PIA Costing

INCA Submission to the Ofcom TAR 2026-31

July 2024

the independent networks cooperative association

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1 Executive Summary

1 The UK Government, in the SSP,[1] considered that passive infrastructure, such as ducts and poles, typically forms the largest expense in deploying networks, and that sharing this infrastructure reduces costs and supports market entry from Altnets. It also described a fair bet regime whereby firms making large and risky investments would have confidence that any regulation or change in regulation will reflect a fair return on that investment commensurate to the level of risk.

2 In the WFTMR Ofcom established a regime for determining prices of PIA products based on the costs of BT's duct and pole infrastructure reported in the Regulated Financial Statements (RFS), projected over the 5-year review period.

3 The resulting charge control was intended to support Ofcom's aim of a level playing field between Openreach and other telecoms providers making use of PIA.

4 INCA believes that investment by Openreach in shared passive infrastructure is inherently low risk for Openreach, and that to maximise investment in fibre networks and incentivise competitive entry, the charges for PIA should be minimised whilst fairly reflecting the low-risk nature of the passive infrastructure.

5 The cost base used to set the PIA charges should therefore be at a level where BT is able to recover its efficiently incurred costs, including an appropriate return on capital, but no more. Charges above this level will provide BT with excessive returns at the expense of Altnets; this will not only harm investment incentives and competitive deployment, but also end consumers.

6 Information published in the RFS covering the first two years of the WFTMR charge control period suggests that, so far, BT has recovered 1100% more revenue from Altnets' PIA charges than the underlying cost base. This represents £11 million over-

[1] Statement of Strategic Priorities for telecommunications, the management of radio spectrum and postal services, 29 October 2019

recovery in revenue by March 2023; this amount will increase substantially by the end of the WFTMR period in 2026. This is contrary to the fair bet principle.

7 We recognise that BT should rightly expect to recover the efficiently incurred costs of its duct and pole assets, and we also believe it is reasonable that BT should benefit from genuine efficiency savings. However external factors (such as the inflation rate which affects the CCA values) are beyond BT's control and are not valid reasons for over-recovering the asset value and should therefore be excluded. Similarly, errors in forecasting volumes of passive infrastructure may result in over or under-recovery and should be adjusted for.

8 In the TAR, Ofcom must adjust the PIA charge controls to compensate PIA users for this over-recovery; this is likely to result in average price reductions of more than 30% over the TAR period.

9 The treatment in the RFS of BT's own use of passive infrastructure is inconsistent with Altnets' usage; Openreach's downstream businesses are charged at cost rather than using the PIA prices, which results in a much-reduced charge (negative for some products), to the benefit of those internal businesses.

10 These differences between costs and prices, and the discrepancy between internal and external charges, have been exacerbated by high levels of inflation which have caused large holding gains in the asset base. But even in periods of more stable inflation, Ofcom's current approach to setting the price control is likely to give rise to material over-recovery over a five-year review period. It is therefore essential that changes are made during the TAR to address this.

11 First, the regulated asset base (RAB) used to determine the future PIA charge controls should be reviewed and adjusted to ensure that the substantial levels of over-recovery incurred to date (both in the WFTMR period and before) are removed.

12 Second, a regime should be introduced whereby only efficient capex and opex is included in the RAB, and that adjustments are made after each review period to reflect this.

13 Third, there are several changes required to the ongoing RAB process:

- Asset indexation should be changed from RPI to CPI, given that RPI is not planned to be published after 2030 and is no longer the official measure of inflation.
- The inclusion of holding gains should be re-considered, given the instability this has caused during the WFTMR period.
- The Openreach WACC currently used for PIA pricing overstates the risks of Physical Infrastructure (PI) investments; it should be replaced with a disaggregated WACC appropriate to passive infrastructure. This is essential to ensure that the allowable returns under a fair-bet principle are appropriate to the risks incurred.

14 As an alternative approach, if Ofcom decides not to adjust the opening value of the RAB to ensure it includes only unrecovered costs, it would be possible to continue with BT's CCA but using a modern equivalent asset (MEA) approach to reflect a duct network suitable for modern fibre networks. Under this regime, the capital and operating costs of serving the legacy copper network would be excluded from the RAB.

15 Finally, Ofcom must reconsider its approach to reporting the PI market in the RFS, ensuring that the internal and external usage of the assets is shown on a non-discriminatory basis. At the very least, this should involve showing internal PIA revenues based on volumes and prices on a comparable basis to external revenues. The current approach is discriminatory and is inconsistent with long-established principles of accounting separation.

2 Introduction

16 In the WFTMR[2], Ofcom found that BT had SMP in the physical infrastructure market and considered that BT had the incentive and ability to set PIA prices at an

[2] Ofcom WFTMR Decision 4.9

excessively high level which would have adverse consequences for end users and could limit the emergence of network competition by undermining the investment case for alternative network deployment.

