom has endeavoured to take these concerns on board, for which we are grateful, and has proposed adaptations as a result. We appreciate the effort made by Ofcom in this regard but are still of the opinion that the process could be further improved.

Proposed new Approach by Ofcom and Our Recommended Changes

84. We are pleased to see that Ofcom has taken on board comments we made in our 2024 report about the approach to pole-based PIA charges being overly complex. In particular, we note that the number of services has been reduced to just single and multi-user attachments, and this is certainly something we support.

85. We have reviewed the new approach[14] and believe that since there are only the two services that the approach could be simplified even further. This would increase the transparency of the approach significantly and help to focus attention on what we now believe to be the key input metric – the relative "value" of a multi-user attachment versus a single-user attachment.

86. The main objective of the calculation flow in the worksheet is:

- To assess the annual per unit cost of a generic pole. This is calculated as the total annual cost for all poles divided by the total number of poles of all types.
- To assess the average number of single and multi-user attachments on a generic pole, essentially treating all poles as the same, regardless of their classification within Openreach's recording systems.
- To allocate the annual per unit cost of a generic pole between the single and multi-user attachments in a reasonable manner.

[14] As set out in the calculation flow in worksheet [**Poles Fcast UCs, Charges & Xs**].

- To calculate a per unit annual cost separately for both a single user attachment and a multi-user attachment.
- To adjust the above per unit annual costs according to the relevant fair share percentages.

87. The main aim of the above steps is to provide for a 100% recovery of the annual cost of all poles across all users of those poles, and to do so in a fair and transparent manner. The annual per unit cost of a generic pole, regardless of whether it is a feeder pole, distribution pole or cable pole, is shown in row 36 of the worksheet which, according to the draft PIA Charge Model, is £28.27 per annum per pole for 2026/27.

88. Average or mean usage of a generic pole is essentially the total number of single-user attachments divided by the number of poles plus the total number of multi-user attachments divided by the number of poles. Using the draft model, this works out at 4.16 single and 0.63 multi-user attachments per pole for BTOR usage for 2026/27.

89. Allocation of the cost between single and multi-user attachments is done by considering a multi-user attachment to be "worth" a certain number of single-user attachments. This is currently assessed in what is, in our opinion, a roundabout way, but works out at one multi-user attachment being "equivalent" to around 2.6[15] single-user attachments. We note that the precise value of this "equivalence" is not really that important, if the ratio of usage by the FNBs is broadly similar to that of Openreach.

90. Using this equivalence multiplier, the PIA Charge Model is then able to calculate the per-unit cost of the two attachment types. Final adjustments to these per unit costs are then made to account for FNB usage utilising fair share percentages.

91. Single-user attachments are treated in a similar manner as the simplified lead-in service for ducts. Thus, all single-user attachments are charged at the unit cost level adjusted for a "discount" to reflect the likely proportion of non-revenue generating attachments, that is end customers that subsequently churn to another provider. Multi-user attachments are currently treated the same way as the WFTMR version of the PIA Charge Model treats single-bore spine duct, thus assuming that on average the FNB will deploy the same number of multi-user attachments as Openreach does and resulting in a 50:50 split of the

[15] A value of 2.565 creates the same results as the current draft model.

cost between Openreach and a single FNB. **We would point out here that the 50% used in the current draft of the model differs from the 47.5% stated in Volume 4, Paragraph 4.62 of the TAR documentation to take account of a degree of FNB "overbuild". We assume this is an oversight in the model and will be corrected in the final version of the model. We request that Ofcom provides clarification on this.**

92. **Our recommended changes to the model are as follows:**

- **Add an explicit input for the "conversion factor" between multi-user attachments and single-user attachments. This has the advantage that it will concentrate the minds of the stakeholders on this equivalence factor, without them having to get deeply involved with the way in which the worksheet functions. We would suggest setting this so that it achieves the same results as the current draft, which would be at 2.565.**
- **Use this, alongside the relevant total number of "internal" attachments to attribute the total pole cost between single and multi-user attachments.**
- **Divide by the attachment volumes to arrive at the per unit cost for each attachment type, again based on the "internal" volumes.**
- **Adjust the single-user attachments unit cost by the appropriate lead-in discount.**
- **Adjust the multi-user attachments unit cost by the relevant fair share percentage taking into account multiple FNB usage of the same poles. With this, we would suggest that the default value should be set at the same value for single bore spine duct, as the underlying arguments would be the same.**

93. Implementing the above suggested changes would simplify the model calculation flows and make the key inputs/drivers very transparent to the model users. This would then, when necessary, allow future discussions on inputs to be focussed on those actual drivers which are:

- What constitutes a suitable conversion factor between single and multi-user attachments.
- What the total number of single and multi-user attachments Openreach has/needs to obtain for full coverage of all relevant properties using either copper or fibre, but not both, to prevent double counting during the transition period.

