

Promoting competition and investment in fibre networks: Telecoms Access Review 2026–31

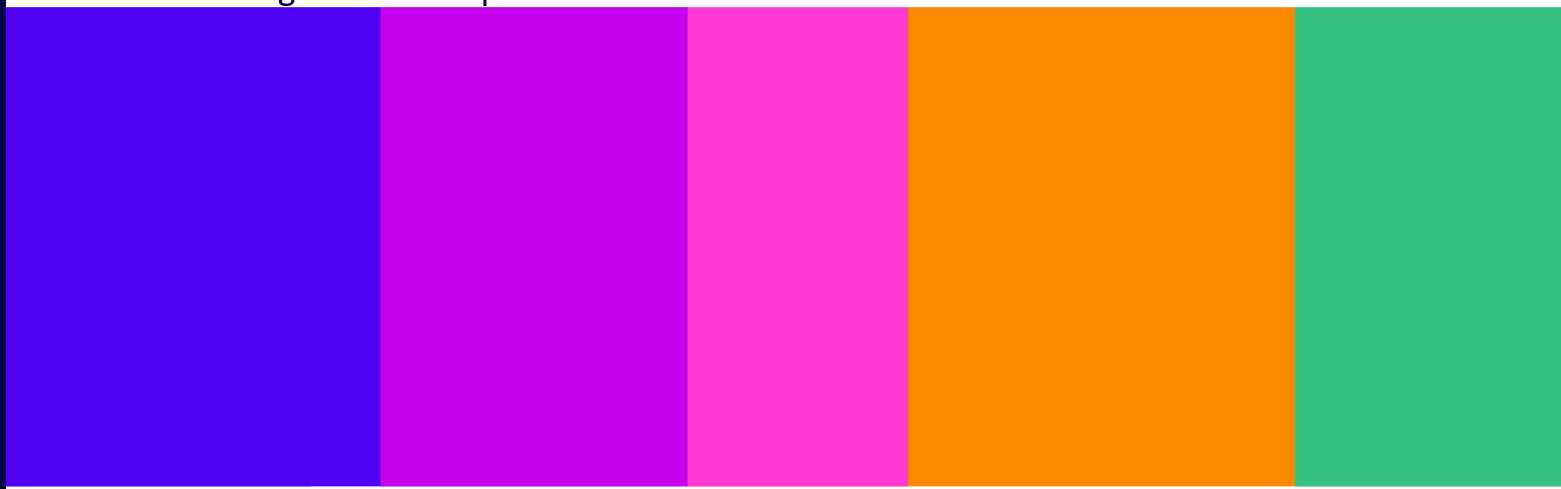
Volume 3: Non-Pricing Remedies

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1. Our approach to remedies

- 1.1 This section sets out our proposed approach to remedies in the Telecoms Access Review 2026 (TAR26). These are the remedies that we propose to impose on Openreach¹ in order to address BT's SMP in each relevant wholesale fixed telecoms market in the UK (excluding the Hull Area). As set out in our market analysis (Volume 2), the markets where we propose to find BT to have SMP are:
- a) the physical infrastructure market in the UK;
 - b) the Wholesale Local Access (WLA) markets in each of WLA Area 2 and WLA Area 3;
 - c) the Leased Line Access (LLA) markets in each of the High Network Reach (HNR) Area, LLA Area 2 and LLA Area 3; and
 - d) the Inter-Exchange Connectivity (IEC) markets at BT+1 and BT Only exchanges.
- 1.2 The primary purpose of our remedies is to address the competition concerns identified in our SMP analysis, and set out in Volume 2, Section 7. Within the framework set by our powers and legal duties, we have a degree of discretion about what specific remedies to set to address BT's SMP. Below we explain how we propose to exercise that discretion in accordance with our overarching objectives. We also explain how we have had regard to the desirability of promoting economic growth (the "growth duty") in formulating our proposals, and to the previous government's Statement of Strategic Priorities (SSP) for telecoms.
- 1.3 This section is structured as follows:
- a) First, we set out the approach we took to remedies in the WFTMR21.
 - b) Second, we discuss progress towards achieving our objectives in the WFTMR21, and the implications for our overarching approach to TAR26.
 - c) Third, we set out our proposed approach to remedies for the TAR26, which informs the remedies we are proposing.
 - d) Fourth, we summarise the proposed package of remedies in each market. The detail of our proposed non-pricing remedies is set out in Sections 2 to 9 of this volume; our pricing remedies, including charge controls, in Volume 4; our specific quality of service remedies in Volume 5; and our regulatory reporting remedies in Volume 6.
 - e) Finally, we consider our legal duties (including our growth duty and our duty to have regard to the SSP) and whether ex-post competition law would be sufficient to address the competition concerns we have identified.