17 Ofcom therefore set a charge control on PIA rentals to address these risks, with the explicit intentions of:

- allowing Openreach to recover its efficiently incurred costs;
- ensuring a level playing field between Openreach and other telecoms providers using PIA to provide downstream products; and
- ensuring a simple and easy to implement way to set prices.

18 Ofcom based the charge control on BT's PIA costs as reported within the RFS on a fully-allocated CCA basis, using projections to forecast costs and volumes over the 2021-26 review period.

19 In considering its charge control, Ofcom considered two overarching issues: whose costs and how they should be measured or valued; and how the costs should be recovered. This submission concerns the former of these issues, while a separate paper will consider the latter.

20 The following sections consider Ofcom's regulatory objectives in controlling the PIA charges and present INCA's views on how Ofcom should determine the regulatory cost base for the TAR.

3 Regulatory Objectives

21 The UK Government, in the SSP,[3] correctly identified that passive infrastructure such as ducts and poles typically forms the largest expense in deploying networks,

[3] Statement of Strategic Priorities for telecommunications, the management of radio spectrum and postal services, 29 October 2019

and that sharing this infrastructure reduces costs and supports sustainable market entry from Altnets.

22 The Government also set out its view of the fair bet principle, stating that "an effective 'fair bet' regime would be one that allows firms making large and risky investments to have confidence that any regulation will reflect a fair return on investment, commensurate to the level of risk incurred at the time of making the investment decision."

23 In the WFTMR, Ofcom stated that its decisions seek to support fibre investment by ensuring: "a level playing field exists between Openreach and other telecoms providers that make use of PIA to provide downstream products".[4]

24 Ofcom also stated: "We also consider that a cost-based charge control supports our aim of ensuring a level playing field between telecoms providers and Openreach when making use of the physical infrastructure."[5]

25 INCA believes that investment by Openreach in shared passive infrastructure is inherently low risk for Openreach. Regardless of which operator succeeds in capturing downstream market share in an area, demand for duct and pole access will remain. There is little or no market risk, very little construction risk and with fibre absolutely no technology risk. It is therefore clear that the bulk of the risk for Openreach in deploying fibre services is associated with the downstream layers, not with the passive infrastructure.

26 To maximise investment in fibre networks and incentivise competitive entry, the charges for PIA should be minimised. INCA agrees with Ofcom's intentions stated in paragraph 3 above; the cost base for PIA should be set so that BT is able to recover its efficiently incurred costs. But allowing PIA prices at a level where BT recovers more than these costs reduces investment incentives and has a negative effect on fibre network deployment, competition and, ultimately, consumer prices. Minimising

[4] WFTMR Decision 2021 para 4.12
[5] WFTMR Decision 2021 para 4.23

PIA charges would benefit all operators investing in fibre networks, BT's businesses downstream of passive infrastructure, Altnets, ISPs and thereby all end-customers.

27 It is also important that PIA charges are stable and predictable over time. Altnets building fibre networks using PIA are taking on a high degree of risk, making long (20+ year) investments depending on a critical input owned by a key competitor, and protected by only a 5-year regulation. It is therefore vitally important that the cost base used to determine the pricing is stable over a long period.

28 INCA therefore believes that Ofcom must base its PIA pricing on a cost base which, while it allows a reasonable return for BT, ensures that BT does not over-recover its costs, and that provides for stable and predictable prices over time.

4 Determining the Regulatory Cost Base

4.1 Background

29 The PIA remedy was initially introduced by Ofcom into the broadband market in 2010 following a review of the WLA market and was continued following its 2014 review, although uptake was very limited.

30 Following the 2018 WLA market review,[6] Ofcom set price caps on the PIA prices, and established a regime whereby the cost base was determined from CCA asset values, depreciation (including holding gains), operating costs and return on capital employed, using a snapshot from the most recent RFS.

31 Ofcom imposed unrestricted PIA access in its decision in 2019 following the PIMR market review,[7] with prices capped at the level from the 2018 WLA decision.

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[6] Wholesale Local Access Market Review: Statement – Volume 3 Physical infrastructure access remedy, 28 March 2018

[7] Promoting competition and investment in fibre networks: review of the physical infrastructure and business connectivity markets Volume 1: market analysis, SMP findings, and remedies for the Physical Infrastructure Market Review (PIMR), 28 June 2019

32 In the 2021 WFTMR, Ofcom continued this regime, but introduced forecasts of capex, costs and volumes to its model for the new 5-year charge controls. Ofcom stated: *"We have therefore decided to base the costs within our cost-based charge control on the valuation of PIA assets on values as recorded and audited within BT's RFS. We believe that this provides a relatively stable, transparent and predictable basis on which to set prices and is consistent with our objectives."*

33 Changes were also made to the reporting of PIA costs in the RFS, with an obligation to report volumes and prices for the main rental products used externally. BT's own usage of these products, however, was allowed to remain on a cost basis without reference to external prices, although volumes are reported along with a notional "price".