- What adjustments need to be included to account for the appropriate lead-in discount for single user attachments, and fair share percentage for multi-user attachments.

3.5 Multiple FNBs using Same PIA

Importance

94. The provision of physical infrastructure is largely a fixed cost business. The average cost per user can consequently be expected to decline as there are more users of the same piece of infrastructure. It is important, therefore, that this is reflected in the PIA Charge Model driving lower average prices. If this does not happen, Openreach could be perceived as unduly benefiting from its near monopoly by "over-recovering" the cost of PIA provision and using that over-recovery to compete unfairly with other providers.

95. When the WFTMR 2021 version of the PIA Charge Model was released, there was still considerable uncertainty about how successful PIA would be in encouraging FNBs to roll out competing fibre infrastructure. The fair share assumptions were, therefore, based on the broad assumption that there would only be a single FNB utilising PIA services in any given area.

96. During the last five years, however, PIA take up has grown to the extent where there are now multiple FNBs in significant parts of the country, and thus in those areas BT/Openreach is benefitting from cost over-recovery. It is, therefore, necessary that the next release of the PIA Charge Model takes due account of this fact such that, overall, cost recovery is brought back into balance. This will, in turn, help to ensure that the FNBs only pay for a fair and reasonable share of the cost of the physical infrastructure and are thus better able to compete with Openreach's own WLA services.

Overbuild by multiple FNBs

97. There were already 1.9 million premises covered by two or more FNBs as of the end of 2024, according to Point Topic[16], which represents 13% of the premises passed by the FNBs excluding Openreach. Of the 1.9 million, 8.1% had three or more FNBs present.[17] This is a significant increase from 1.1 million at the end of 2023, representing 9.8% of

[16] https://www.point-topic.com/post/uk-broadband-availability-2024.

[17] For avoidance of doubt, we are not aware of how "established" these FNBs are and so make no comment on which geographic market these 1.9 million homes belong in.

premises being passed by them, with 7.2% of the 1.1 million having three or more FNBs available.

Figure 7: Altnet (FNB) Overbuild Evolution

Table 5. Altnet overbuild evolution (2023 – 2024). Source: Point Topic.

Number of FTTP altnets	Premises passed 2023	Premises passed 2024
1	9,790,384	12,520,699
2	983,825	1,726,952
3	73,847	143,009
4	2,529	9,317
Total	10,850,585	14,399,977

Source: Point-Topic

98. If the three percentage point growth per annum were to continue until the end of the TAR review period (2030/31), this would result in around 30% of premises being passed by at least two FNBs at that point. This seems to be broadly in line with Ofcom's own analysis based on network build data obtained for its Connected Nations reports.

Overbuild Fair Share Adjustments

Single Bore Spine Duct

99. Ofcom is currently proposing to reduce the fair share percentage paid by FNBs for single bore spine duct from 50% down to 45.6% in 2030/31. This is based on their analysis suggesting that around 24% of single bore spine duct will have more than one FNB present, and we support that proposal for the reasons Ofcom has stated.

Other duct-related PIA services

100. For multi-bore spine duct, Ofcom is not proposing any equivalent adjustments. In Volume 4, paragraph 4.49, Ofcom explains that this is because the lower fair shares currently in force, 25% for 2 bore and 10% for 3+ bore, already take account of the possibility of multiple FNBs being present. We would question if this is really the case. Our rationale is as follows, concentrating on 2 bore duct as a suitable example.

101. Volume 4, Paragraph 4.104 of the WFTMR stated that:

"*For 2 bore ducts the 25% share we have decided to adopt is consistent with there being four sub-ducts within the two bores: that might be two operators each with two sub-ducts or some other combination*."

102. The "… or some other combination." Is reflective of Ofcom's comment in paragraph 4.102 that "… *there is greater potential for multiple competing telecoms providers to be sharing these ducts and/or that there will be [a] need for more network assets*".

103. The footnote to paragraph 4.104 also states that "*An operator using fewer sub-ducts may not have the opportunity to compete for all end customers served by that section of duct*".

104. Prior to the WFTMR in 2021, the fair share percentage was based on actual records of usage, for which the then figure for 2-bore spine duct was 22%. As Ofcom stated at the time, the 25% proposed was already broadly the same as the 22% it replaced, which was at a time when there was still very low take up of PIA, and certainly virtually no cases of multiple FNB usage of the same spine duct.

105. On that basis, we would argue that the 25% reflected, and still reflects, one FNB that has a need for more network assets rather than two FNBs each deploying a single sub-duct. A similar argument exists for 3+ bore spine duct, where the proposed and implemented fair share was 10%, compared to the latest actual usage share of 9.78%. We would also point out to Ofcom that the current proposed reduction for single bore spine duct, from 50% down to 46%, relates to 2030/31, whereas the 25% fair share for 2-bore was set almost ten years prior to that date.