Ofcom's approach to remedies in the WFTMR21

- 1.4 We wanted to encourage BT's competitors to build their own networks, rather than relying on network access from Openreach. In areas of the UK where there was unlikely to be material and sustainable competition to Openreach in the commercial deployment of competing networks, we wanted to promote investment by Openreach. We also recognised the need to protect consumers' interests, including in relation to pricing and quality of

¹ As explained in Volume 2, we propose to find BT to have SMP in the markets listed above. To address this SMP we impose remedies on BT. We refer to Openreach in this volume reflecting that BT's Openreach division, run by Openreach Limited, is responsible for providing regulated services over the copper and fibre connections between BT's exchanges to homes and businesses.

service, in the period during which network competition developed and in areas of the UK where network competition was unlikely to be viable.

- 1.5 Our upstream remedy was to require Openreach to provide access to its physical infrastructure - its ducts and poles - in all areas of the UK. We considered that this remedy would promote competition and investment in gigabit-capable networks, as it reduces the cost and increases the speed of network rollout by Openreach's competitors.
- 1.6 The remedies we imposed downstream of duct and pole access also sought to promote competition and investment in gigabit-capable networks.
- 1.7 We recognised that network competition would not develop uniformly across the UK. Therefore, we adopted a regulatory approach to remedies downstream of ducts and poles that reflected how we expected network competition to develop in different geographic areas. Specifically, for markets downstream of physical infrastructure, we differentiated between places where material and sustainable network competition was viable, and places where we considered such competition was unlikely to emerge.²
- 1.8 In areas where we considered there is, or there is potential for, material and sustainable network competition (Area 2), our objective was to promote investment and competition in gigabit-capable networks by Openreach and other telecoms providers. Our view was that in the long term, effective network competition could emerge in some areas, which would provide increasing protection for consumers. We recognised network-based competition would take time to develop and therefore we also sought to protect consumers and existing models of downstream competition in the short term. We did this by maintaining access to Openreach's existing WLA and LLA services, but set prices and other regulatory conditions in a way that supported both our short term and long term aims.
- 1.9 In other areas where we considered material and sustainable competition was unlikely (Area 3), our objectives were to promote investment in gigabit-capable networks by Openreach, to promote competition based on access to Openreach's networks and to protect consumers. Accordingly, our approach to regulating access to Openreach's wholesale broadband and leased line services was for prices and other regulatory conditions to be set in a way to protect consumers, while also providing incentives for Openreach to invest in FTTP.
- 1.10 In both Area 2 and Area 3, we prevented Openreach from using wholesale pricing structures to deter new network build by competing network operators by restricting Openreach's ability to offer geographic discounts and by requiring it to be transparent about other commercial terms that could undermine the development of competition (allowing Ofcom to assess those deals before they take effect). We also provided a path for shifting the focus of regulation from Openreach's copper to full-fibre network, supporting a progressive transition.
- 1.11 As recognised in the WFTMR21, the investments being made by all network operators in gigabit-capable networks have longer payback periods than a single market review period, and sustainable network competition will take time to develop. As such, we set out a long-term path for approaching future decisions to 2031 and beyond, subject to the specific circumstances that exist at the time.

² Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26](#), Volume 3, Paragraphs 1.10-1.17.

- 1.12 In the IEC markets, our approach reflected the different prospects for network competition at different exchanges. We sought to promote investment and competition at BT+1 exchanges and BT Only exchanges with a nearby PCO. For BT Only exchanges with no nearby PCO, we sought to secure effective access to BT’s network.³

Progress towards our WFTMR21 objectives

- 1.13 Since the WFTMR21, we have seen significant progress towards achieving the objectives set out in our strategy.
- 1.14 There has been significant deployment of gigabit-capable networks, with substantial investment by Openreach and many other providers. As of July 2024, 82% of UK premises had access to a gigabit-capable network, with 67% of UK premises having access to a full-fibre network, up from 40% and 24% respectively in May 2021.⁴ Importantly, this rollout has occurred across the UK, with network deployment across both Area 2 and Area 3 (as defined in 2021). Gigabit-capable and full-fibre coverage as of July 2024 are shown in Table 3.1 below.

Table 3.1: Gigabit-capable broadband and FTTP coverage across the UK

Area of UK	Coverage as of July 2024
Gigabit-capable broadband coverage	
UK	82%
WFTMR21 WLA Area 2 (2021 definition)	89%
WFTMR21 WLA Area 3 (2021 definition)	64%
FTTP coverage	
UK	67%
WFTMR21 WLA Area 2 (2021 definition)	69%
WFTMR21 WLA Area 3 (2021 definition)	63%

Source: Ofcom analysis of Connected Nations coverage data (collected August 2024).

- 1.15 By the end of the WFTMR21 period, more premises will have access to gigabit-capable broadband than we expected in 2021, with operators’ network deployment plans suggesting gigabit-capable coverage potentially reaching 93% of premises by April 2026, and FTTP coverage potentially reaching 89%. By the end of 2031, network deployment plans suggest gigabit-capable coverage will potentially reach 98% of premises, and full-fibre coverage potentially reaching 97%.⁵
- 1.16 Importantly for our objective to promote network competition, there has been significant deployment by altnets, in many cases using regulated duct and pole access. This has led to a significant increase in the number of premises with a choice of networks. As of July 2024,

³ See Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26](#), Volume 3, Paragraphs 1.31-1.34.

⁴ Ofcom analysis of Connected Nations data (collected 2024).

⁵ Ofcom analysis of Connected Nations planned network deployment (collected May 2024), and additional planned network deployment data provided for TAR26 (collected August-September 2024). For additional detail see Annex 7.

70% have access to more than one network, compared to 30% in 2021. This includes premises in the current Area 3, where 43% is covered by at least one competitor to Openreach. Across the UK, 22% of premises have access to at least two gigabit-capable networks in addition to access to Openreach.⁶

- 1.17 This is a critical first step towards our objective of promoting network competition where it is viable. However, presence of a rival network alone is not sufficient to deliver material and sustainable competition in the long term. We are mindful that it takes time for competitors to become well-established after a network is deployed, and that they face considerable challenges overcoming the incumbency advantages of Openreach.
- 1.18 Take-up is critical, as it underpins the long-term financial sustainability of altnets and their ability to exert a strong competitive constraint on Openreach and support network competition in the long term.⁷ There are several reasons why take-up is important:
- a) Firstly, and most simply, take-up means the networks are generating revenue which is necessary for them to become financially sustainable.⁸
 - b) Secondly, current and expected future take-up is a key component to raise further funding and access existing debt facilities, which is likely to remain necessary in this review period.⁹ This is because many of the altnets are expected to continue to rely on funding (both equity and debt) to fund capex for customer connections to the network they have already built, as well as further network build. Although we expect less network build during 2026-31, some altnets are planning further expansion or infill of their networks.
 - c) Thirdly, there are economies of scale in costs of ongoing network operation and management (including staff, PIA rental charges and administrative expenses). Higher take-up reduces altnets' per line costs, which in turn allows them to compete more effectively (e.g. through sustainable lower prices).
- 1.19 To date, altnets have faced challenges in winning customers and increasing take-up (see Volume 2, Section 2).¹⁰ In comparison, Openreach does not appear to face the same challenges – or to the same degree – with FTTP take-up having already increased to “a market-leading” rate of 35%.¹¹ This is likely to at least in part reflect the incumbency advantages Openreach has over its competitors, and which the altnets are seeking to overcome. For example, Openreach is vertically integrated with a large retail ISP (BT/EE) and has established relationships with the large independent ISPs.