4.2 Current charge control period

Holding gains

34 The current charge control has been in force for over three years, and so far BT has published RFS reports relating to the first two years. Data on the PIA market for these years, plus the year prior to the start of the charge control, is summarised in the table below.

Table 1: PI market cost data from BT's RFS

£'m	2020-21	2021-2 restated	2022-3
Historical opex incl depreciation (1)	339	302	274
Holding Gain (cost impact) (2)	-92	-565	-932
Other CCA adjustments (3)	94	133	189
Total CCA opex (4) = (1)+(2)+(3)	**341**	**-130**	**-469**
CCA Mean Capital Employed (5)	5,171	5,523	6,327
WACC (6)	7.1%	0.0%	0.0%
Fully allocated cost including ROCE = (4)+(5)*(6)	**708**	**257**	**-39**

35 It is apparent that the cost base has been affected by large holding gains over this period. This is primarily due to high levels of inflation which have resulted in strong asset inflation in the accounts; this results in large holding gains which, under the

CCA methodology, are taken into the profit and loss account, and hence reduce CCA costs.[8]

36 While it is likely that inflation will reduce for the remaining years of the charge control, it is unlikely to reduce to a negative value which would provide a holding loss to offset the holding gain over the period. It therefore appears highly likely that, by the end of the current charge control period, the cumulative costs will be negative; at the least they will be much lower than Ofcom's forecasts.

37 The holding gains for the first two years of the charge control amount to over £1.5 billion of reduction in the passive infrastructure cost base, none of which is passed on to external users under the current system – clearly unfair and distorting.

Internal vs external pricing

38 There is a difference in the way in which internal and external use of PIA products is shown in the RFS, as summarised in the table below using information from the 2022-23 RFS.

Table 2: Comparison of internal and external PIA usage in BT's 2022-23 RFS.[9]

£'m	Internal usage				External usage			
Product	**Revenue**	**Opex**	**Mean Capital Employed**	**ROCE**	**Revenue**	**Opex**	**Mean Capital Employed**	**ROCE**
Lead-in duct	-11	-52	601	6.8%	0.9	-0.2	2	51%
Spine duct - 1 bore	-5	-199	2,301	8.4%	3.2	-1.3	15	31%
Spine duct - 2 bore	-1	-51	583	8.5%	0.7	-0.2	3	34%
Spine duct - 3+ bore	-2	-72	825	8.6%	0.7	-0.3	3	30%
Facility hosting (per manhole entry)	-13	-62	713	6.8%	0.7	-2.9	34	11%
Facility hosting (per joint box entry)	-19	-82	938	6.8%	1.9	0.0	1	322%
Poles - multi-end-user attachment	19	12	90	6.8%	0.6	0.3	2	12%
Poles - single-end-user attachment	37	25	180	6.9%	0.3	0.1	1	17%
Pole top equipment	4	3	21	6.9%	0.1	0.1	0	18%
Cable up a pole	2	1	9	6.8%	0.1	0.0	0	21%
Total	**11**	**-477**	**6,261**	**7.8%**	**9**	**-4**	**61**	**22%**

[8] In periods of high inflation, Holding Gains for long-life assets such as duct, fibre and poles, can exceed the additional CCA depreciation charges and cause high levels of reported profitability (and even negative total costs). This higher level of profitability will be offset in future years by higher CCA depreciation charges, as Total Holding Gains = Total CCA Additional Depreciation in economic terms. CCA accounting can also result in large fluctuations in costs from year to year, and even from one 5-year charge control period to the next – which is what is happening in the WFTMR period.

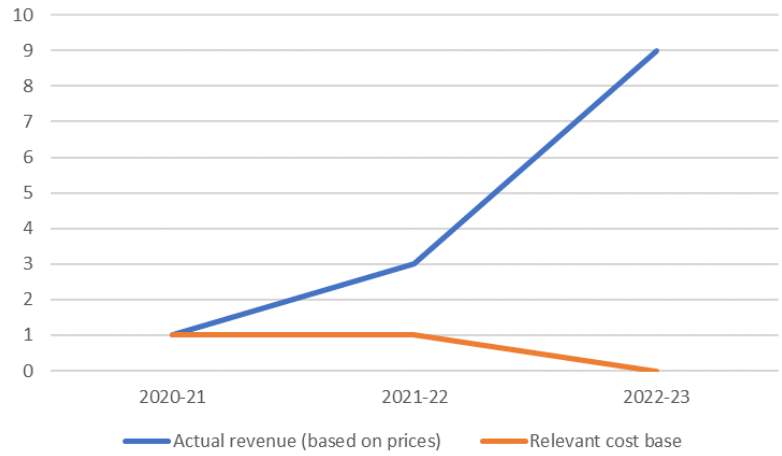
[9] In the RFS, the ROCE for internal use is shown as being equal to the 2022-23 WACC of 6.8% for all products. In this table some of the products have a different ROCE which is due to inconsistences between the reported revenue and the revenue calculated from the reported costs and volumes.