106. The above points, in our view, support an argument that the multiple FNB adjustment proposed for single bore spine duct should also be applied to multi-bore spine duct.

107. **On that basis, Ofcom should consider making an equivalent reduction in the fair share percentages for multi-bore spine duct and, by extension, joint boxes and manholes too.**

Pole related PIA Services

108. For multi-user attachments, Ofcom is currently proposing a fair share percentage for FNBs of 47.5%, as stated in Volume 4, Paragraph 4.62 of the TAR.

109. We believe that the same approach, and logic, that applies to single bore spine duct should also apply to multi-user attachments, as the degree of overbuild is likely to be the same. **On that basis, we suggest that Ofcom sets the same fair share percentages and**

thus reduces the multi-user attachments' fair share from the currently proposed 47.5% to 45.6%.

3.6 Lead-In Service

110. FNBs are currently concentrating on expanding their premises-passed footprints and attracting their first customers within those footprints. Given the norm for two-year contracts, coupled with industry-norm churn rates, as of today there are likely to be only low levels of multiple FNB lead-ins, both duct- and pole-based, to the same property.

111. By the final year of the TAR review period (2030/31), however, this may well have changed as we would expect FNBs by then to be competing more directly for each other's customers as well as for those utilising Openreach's WLA services.

112. We are not suggesting action needs to be taken now on this point, but we encourage Ofcom to keep a watching brief and undertake a formal review of its extent when preparing for the next five-year period (2031/32 through to 2035/36). We believe that it is quite possible that the analysis of the lead-in discounts at that stage will need to take account of stranded lead-ins from multiple FNBs in overbuilt areas.

3.7 Simplified Lead-in Service

Importance

113. The lead-in service allows the FNBs to make the final connection to the end-customer's property using appropriate PIA services. This connection can be either duct- or pole-based. It is important that the pricing of this service takes account of the fact that when an end-user churns away from an access provider FNBs are highly unlikely to remove fibre from a final connection to a customer premises, but should not pay for a wholesale service for which they receive no customer revenue. Likewise, the competitive landscape will be harmed if Openreach is able to continue to receive payment due to its dominant position. If this were allowed to happen, Openreach would have a significant cost advantage in the market that arises only because of its SMP status, and which cannot be duplicated by any other network operator.

114. In contrast to other PIA services, the FNB will only generate revenue to offset a particular lead-in service for as long as there is a paying customer. When a customer migrates to a provider based on a different fibre infrastructure it does not make commercial sense to

remove the lead-in service, meaning that the FNB continues to pay the relevant charge even though they are not getting any revenue to offset that charge.

115. In the WFTMR, Ofcom decided to account for non-revenue generating lead-ins by reducing the average price paid for all lead-ins by 10%. Whilst this was appropriate in the initial stages of FNB roll outs, the accumulated impact of customer churn over the medium term means that there will be a significant cost over-recovery by BT/Openreach if the price reduction is maintained at 10%.

Current Ofcom Proposals

116. We are very pleased to see that Ofcom has taken on board the recommendations we made in our 2024 report, namely:

- That all component parts of the duct-based lead-in service should benefit from the lead-in discount.
- That the discount should be increased each year to reflect the increasing likelihood of FNBs having a significant number of non-revenue generating lead-ins due to customers migrating to alternative providers.

Potential for Double Counting over Lead-in Service use of Single-Bore Spine Duct

117. When the simplified lead-in service was introduced, as a result of the WFTMR, it was deemed to comprise of three component parts:

- Lead-in duct – 11.33 metres (a randomised input). This has been updated to 10.51 metres in the draft model (randomisation status unknown).
- Single-bore spine duct – 10.362 metres (a randomised input). This has been updated to 8.69 metres in the draft model (randomisation status unknown).
- Joint boxes – 0.407 exits (a randomised input). This has been updated to 0.45 exits in the draft model (randomisation status unknown).

118. Since FNBs also use single-bore spine duct for their own sub-ducts, there is the potential for them to be paying twice for the spine duct if they also have lead-in cables running through the same spine duct.

119. We acknowledge that this issue was raised during the WFTMR process and that, at that time, Ofcom concluded that the amount of any overcharging was likely to be only a few

percent. At the time that the WFTMR was undertaken there was only a limited amount of experience of how the FNBs would actually use the lead-in service, and Openreach's own records were not particularly robust as *"Openreach does not routinely keep records of their underground infrastructure beyond the distribution point"*[18].

120. Given that the proportion of the cost in the model for the lead-in service that is due to the use of single-bore spine duct is around 27%, £3.63 of the total cost of £13.65 for the year 2026/27 in the draft model, we do not consider that this constitutes only a few percent as it forms a significant proportion of the total cost.