⁶ Ofcom analysis of Connected Nations data (collected 2024).

⁷ Altnets overlap with a significant proportion of VMO2's network footprint. Specifically, nearly 38% of all premises covered by VMO2 (including nexfibre) are also covered by at least one altnet. If altnets exert a stronger competitive constraint then, as well as the direct impact this has on BT, they may also spur VMO2 to compete more vigorously. This competitive response from VMO2, in turn, may exert a further constraint on BT.

⁸ Positive operating free cash flow (i.e. operating cash flow before interest and shareholder payments) is a critical step in the altnet becoming financially sustainable. This is because positive operating free cash flow is required to reduce reliance on further debt or equity funding to operate its existing network.

⁹ Where altnets have already secured debt funding, this can be subject to covenants/draw down conditions linked to take-up. These covenants/conditions need to be met before they can access further funding (i.e. before they can draw down existing debt facilities).

¹⁰ We note that some altnets may have good take-up in areas where their rollout is more mature, but their average take-up across their entire network is lower compared to Openreach.

¹¹ Openreach take-up rate reported in the half year to 30 September 2024 BT Group Results. [BT Group Results for the half year to 30 September 2024](#), 7 November 2024.

- 1.20 In addition, build by altnets has been more fragmented than we expected in 2021. While altnets have deployed to 11.7m homes in total, covering approximately 37% of unique homes, there are more than 100 altnets deploying fibre networks in the UK. A relatively small number of these altnets account for the majority of altnet build to date, with a long tail of smaller altnets. Given the large number of companies that have entered the market, consolidation is likely to be a feature of the market in the coming years. Although the timing and means by which this happens is uncertain, we are alive to the possibility that this could help those consolidated providers achieve greater scale and become stronger competitors.
- 1.21 In relation to LLA, as set out in Volume 2 Section 5, there has also been an increase in competition for leased lines since 2021. Some altnets that have invested in FTTP since 2021 are using their networks to offer leased line services. There has also been significant entry and expansion by specialist providers who only offer leased line services focussed on business customers.
- 1.22 In relation to IEC, there has been limited additional build by competitors at BT Only and BT+1 exchanges and we do not expect much further material competitive network investment in IEC at BT Only or BT+1 exchanges.

Implications for 2026-31

- 1.23 Significant investment in gigabit-capable networks across the UK has occurred since the WFTMR21, by both Openreach and other telecoms providers, including in the leased line market. Further investment by Openreach and other telecoms providers is planned for the 2026-31 period, including to connect customers, and we will continue to promote this.
- 1.24 Given the significant investment by altnets, we want to see network competition in the WLA and LLA markets continue to develop where this is sustainable, which ultimately will deliver benefits to consumers. We believe that this is the best way to protect consumers in the long term.
- 1.25 Accordingly, based on developments since 2021, we propose to continue with the same underlying objectives of incentivising investment and promoting network competition for the 2026-31 review period. Our approach to remedies reflects these objectives, while also taking into account recent and prospective market developments. This should provide regulatory stability to maintain incentives for investment and network competition.
- 1.26 In pursuing our objective to promote network competition, we have sought to reflect the changing nature of competition. In particular, given the extent of WLA build in the 2021-26 period, and the challenges altnets have faced in increasing take-up, we expect the focus to shift, with relatively less focus on the ‘race to invest’ in new network build and a greater focus on competition between gigabit-capable networks to attract and retain customers. The migration of customers from legacy broadband products to products supplied by gigabit-capable networks provides a particular window of opportunity to increase take-up. In this period, rival networks are more likely to be able to overcome barriers to switching through the offer of a significantly faster, more reliable service compared to legacy products. Once customers have migrated to FTTP, the focus of competition may shift more to pricing, customer service and more incremental improvements in quality.
- 1.27 This competition has the potential to deliver good outcomes for consumers, for example, as networks compete on price and quality to attract customers. However, in proposing remedies, we consider not only the interests of consumers today, but also the development