39 For internal usage, BT reports PIA revenue based on the costs plus a markup for cost of capital; for most products this results in a negative revenue due to the holding gains described in paragraph 35 above.

40 Conversely, for external usage of PIA, the revenue is not based on reported costs, but is based on the prices paid and volumes used by external customers. This results in positive revenues for all products, and a significantly higher ROCE for BT compared to the internal usage.

41 Figure 4-1 below shows the actual revenue paid by Altnets for PIA services compared to the costs incurred by Openreach to provide those services.

Figure 4-1: Comparison of price-based revenue vs costs for external PIA usage (£ million per year)



£'m RFS year	Reported revenue	Revenue using relevant costs	Difference
2021-2022 restated	3	1	2
2022-23	9	0	9
Total	**12**	**1**	**11**

42 If the prices had been adjusted to match the cost base in each year, then over the first two years of the current charge control period Altnets would have paid £11 million less in PIA charges. This represents an over-recovery on external PIA charges of 1100% over the underlying cost base.

43 BT's own internal usage of PIA is charged at cost, to the benefit of BT's downstream markets. If internal usage were to be reported on a similar basis to the external usage, then the PIA revenues and ROCE would be considerably higher. Table 3 below shows this for the 2022-23 RFS; the external revenues are calculated from the internal volumes multiplied by the external prices.

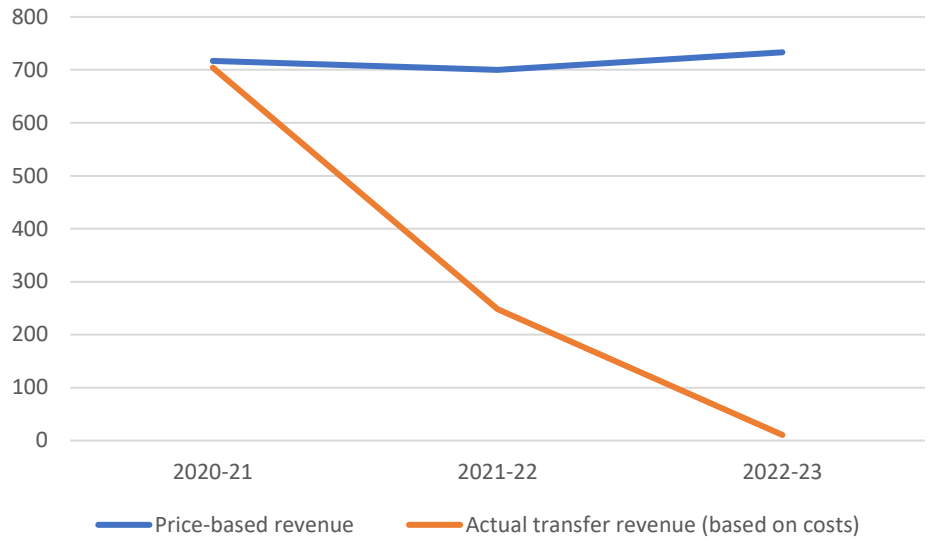
Table 3: Comparison of internal returns from PIA in 2022-23 using external prices vs Ofcom approach

£'m	Using Ofcom methodology		Using external prices	
Product	**Revenue**	**ROCE**	**Revenue**	**ROCE**
Lead-in duct	-11	6.8%	89	24%
Spine duct - 1 bore	-5	8.4%	234	19%
Spine duct - 2 bore	-1	8.5%	71	21%
Spine duct - 3+ bore	-2	8.6%	81	19%
Facility hosting (per manhole entry)	-13	6.8%	65	18%
Facility hosting (per joint box entry)	-19	6.8%	127	22%
Poles - multi-end-user attachment	19	6.8%	16	3%
Poles - single-end-user attachment	37	6.9%	44	11%
Pole top equipment	4	6.9%	4	4%
Cable up a pole	2	6.8%	1	1%
Total	**11**	**7.8%**	**732**	**19%**

44 By applying this more equivalent approach to the reporting, Openreach's PIA revenues increase from £11 million to £732 million, and the ROCE increases from 7.8% to 19%. This indicates that, during 2022-23, the PIA prices from BT's reference offer were overstating costs by £721 million.

45 A similar pattern is shown for the prior year, as summarised in Figure 4-2 below.

Figure 4-2: Price-based annual revenue vs costs for BT internal usage of PIA (£ million)



£'m RFS year	Reported revenue	Revenue using external prices	Difference
2021-2022 restated	248	700	-452
2022-23	11	733	-722

46 Over the 3 years from 2020 to 2023, there is a difference of almost £1.2 billion between Openreach's reported internal PIA revenues and those that would have resulted from pricing equivalent to that paid by external users.