121. There should now be a very substantial amount of data available to Ofcom on how the various FNBs use the lead-in service, and the degree to which they do so in spine duct where they have also deployed their own sub-ducts. **We are, therefore, of the opinion that Ofcom could and should undertake a review of this usage to ascertain whether the assumptions and conclusions in the WFTMR are still appropriate.**

Worksheet Error

122. During our review of the model, we uncovered the following error related to the lead-in service:

- In worksheet **[Input data]** there are bad cell references in cells A22 and A23, which result in the cell saying "D&C Shares" and "Lead-in duct" rather than "Lead-in duct" and "Spine duct – single bore".

3.8 Other Concerns

Base Year of Draft PIA Charge Model

Importance

123. The base year of the PIA Charge Model represents the most recent year in the model where actual costs and quantities are used. Every modelled year after that represents a forecast and, with that, an ever-increasing amount of uncertainty. It is, therefore, important that the base year used within the model is as recent as is reasonably practical.

[18] WFTMR 2021, Volume 4, Paragraph 4.132.

Our Concern

124. We note that in the draft PIA Charge Model the base year has been set at 2022/23, which is only three years on from the base year in the WFTMR version of the model. Ofcom may already be planning this, but for the final model, we consider it would be more appropriate for the base year to be 2024/25 for two specific reasons:

- It will be set at five years from the base year used in the WFTMR version of the model, thus reflecting the five-year period of Ofcom's reviews.
- It will help to mitigate against including the tail-end of the period covered by the inflation spike, where inflation was still significantly above the medium to long term trends.

125. We anticipate that the 2024/25 data will be available in time for Ofcom to use this as the base year.

Review of "Draft Final" version of the PIA Charge Model

Importance

126. Usage volumes for PIA have increased much faster than was forecast in the WFTMR version of the model, to the extent where small changes to PIA service prices now aggregate up to very large sums of money both to individual FNBs and across the FNB community.

127. This makes the modelled outputs, on which future PIA service prices are set, extremely important to the ongoing business cases of the FNBs. This applies not only to their ability to compete effectively in the market on a day-to-day basis, but also in their ability to attract further investment to expand their footprints.

128. Ofcom has released a draft version of the PIA Charge Model, but at present this will be the only version that the FNBs can scrutinise prior to Ofcom finalising its proposed decisions. It is quite possible that there will be significant changes to the model between now and the final version, particularly with regards to the use of randomised inputs which have resulted in the current draft outputs bearing little resemblance to the low/base/high cases presented by Ofcom in the TAR. It will also be the case that the model base year in the final version will be two years further forward than that in the current draft.

Our Concern

129. We understand that, currently, Ofcom does not envisage releasing any further drafts of the PIA Charge Model. Given the importance that the FNBs attach to this model, for the reasons expressed earlier in this report, we strongly urge Ofcom to reconsider and, in particular, to consider releasing a draft-final version for stakeholder review. Our specific concerns include:

- The base year in the current draft is still only 2022/23.
- The model outputs bear little resemblance to any of the Low, Base, High cases presented in the TAR documentation due to, in our view, excessive use of input randomisation and the degree of randomisation set at a high level of +/-20%.

130. We would not be looking for a long period of time to review a draft-final version, with four weeks seeming reasonable to us, but we do feel that it is necessary given the importance of the model outputs in setting Ofcom policy over the five-year review period.

4 REVIEW OF SUGGESTED CHANGES IN 2024 REPORT

4.1 Review of Suggested Changes from our 2024 Report

131. We have included below our review of the changes we suggested in our 2024 report when compared with the TAR and associated draft of the updated PIA Charge Model.

132. In some cases we have included references to other sections and/or paragraphs of this response. We have also formatted text in bold to highlight areas where we think that Ofcom should reconsider the points we made in 2024.

2024 Change #	Description (as contained in our 2024 report)	SPC Network Comments
Regulatory Framework Issues		
1	Prices (in the form of transfer charges) used internally by Openreach for PIA services, such as in the BT RFS but also for all other purposes, are set to be the same as the external price paid by the FNBs.	We have reflected more on this issue and have suggested a different approach in **section 2.3** of this report.
2	Ofcom adapts the required RFS layouts such that there is a clear/transparent linkage between the PIA section (6.1.1) and the WLA section (7.1.2), to the extent that the transfer charging is visible for each individual PIA service and that the amounts contained within the PIA section have corresponding entries to those in the WLA section. Furthermore, CCA adjustments should also be shown within the 7.1.2 for each individual PIA service.	Ofcom has taken on board the concerns and requested comments on its proposed amendments. We have included our comments and suggestions in **section 2.3** of this report.
3	Similar enhancements are also made to section 5.1 of the RFS.	Ofcom has taken on board the concerns and requested comments on its proposed amendments. We have included our comments and suggestions in **section 2.3** of this report.
4	Ofcom to review the degree of transparency in the supply of PIA and whether Openreach performs to the standards of "strict equivalence" and to consult the industry on the above.	Ofcom has proposed some changes to the RFS to improve transparency, which we welcome. However, more could be done which we discuss in **Section 2.3** below.
5	If Openreach is found not to be complying with these standards, then Ofcom to impose an EOI obligation on BT with regards to duct and pole access.	Ofcom has not engaged on this point.
Issues related to duct		
6	Ofcom to adapt the next version of the PIA Excel model and/or the price control mechanism to take account of areas where premises are now passed by multiple FNBs utilising the same Openreach PIA and how this is forecast to evolve over the review period.	Ofcom has adapted the PIA Charge Model with regards to single-bore spine duct. We have commented further in **section 3.5** of this report.