of material and sustainable competition that is needed to deliver benefits to consumers in the long term. As explained above, we expect take-up to be a key driver for altnets to secure continued investment, complete any further build, sustain ongoing network operations and potentially consolidate, with a view to ultimately establish themselves as material and sustainable competitors to BT. Therefore, in proposing remedies, we need to be mindful of the impact on competition between networks to increase take-up (as well as the impact on network rollout). In particular, we consider it important that regulation should address BT's SMP in a way which maintains a reasonable opportunity for altnets to compete and increase take-up during this review period.

- 1.28 As in WFTMR21, we continue to recognise that it will take time for network competition to become established, so we continue to seek to protect consumers and existing models of downstream competition in the short term.
- 1.29 It remains our view that material and sustainable competition will not be commercially viable everywhere in the UK. Where this is the case, we propose to continue with the same underlying objectives to incentivise investment by Openreach, promote access-based competition and protect consumers in our approach to remedies. However, our expectations of where there is the potential for network-based competition to be viable has evolved across the markets, as reflected in our proposed geographic boundaries.

Proposed approach to remedies in the TAR26

- 1.30 As explained above, our objectives, which inform our approach to remedies in the TAR26, remain broadly consistent with our objectives in the WFTMR21. We set out below how these objectives apply in each of the physical infrastructure, WLA, LLA, and IEC markets, as well as our approach to copper retirement and exchange closure, to reflect recent and prospective market developments.

Upstream remedies – physical infrastructure

- 1.31 Our general regulatory approach continues to be to apply remedies as far upstream as possible to ensure that as much of the value chain as possible is open to competition. Mandating access to Openreach's physical infrastructure has been transformational in enabling investment and deployment of fibre networks across the UK, as it reduces the cost and increases the speed of network rollout by competitors.

Downstream remedies – WLA, LLA

- 1.32 We recognise that network competition will not develop uniformly across the UK. Therefore, we are proposing to continue to adopt a regulatory approach to downstream remedies that reflects how network competition develops in the different product and geographic markets we are proposing to identify. Specifically, for markets downstream of physical infrastructure, we differentiate our regulatory approach:
- a) where there is, or there is likely to be the potential for, material and sustainable competition, we aim to promote investment and competition in gigabit-capable networks by Openreach and other telecoms providers, and to provide adequate protection to consumers and existing models of downstream competition in the short term; and
 - b) where material and sustainable competition does not exist, or there is unlikely to be the potential for it, we aim to promote investment in gigabit-capable networks by Openreach, to promote competition based on access to Openreach's networks and to protect consumers.

- 1.33 We describe our approach in more detail below.
- 1.34 Unlike in WFTMR21, our proposed geographic boundaries for WLA and LLA differ, reflecting differences in where we consider there is, or there is potential for, material and sustainable competition (see Volume 2, Sections 4 & 5). Therefore, we set out separate objectives for each WLA and LLA market where we propose finding that BT has SMP. While competition differs, we recognise that some players are present in multiple markets, which means our approach in one market could affect the competitive dynamics in another. We have taken this into account when setting our objectives.