47 Meanwhile the CCA mean capital employed has increased significantly over the period due to inflation. For the TAR, if Ofcom were to continue with the current methodology, then this increased asset value would drive higher prices in the forthcoming review period, yet the external users of PIA will not have benefited from the reduced (even negative) costs in the current review period; indeed Openreach are able to increase nominal prices according to the CPI-based price caps, and have done so during the review period so far. Clearly, this is grossly unfair.

48 This is contrary to the situation for BT's own downstream users of PIA, where the negative costs have resulted in a credit for internal transfers downstream, benefiting BT's active and dark fibre products.

49 It is therefore apparent that Ofcom's costing approach using BT RFS has not resulted in a stable, transparent and predictable cost base on which to base PIA pricing. Furthermore, the current arrangements serve to significantly benefit Openreach to the detriment of its competitors and distort markets downstream (in wholesale services and therefore also in retail services).

Impact of price distortion

50 In the WFTMR, Ofcom stated that *"Users of the RFS will be able to assess aspects of performance such as the returns on external PI purchases, the take up of PI services, trends in total PI costs and the proportion of PI costs attributed to downstream Openreach services."*[10]

51 According to the two years of RFS published since the WFTMR, Openreach has earned a ROCE on sales to external customers considerably above its WACC across all PIA products; in the case of duct rentals in 2022-23 the return ranges from 30-50%, against a WACC of 6.8%.

52 This is far from a level playing field. Under the current regime, Altnets have paid rental prices which are significantly higher than the costs to BT of providing the PIA services. Furthermore, the final CCA value of the assets, if used as the starting value for the next review period, will result in even higher prices in the next review period.

53 It is essential that Ofcom addresses this issue in setting the charge controls for the TAR; regardless of our recommendations in the following sections, it is clear that Openreach has benefited from the fact that prices so far under the WFTMR have been substantially above costs, and that this benefit is primarily caused by external inflationary pressures which are outside Openreach's control.

54 By March 2023, the cumulative discrepancy between actual PI costs and Ofcom's WFTMR forecast (used to set the price controls) was over £1.2 billion,[11] and this is

[10] Promoting competition and investment in fibre networks: Wholesale Fixed Telecoms Market Review 2021-26, Volume 6: BT Regulatory Financial Reporting, paragraph 3.140

[11] Based on the forecasts in the non-confidential version of Ofcom's pia charge control model.

likely to increase substantially by March 2026. If this amount were to be recovered over the five-year period of the TAR, it would amount to £240 million per year, which is around 34% of the current annual cost base for PI. It is therefore clear that, ceteris paribus, an average PIA price reduction of at least 34% would be needed over the TAR period to compensate external PIA users for this over-recovery.

55 Ofcom should also take steps to ensure that the approach to determining the cost base (for the TAR and beyond) is improved to provide some resilience to the instability caused by unpredictable factors such as high inflation. In the next sections, we describe two approaches which could be taken in the TAR to address these and other problems:

- Implementing a full RAB, including adjusting for previous recovery of costs; or
- Optimising the modelled duct network.

4.3 Implementing a full RAB

Avoiding continued over-recovery

56 During the WFTMR consultation, several stakeholders argued that the cost base for PIA was incorrectly valued and failed to take account of the previous over-recovery of the asset base. It was noted that there were no attempts by Ofcom to adjust the asset base for over-recovery since the RAV review in 2005[12].

57 Ofcom argued that its charge controls only apply to the forward-looking period of the review, and that prior to this Openreach is permitted to keep any upside it achieves, with the aim of providing incentives to improve efficiency. Ofcom therefore decided it was inappropriate to offset historical revenue against costs in determining the PIA charge controls.

58 INCA continues to believe that, given the objectives of Ofcom and the Government, for non-replicable assets such as ducts and poles, the regulatory asset value (RAV)

[12] Ofcom: Valuing copper access, Final statement, 18 August 2005

should not include the cost of assets which the regulated party has already recovered from consumers.

59 Rather, the RAV should be set to equal the costs incurred to date in bringing the asset to its current condition, net of costs already recovered through revenue. This approach, which is common in network utilities, ensures that the asset owner achieves a fair return over the life of the asset and provides appropriate incentives to the asset investors commensurate with the level of risk. It is particularly important that over-recovery of costs is not permitted when it is due to external factors beyond an operator's control such as inflation or forecasting error, rather than being a result of efficiency improvements.

60 Conversely, if over-recovery of the assets is allowed then the investors will earn economic rents which add unnecessary costs to the users of the assets. In the context of fibre network deployment, this will reduce investment incentives which in turn will result in lower levels of deployment and higher prices for end-users.

61 For the TAR, rather than simply using the CCA value from BT's latest RFS as the starting value, Ofcom should undertake an analysis of the degree of over-recovery of these assets since 2005 and apply an adjustment to the starting value.