2024 Change #	Description (as contained in our 2024 report)	SPC Network Comments
7	Ofcom to implement the necessary data gathering process that would then allow it to gather the relevant information from all relevant stakeholders at the postcode sector level of how many independent FNBs were utilising the PIA services.	Ofcom has presumably done this as the model has now been adapted with regards to single-bore spine duct.
8	PIA service order in next version of Excel model adapted to correspond to that in the RFS.	Not taken into account by Ofcom in current draft of the PIA Charge Model. **We would request Ofcom to reconsider to minimise confusion when comparing model outputs with RFS tables.**
9	Base year costs in the next version of the Excel model are like-for-like compared to the relevant RFS. Randomisations of source costs in the new Excel model version are made such that the totals by PIA service are still correct (and not themselves randomised),	Not taken into account by Ofcom in current draft of the PIA Charge Model. **We would request Ofcom to reconsider to minimise randomisation and assist comparing model inputs with RFS tables.**
10	Analysis of findings, following a comparison of new base year actuals with final year forecasts in the current Excel model, are shared with the stakeholders.	Only done in so far as text contained in the TAR documents.
11	The inputs within the PIA Excel model are adjusted such that the same percentage discount is used for all three component parts of the simplified lead-in service.	We are pleased to see Ofcom has taken this request on board.
12	Ofcom to reconsider which data really does need to be randomised, especially since much of it is now available within the BT RFS documents. Where Ofcom concludes that randomisation is still required, it is done in a way that does not show misleading "trends" from year to year.	Not taken into account by Ofcom in current draft of the PIA Charge Model. **We would request Ofcom to reconsider to eliminate or minimise randomisation and assist comparing model inputs with RFS tables.**
13	Ofcom adapts the model such that it not only records, for example, the physical quantity of an asset class such as single-bore duct, but also records both Openreach and FNB usage of that asset class. The next version is adapted to perform its calculations based on actual usage, by both Openreach and the FNBs, in the base year and then forecast usage over the period covered by the model.	Not taken into account by Ofcom in current draft of model. **We would request Ofcom to reconsider this to at least include its assumptions in the model with regards to multiple FNB take up of PIA services in an area.**
14	Ofcom requires BT to adapt the RFS such that the "Internal Volumes" in section 6.1.1 are adequately explained in terms of what the numbers actually relate to and how they have been calculated. Necessary adaptations to those calculations are made to prevent "double counting" during the period when Openreach is transitioning to a full-fibre local access network.	We have reflected more on this issue and have now suggested a different approach in **section 2.3** of this report.

2024 Change #	Description (as contained in our 2024 report)	SPC Network Comments
15	The next version of the PIA Excel model should retain information on the physical quantities of the duct-related PIA assets.	We are pleased to see Ofcom has taken this request on board.
Issues related to poles		
16	The next version of the PIA Excel model is carefully adapted to ensure that there is no "double counting" of copper and fibre-based attachments, manifolds and cables up poles.	Not taken into account by Ofcom in current draft of model. **We would request Ofcom to reconsider this to at least make very clear in the model that there is no "double counting".**
17	Ofcom engages with Openreach at the earliest opportunity so it can understand better what information is actually available within the Openreach systems in relation to pole utilisation data.	**Unclear that this has been addressed, especially as pole utilisation data in the current draft has not changed since the WFTMR version of the PIA Charge Model.**
18	To the extent practical, the information on pole utilisation reflects the fibre rollout, only reverting to copper where the fibre coverage in an area has yet to reach 100%.	Not taken into account by Ofcom in current draft of the PIA Charge Model. **We would request Ofcom to reconsider this to at least make very clear in the model that there is no "double counting".**
19	Even where fibre coverage is 100%, the final-drop cable count continues to reflect cables running to all premises, using the data for copper-based final-drops (single user attachments) when necessary.	Not taken into account by Ofcom in current draft of the PIA Charge Model. **We would request Ofcom to reconsider this to at least make very clear in the model that there is no "double counting".**
20	The current categorisation of poles in the PIA Excel model between DP, Feeder and Cable poles is removed and replaced by a more detailed analysis of pole usage sourced from Openreach's systems.	Ofcom has now simplified the approach to only price single and multi-user attachments. Therefore, this comment is no longer relevant.
21	Ofcom to reconsider not apportioning any cost to transmission cables running up poles, and instead consider treating them at least equally with other cables running up poles.	Ofcom has now simplified the approach to only price single and multi-user attachments. Therefore, this comment is no longer relevant.
22	Ofcom to insist that Openreach provides accurate data on the use of its poles for cables running up them.	Ofcom has now simplified the approach to only price single and multi-user attachments. Therefore, this comment is no longer relevant.
23	Ofcom takes due account of data provided by Openreach, and potentially the FNBs themselves, when assessing "cables up poles" usage in the next review. Openreach usage is also assessed to reduce to the extent practical the likelihood of "double counting" of	Ofcom has now simplified the approach to only price single and multi-user attachments. Therefore, this comment is no longer relevant.

2024 Change #	Description (as contained in our 2024 report)	SPC Network Comments
	Openreach copper and fibre cables up poles during the transition period to full fibre.	
24	Ofcom to insist that Openreach provides accurate data on the hosting of manifolds on its poles.	Ofcom has now simplified the approach to only price single and multi-user attachments. Therefore, this comment is no longer relevant.
25	Ofcom to reconsider the current assumption that manifolds will only exist on DP poles and whether a safer assumption is to assume that the FNBs would most likely require the same number of manifolds as Openreach does. Ofcom to take into account data provided by both Openreach and the FNBs on actual hosting of manifolds on poles.	Ofcom has now simplified the approach to only price single and multi-user attachments. Therefore, this comment is no longer relevant.
26	Ofcom takes due account of data provided by Openreach, and potentially the FNBs themselves, when assessing manifolds' usage in the next review. Openreach usage is also assessed to reduce to the extent practical the likelihood of "double counting" of Openreach copper and fibre manifolds on poles during the transition period to full fibre.	Ofcom has now simplified the approach to only price single and multi-user attachments. Therefore, this comment is no longer relevant.
27	Ofcom to (a) require much better information from Openreach on pole usage; and (b) reconsider the current approaches taken to assessing the required per unit prices for single and multi-user attachments.	Ofcom has now simplified the approach to only price single and multi-user attachments. Therefore, this comment is no longer relevant.
28	Ofcom takes due account of data provided by Openreach, and potentially the FNBs themselves, when assessing single and multi-user attachment usage in the next review. Openreach usage is also assessed to reduce to the extent practical the likelihood of "double counting" of Openreach copper and fibre single and multi-user attachments on poles during the transition period to full fibre.	Not taken into account by Ofcom in current draft of the PIA Charge Model. **We would request Ofcom to reconsider this to at least make very clear in the model that there is no "double counting".**
29	Ofcom to consider our alternative approach as a method of enabling Ofcom to improve on achieving its objectives of a level playing field coupled with cost recovery (but not over-recovery).	Ofcom has now simplified the approach to only price single and multi-user attachments. Therefore, this comment is no longer relevant.
30	Ofcom to compare the actual usage of poles by the FNBs with that of Openreach in its fibre rollout and with that assumed in the current PIA model. Ofcom should then consider whether the current 90/7/3 attribution remains reasonable in its view, justifying its stance, and modifying it accordingly if not.	Ofcom has now simplified the approach to only price single and multi-user attachments. Therefore, this comment is no longer relevant.
31	Ofcom reflects on how the cost of single-user attachments should compare to multi-user attachments during the next review. Ofcom also consults with industry on this specific matter, especially given that	We have proposed further amendments to the proposed changes already made by Ofcom in this regard. These can be found in section 0 of this report.