62 In our response to the WFTMR consultation, along with CityFibre, INCA suggested an approach involving the following steps:

- Take the RFS for each year since 2005 and calculate the return in excess of the regulated WACC as assessed by Ofcom at that time. As the RAV adjustment was made in 2005 and removes over-recovery in periods prior to this, we believe it can safely be assumed that the opening position for 2006 does not require any adjustment.
- Remove any excess return for non-access, where any over recovery could not be attributable to duct.
- Remove excess for products where excess return was legitimately allowed by Ofcom to incentivise static efficiency (i.e., where a cost-based price cap had been imposed).

- The remaining over recovery should be deducted from the RAB value for each year (i.e., closing RAB for each year = opening RAB + revaluation – book depreciation – over recovery as calculated above+ over recovery.

63 We also noted that a 2017 report by Frontier Economics had calculated that the total excess return for the period from 2006/7 to 2016/17 was £10.5 billion, and that a further £1.3 billion was estimated to apply between 2017 and 2020. Thus, the total amount of over-recovery was estimated to be well in excess of the current mean capital employed of passive infrastructure which was around £5.5 billion.

64 It is clear from our analysis of the RFS in paragraphs 34 to 52 above that since 2021, BT has continued to over-recover its PIA costs during the current charge control period.

65 Ofcom must take action to ensure that PIA users do not pay for assets that have already been recovered, and Ofcom should therefore perform an analysis such as that described above in order to determine the opening value of the PIA assets for the TAR review period. Due allowance should be made for the time value of money by applying appropriate discount or interest rates.

66 We recognise that BT should rightly expect to recover the efficiently incurred costs of its duct and pole assets, and we also believe it is reasonable that BT should benefit from genuine efficiency savings. However external factors (such as the inflation rate which affects the CCA values) are beyond BT's control and are not valid reasons for over-recovering the asset value and should therefore be excluded. Similarly, errors in forecasting volumes of passive infrastructure may result in over or under-recovery and should be adjusted for.

67 INCA notes that, where a risk of double recovery has been identified as a result of past actions, other industry regulators have taken the necessary actions to adjust the regulated asset base at the start of a price control period to ensure that any such double recovery will not continue in future periods.

68 Some examples from different industries illustrate this approach:

- Ofgem are currently consulting on the close-out of their RIIO-ED1 price control (2015-2023), and are proposing adjustments to the RAB for the next control to reflect changes in capex and efficiency improvements; this will amount to over £80 million being returned to customers.[13]
- For the period 2015-2019 the Ontario Energy Board (OEB) made adjustments to the RAB of Toronto Hydro to allow for differences between forecast and actual capex during the prior review period, to ensure that customers were not overcharged due to higher forecasts than actually occurred.[14]
- In 1997, the RAB for Northern Ireland Electricity was adjusted downwards by £97m for an underspend in capex unrelated to efficiency).[15]
- Also in 1997, the RAB of the gas pipeline operator, Transco. was written down by 40% to ensure that the discount on book value on privatisation was taken into account appropriately.[16]
- In 2002, the RAB of airport operator, BAA was written down by £135m, to avoid double recovery of pensions costs.[17]

69 We note that none of these examples, nor Ofcom's own 2005 RAV adjustment, amount to retrospective regulation; they do not alter the regulation that applied in any prior periods nor do they change the historical financial performance of the regulated entities. Rather it is a prospective approach which seeks to ensure that future prices reflect efficiently incurred costs.

70 Similarly, adjustments to the Openreach RAB value at the start of the TAR review period would be a prospective action which ensures that the future PIA prices are set at a level which maintains a fair bet for all parties, including BT.

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[13] Ofgem, Consultation_on_ED1_proposed_adjustments_published.pdf
[14] Toronto Hydro 2015-2019 Custom IR Application OEB Case EB-2014-0116
[15] See Monopolies and Mergers Commission (MMC), Northern Ireland Electricity plc- Conclusions, 1997
[16] See MMC, A report under the Gas Act 1986 on the restrictions of prices for gas transportation and storage services, 1997
[17] Competition Commission, BAA Plc: A Report on the Economic Regulation of the London Airports Companies, 2002

71 Adjusting the RAB value at the start of the TAR is not only consistent with Ofcom's aim that BT should be able to recover its efficiently-incurred costs, it is also essential in ensuring a level playing field with Altnets, and maximising investment incentives for competitive deployment. At the very least, if Ofcom is not prepared to adjust for over-recovery since 2005, it must adjust for the extraordinary over-recovery during the WFTMR period.

Ongoing RAB approach

72 In addition to determining the regulatory cost base to be used for the start of the TAR period, Ofcom should consider the methods to be used to determine the allowable costs included in the RAB so that there is a consistent, rigorous and transparent approach going forward.

73 In a full RAB approach, all of the relevant assets are ringfenced and the future value is determined by taking the opening value, adding new investments and deducting depreciation and any disposals. An inflation index may be applied to the existing asset base to reflect the current value.