2024 Change #	Description (as contained in our 2024 report)	SPC Network Comments
	there is now a considerable take-up of pole-related PIA services.	
32	Base year costs in the next version of the Excel model are like-for-like compared to the relevant RFS. Randomisation of source costs in the new version of the Excel model is only done where absolutely necessary, are in such a manner that the totals by PIA service are still correct (and not themselves randomised).	Not taken into account by Ofcom in current draft of the PIA Charge Model. **We would request Ofcom to reconsider this to minimise randomisation and assist comparing model inputs with RFS tables.**
33	Analysis of findings, following a comparison of new base year actuals with final year forecasts in the current Excel model, are shared with the stakeholders	Only done in so far as the text contained in the TAR.
34	Ofcom to check, and confirm to stakeholders, that there was no double counting in pole-related opex, and that the pole testing costs in the current Excel model are in addition to the base year pay and non-pay costs.	We are pleased to see Ofcom has taken this request on board.
35	Ofcom to make it explicit in the next version of the PIA Excel model whether or not the base year pay and non-pay costs for poles includes, or excludes, costs specific to pole testing.	We are pleased to see Ofcom has taken this request on board.
36	Ofcom to undertake a formal check/audit of the forecast pole-testing costs (and thus number of poles tested annually) against the numbers in the current Excel model, and to share its findings with stakeholders.	No indication in the TAR whether this has been actioned or not.
37	Ofcom to establish what data Openreach currently stores on a pole-by-pole basis, such as within a GIS database, and Openreach's current practices regarding the checking and updating of this data each time a pole test is carried out. As part of this, Ofcom to impress on Openreach the importance of this data being up to date and accurate, and that Openreach is expected to take whatever action is necessary to ensure this is the case.	No indication in the TAR whether this has been actioned or not.
Issues Common to Duct and Pole		
38	Ofcom should confirm in due course what approach it will adopt for the next version of the Excel model, for example substituting the 2019/20 data from Openreach with that corresponding to the relevant new base year and with pole-related costs sourced from the new pole-specific COW.	New base year is currently only 2022/23. **We would urge Ofcom, if not already planned, to ensure that the base year in the final version is set to 2024/25.**
39	The next version of the Excel model should show both the total cost associated with each individual COW, along with the cost that has been "apportioned" to PIA services. There should also, within the model itself, be a brief descriptor attached to each code as to what it covers, and if less than 100% has been attributed to PIA services the reason for this should be provided along with the method undertaken to calculate the percentage used.	Not taken into account by Ofcom in current draft of the Model. **We would request Ofcom to reconsider as this will improve transparency with comparing model inputs to equivalent data in RFS tables.**

2024 Change #	Description (as contained in our 2024 report)	SPC Network Comments
40	Ofcom to undertake a formal review/audit of any relevant changes that have taken place to the use of classes of work, including the introduction of new COW codes relevant to PIA services.	No indication in the TAR whether this has been actioned or not.
41	Ofcom also undertakes a formal review/audit on the HCA costs that have been allocated to the relevant COW codes in the intervening years since the last market review.	No indication in the TAR whether this has been actioned or not.
42	Ofcom to consider "carrying forward" the final year GRC and NRC values from the current model into the new version and to recover the differences gradually over the modelled timeframe.	Not taken into account by Ofcom in current draft of the PIA Charge Model. **We would request Ofcom to reconsider as this will better reflect a level playing field.**
43	Ofcom, as part to the next review to be explicit on how the £4,750 limit, or whatever the new amount is, should be applied by Openreach. Ofcom also should be more explicit in how Openreach's own network adjustment costs are audited in this respect.	We are pleased to see that Ofcom is proposing no limit for network adjustments for the purpose of attaching drop wires (Volume 4, Para 4.71). We would, however, request that Ofcom reconsiders its proposed decision not to raise the current financial limit of £4,750 per km of spine duct, given the accumulated inflation that has occurred since the WFTMR was conducted.
44	Ofcom should review the above concerns and undertake the necessary work to satisfy itself that there are no issues with regards to discrimination and should justify its position on this to stakeholders. Where either transparency issues and/or level playing field issues are accepted as being present then Ofcom should address these as part of the TAR, including potentially a move away from NUD and towards EOI.	Ofcom continues to regard NUD as a sufficient remedy. **We suggest that Ofcom reconsiders its position and at least keeps the possibility of imposing EOI as a last resort if NUD is found not to be sufficient.**
45	Ofcom to reflect on what the appropriate discount should be for the next review period.	We are pleased to see Ofcom has taken this request on board.
46	Ofcom to consider whether the discount should progressively rise for each modelled year instead of being, in effect, a weighted average forecast.	We are pleased to see Ofcom has taken this request on board.
47	Ofcom should consider how best to take account of the upcoming demise of the current method of calculating RPI. Our current thinking is that a move to a fixed percentage above CPI might be most appropriate, especially as it should help to make the PIA service price forecasts, and actuals, more stable with changes in inflation rates.	Ofcom has currently set asset inflation "at" CPI rather than a fixed percentage above it. We have commented further on this in **section 3.3** of this report.
48	Ofcom to consider using a constant CAGR for both CPI and RPI for each forecast year within the next version of	We are pleased to see Ofcom has taken this request on board