74 A full RAB approach is well established in UK network regulation, where a "build or buy" approach is not considered feasible. This approach ensures that asset owners achieve a fair but not excessive return on their investment over the life of the asset. There are a number of benefits to such an approach:

- long term price stability as the asset base will reflect efficient new investment but exclude the costs of legacy copper investment which has already been recovered;
- the RAB will attract future investments from investors seeking lower risk, as it will reliably return the cost of capital as represented by the WACC; and
- by removing the possibility of future over-recovery, the RAB approach will result in the lowest PIA prices consistent with BT earning an appropriate return on its efficient investments, which will improve investment incentives for competing fibre network operators as well as BT's own downstream fibre business.

75 Once the opening value of the RAB is determined, the cost recovery over the review period should be determined by a consideration of the capex efficiently spent on passive infrastructure during the period plus an allowance for efficient opex. There are various options for the treatment of capex; three were identified in the response by CityFibre to the WFTMR consultation:

- Capitalise any future capex;
- Recover capex as incurred; and
- Capitalise the capex for network expansion and enhancement, while recovering the capex required to replace or maintain existing assets as incurred.

76 The choice of approach will affect the price stability over time; we recommend that Ofcom performs a detailed analysis of this during the TAR consultation period to determine the most appropriate method.

77 It will be important to ensure that all opex and capex which contributes to the RAB is efficiently incurred and is relevant to the passive infrastructure used to support all-fibre networks. The capex and opex forecasts used for the forthcoming review period should be rigorously assessed by Ofcom to ensure they reflect a realistic target, taking account of likely network growth and maintenance requirements.

78 At the end of each review period, it is essential that Ofcom undertakes a thorough and comprehensive review of actual capex and opex against forecasts; the opening RAB value for the subsequent period should be adjusted to exclude inefficient spend and to include efficiency gains.

79 There are a number of areas which should be addressed to ensure that only efficient and relevant costs are included in the RAB.

Asset indexation

80 BT index the PIA assets using RPI, yet this is not sustainable over the TAR review period, as RPI is not planned to be produced beyond 2030. In fact, RPI is not

recognised as an official statistic, and is often regarded as a flawed approach which overstates the value of general inflation.

81 The move to a full RAB approach in the TAR would be an appropriate time to make the switch to CPI as the inflation index applied to the RAB.

Holding gains

82 As described in paragraph 35 above, the inclusion of holding gains in the costs to be recovered has resulted in unstable costs during the current charge control period. This instability could be addressed by excluding holding gains from the cost calculations and using a real WACC instead of the nominal WACC currently used. This would be an equivalent approach in economic terms but would avoid short-term instability in the cost base.

WACC

83 Ofcom currently applies the Openreach WACC to the PIA asset base in order to determine the allowable cost of capital. This WACC is also used for copper access, dark fibre and FTTC services.

84 As discussed in paragraph 25 above PIA investment presents a low risk to investors yet, as shown in Table 4 below, the Openreach WACC value is materially higher than those applied by utility regulators over a similar period.

Table 4: Comparison of WACC values for infrastructure assets

Regulator	**Pre-tax nominal WACC**
Ofcom (Openreach) 2021-26.[18]	7.0%
Ofgem (Electricity and Gas) 2021-26.[19]	4.81%.[20]
Ofwat (water sector), 2020-25.[21]	4.98%

[18] Ofcom: WFTMR decision, March 2021, Table A21.9
[19] Ofgem: Decision - RIIO-2 Final Determinations - Core Document (REVISED) February 2021, Paragraph 6.2
[20] Converted from real CPIH using the same ratio as implied by Ofwat
[21] Ofwat: PR19 final determinations - allowed return on capital technical appendix, December 2019 Table 1.1

85 INCA believes it would be appropriate for Ofcom to disaggregate a separate PIA WACC from the Openreach WACC. If this is not done, then the allowed ROCE for the PIA assets will overstate Openreach's risks in PI investments and be another source of over-recovery.

86 A reduction in the WACC by one percentage point from the current value to 6% would correspond to a reduction in total annual costs of over £60 million, corresponding to an average PIA price reduction of around 8%.[22]

4.4 Network optimisation - an MEA approach

87 If Ofcom decides against a full RAB approach and a starting adjustment, and instead continues to use BT's CCA valuation to determine the regulatory cost base, it is essential that changes are made to the methodology in order to provide something closer to a level playing field, and to ensure that Altnets are not contributing to the costs of BT's copper network.

88 The CCA valuation for duct and poles carried out for BT's RFS uses an unoptimized approach whereby the assets are valued at their actual installed capacity and using existing routes, without consideration of whether a different capacity and/or topology would be more efficient for today's fibre network.

89 An alternative approach would be to value an optimised network, where the capacity and routes are adjusted to more closely represent assets that would be built today. This is a widely used concept in CCA valuations for telecoms, often referred to as a modern equivalent asset (MEA) approach. Such an approach was considered in a report for Ofcom by Analysys Mason in 2010.[23]

[22] This is an estimate based on Ofcom's projected RAB value of £6.2 billion by 2025/26 used in the non-confidential pia charge model.

[23] Alternative methodologies for the valuation of BT‟s duct assets – Public version, Analysys Mason, 2 March 2010

90 As noted in that report, optimisation of the duct network is a complex issue, and there is a need to balance the benefits of achieving a valuation which more closely reflects the efficient costs of a modern network against the reduction in robustness which may result from the use of theoretical assumptions in calculating the cost base.

91 In the case of BT's duct network, it is clear that, in the context of a modern fibre network, there is a high degree of excess capacity which was built to accommodate large copper cables. Also, the network was constructed using a tree and branch architecture which required multiple duct bores; this is unnecessary for a modern fibre network.

92 The per-metre costs of multi-bore duct are significantly higher than single-bore duct (for example, in Ofcom's WFTMR charge control model, for 2019/20 the CCA costs per metre were £0.69 for single bore, £0.89 for two bore and £1.45 for three+ bore ducts. This suggests that a non-optimised approach to valuation results in significant inefficiency, and that optimising the assets would result in material reductions in the asset value.

93 Most of the capacity in BT's duct network is currently occupied by copper cables, which will increasingly fall into disuse and may or may not be recovered. While copper-based services are still active, it is likely that BT's costs of operating and maintaining the duct are higher than would be the case for a modern fibre-only network; for example, fault rates on the copper network are higher than for fibre, and copper services are more susceptible to degradation caused by flooding of the chambers and ducts.

94 As well as asset values, a forward-looking approach to duct valuation should also consider operating costs; under an MEA approach these should be adjusted if necessary to reflect efficient operation of the MEA assets.

95 INCA therefore believes that it would be appropriate to apply an MEA approach to the CCA valuation of Openreach ducts by assuming that all existing routes are valued as single bore ducts. While this does increase the complexity of the

calculations, it should be feasible to achieve reasonable estimates using data available to Openreach.

96 The introduction of an MEA valuation at the start of the TAR will result in a one-off write down in the value of these assets; from that point onwards, Openreach would continue to recover its costs on a forward-looking efficient basis. Given the degree of over-recovery of these assets in the past, Ofcom should not consider this to be an unreasonable approach.

97 Ofcom should also apply a rebate to the duct operational and maintenance costs to reflect the greater efficiency that would be achieved with an all-fibre network.

Holding gains

98 If Ofcom decides to adopt an MEA-based CCA approach to determining the regulatory cost base, it will be necessary to address the issue of high holding gains during periods of high inflation (or, conversely, high holding losses during periods of deflation); as described in paragraph 52 above this severely distorts cost recovery when used in conjunction with prices being set over a five-year period.

99 This problem would not arise if Ofcom were to specify an indexed RAB approach in conjunction with a real WACC, rather than a CCA approach; holding gains would not form part of the calculation. This provides further justification for Ofcom to move to a full RAB approach.

100 Otherwise, if a CCA approach is continued, it will be necessary to apply an adjustment to the price analysis at the start of each review period, to account for the cumulative impact of holding gains or losses from the prior review period on the new prices.

4.5 Regulatory financial reporting

101 In the WFTMR decision, Ofcom directed BT to base its reporting of external PIA on published prices and volumes, while internal usage by Openreach downstream markets is reported as a balancing cost figure once the external revenues are

deducted. As noted in paragraph 40 above, this results in a huge imbalance between the external prices (positive values) and the internal "prices" (negative prices).

102 This use of cost-based transfer charging for BT's internal use of PIA has an impact on the reporting of the downstream Openreach markets which use PIA. For example, the FTTP 40/10 rentals show a ROCE of -5.3% yet even this negative return is a considerable overstatement of the ROCE that would result from the use of external prices for the transfer charge.

103 As a result, the departure from a level playing field is also significant for the WLA market. The reported prices for FTTP rentals (both internal and external) bear no relation to prices that would be viable for an Altnet using PIA and paying the external prices.

104 In the TAR, Ofcom must therefore reconsider its approach to reporting the PI market in BT's RFS. At the least, the pricing between internal and external PIA usage should be defined on a non-discriminatory basis.

4.6 Structural separation

105 In a policy report of 2023,[24] INCA discussed the importance of equivalence, whereby any competitor to BT can access and use the physical infrastructure in the same manner and using the same systems and processes. INCA noted that, contrary to government policy set out in the SSP, the current lack of equivalence prevents a level playing field between BT and new entrants.

106 INCA also recommended that structural separation should be applied between the physical infrastructure business and the rest of Openreach and the BT group. This would be a means of ensuring equivalence, and a level playing field between users of the passive infrastructure.

[24] Securing long-term benefits for broadband customers – Embedding infrastructure competition in the UK, INCA Policy Report

107 In the absence of structural separation, which would impose a welcome discipline on the determination of the PI cost base, INCA regards it as essential that for the TAR Ofcom adopts the approach described in section 4.3 above.