2024 Change #	Description (as contained in our 2024 report)	SPC Network Comments
	the PIA Excel model, rather than using the actual forecast for the applicable years.	for asset inflation. **We would urge Ofcom to also reconsider using a constant CAGR for opex, for reasons of consistency of approach within the modelling.**
49	Ofcom to consider carrying forward the final year asset values from the current model into the next version of the PIA Excel model and adjusting the RPI inflation index such that the model will still trend towards the actual forecasts of Openreach's CCA asset values by the end of the new model period.	Not taken into account by Ofcom in current draft of the PIA Charge Model. **We would request Ofcom to reconsider as this will better reflect a level playing field.**
50	Ofcom to incorporate up-to-date data on the existing usage of PIA services within the next version of the Excel model. Included within this should be specific acknowledgement of the number of premises passed by multiple alternative FNBs. Ofcom to also address the pressing need to adapt the Excel model to address clear cases of cost over recovery by Openreach where multiple non-Openreach FNBs utilise the same PIA infrastructure.	No specific mention of actual PIA usage by FNBs in the current draft of the PIA Charge Model. **We would request Ofcom to reconsider as this will improve transparency of a fair approach being taken by Ofcom in the modelling.** We are pleased to see Ofcom has taken our request on board for the model to account for multiple FNB usage of the PIA in certain areas. We further comment on this in section 0 of this report.
51	Ofcom to consider adapting the next version of the Excel model to calculate additional capex spend on duct-related assets within the model using inputs sourced from Openreach rather than simply accepting Openreach aggregated forecasts of capex spend over the period.	Not taken into account by Ofcom in current draft of the PIA Charge Model. **We would request Ofcom to reconsider as this will improve transparency of a fair approach being taken by Ofcom in the modelling.**
52	Ofcom to undertake a comparison between the Openreach provided unit costs and the Openreach ECC price list during the next review as a cross-check on the data supplied by Openreach, and in the interests of transparency to the FNBs. To the extent practical, unit costs within the next version of the model to reflect the ECC price or at least follow the same underlying logic with differences documented and justified.	Having reflected on this point, our concerns over the unit costs in the PIA Charge Model are more to do with the high degree of randomisation used for inputs deemed to be "confidential".
53	Where a change in WACC might be required, Ofcom should consult with the industry to ensure such a change is justified.	We are pleased to see that t his is covered by Annex 20 in the TAR.

Annex A: Summary of Minor Model Errors

Included here is a summary of a few minor model errors we found during our review of the draft PIA Charge Model. This has been done to ensure that they are all listed in one place for ease of reference for Ofcom even if also mentioned earlier in main body of the report. We have provided the list in worksheet order and, as can be seen, errors were only found in three of the worksheets.

[Input data]

There are bad cell references in cells A22 and A23, which result in the cells saying "D&C Shares" and "Lead-in duct" rather than "Lead-in duct" and "Spine duct – single bore".

[Parameters and Assumptions]

No errors spotted.

[Network Adjs]

This worksheet is now an input worksheet and thus would benefit from being move to the left of the **[Calculations ->]** tab worksheet.

[D&C Vols]

No errors spotted.

[LDD forecasts]

No errors spotted.

[D&C Cost Forecasts]

No errors spotted.

[D&C Forecast UCs, Charges & Xs]

No errors spotted.

[Pole volume forecasts]

No errors spotted.

[Poles main COW Forecasts]

No errors spotted.

[Poles costs forecasts]

No errors spotted.

[Poles Fcast UCs, Charges & Xs]

This worksheet has #REF errors in it, due to the removal of product costing for the Manifold and Cable Up Pole services. We would appreciate it if these errors could be removed in the final version of the model and would suggest replacing these cells with simple grey shading. The relevant rows are 72:73, 87:88, and 96:97.

[Model outputs]

No errors spotted.

Annex B: Glossary of Terms

CCA: Current Cost Accounting

CP: Communications Provider

COW: Class of Work. This is the set of accounting codes used by Openreach to record costs.

DP: Distribution Point

EOI: Equivalence of Inputs

FNB: Fibre Network Builder. These are the competing operators that are deploying their own fibre infrastructure and making use of Openreach PIA services.

FY: Financial Year

GBV: Gross Book Value. This is the purchase price of an asset.

GRC: Gross Replacement Cost. This is the replacement cost of an asset, assessed using CCA.

IEC: Inter-Exchange Connectivity

ISP: Internet Service Provider

LDD: A Class of Work (COW) code used by BT for duct.

LLA: Leased Line Access

NBV: Net Book Value. This is the depreciated value of an asset.

NRC: Net Replacement Cost. This is the depreciated replacement cost of an asset, assessed using CCA.

NUD: No Undue Discrimination

PI: Physical Infrastructure

PIA: Physical Infrastructure Access

RFS: BT's annual Regulatory Financial Statements

ROCE: Return on Capital Employed

SMP: Significant Market Power

TAR: Telecoms Access Review, basically the new name for the WFTMR and which is due to be completed in 2026.

VULA: Virtual Unbundled Local Access

WACC: Weighted Average Cost of Capital

WFTMR: Wholesale Fixed Telecoms Market Review, the last of which was completed in 2021.

WLA: Wholesale Local Access. These are the fibre/fibre-based wholesale services that Openreach provides to the retail ISPs.