WLA Area 2

- 1.35 In WLA Area 2 our objectives continue to be to promote investment and competition in gigabit-capable networks by Openreach and other telecoms providers, and to seek to protect consumers and competition based on access to Openreach's networks as network competition develops.
- 1.36 As described in Volume 2, we continue to believe there is, or there is potential for, material and sustainable competition to develop in WLA Area 2, but challenges remain. Given this, there is a continuing role for our regulation to promote network competition, by preventing Openreach from abusing its SMP to undermine take-up as well as further network rollout (both of which are important for the development of network competition). Accordingly, we are proposing to maintain measures we introduced in 2021 to promote network competition, and supplement these where necessary to ensure their effectiveness in light of market developments.
- 1.37 We recognise that substantial network build has occurred since 2021, and so for those investments already made, we aim to provide a stable regulatory environment that is in line with the approach set out in the WFTMR21 (unless there are good reasons for departing from that position). Although more limited build is expected in 2026-2031, there are plans for further investment to connect customers (as take-up increases) as well as expand or infill networks. Therefore we still aim to promote additional investment for this review period where that investment is commercially viable. We also note that, for providers of both WLA and LLA services, promoting investment in the WLA market could support their overall business case of network deployment, including for leased lines, as well as providing incentives to innovate and continue to compete in the provision of WLA.
- 1.38 The resulting network competition will provide increasing protection for consumers in the long term, and in some areas effective competition may emerge such that the need for regulation may reduce or fall away. However, as network competition takes time to develop, we also seek to provide adequate protection to consumers and existing models of competition in the short term.
- 1.39 Accordingly, we propose to maintain access to Openreach's existing wholesale broadband services. In proposing prices and other regulatory conditions, we have exercised our discretion in favour of an approach that promotes competition and investment in gigabit-capable networks, while still providing sufficient protection to consumers and existing models of downstream competition in the short term.

WLA Area 3

- 1.40 In WLA Area 3 our objectives continue to be to promote investment in gigabit-capable networks by Openreach, to promote competition based on access to Openreach's networks and to protect consumers.

- 1.41 As explained in Volume 2, we do not consider that this area is likely to have the potential for material and sustainable network competition to emerge.
- 1.42 As explained in Volume 2, Section 4, the proposed size of WLA Area 3 has decreased due to the level of network build by altnets with the potential to be material and sustainable competitors in future. Within the locations remaining in WLA Area 3, there has been significant investment by Openreach to increase gigabit-capable coverage since 2021. However, we still expect that just over a third of premises in the proposed WLA Area 3 will not yet have access to a gigabit-capable network at the beginning of the TAR26.
- 1.43 Accordingly, in this review period, we propose to maintain a regulatory framework that continues to support Openreach commercial investment in WLA Area 3, so consumers in this area can benefit from access to a gigabit-capable network in the absence of network competition.
- 1.44 We recognise that some Area 3 premises are located in hard-to-reach areas that are not commercially viable for network build. Our approach aims to incentivise commercial build where this is efficient and so may not lead to build to these premises. In these non-commercial areas, we expect build to be addressed through public subsidy programmes.¹² To date, these programmes have delivered significant gigabit-capable build across hard-to-reach areas in the UK.
- 1.45 In addition to promoting investment by Openreach, we seek to promote competition based on access to Openreach's networks and protect consumers, given the absence of network-based competition to improve consumer outcomes.
- 1.46 Accordingly, we propose to maintain access to Openreach's existing wholesale broadband services. We propose to set prices and other regulatory conditions to promote Openreach's investment in gigabit-capable networks, while also promoting competition based on access to Openreach's networks and protecting consumers from excessive prices and poor-quality service.

LLA Area 2 and HNRs

- 1.47 In LLA our objective continues to be promoting network competition and investment by Openreach and other telecoms providers who are offering LLA services, where there is or is likely to be the potential for it to be material and sustainable. As it may take time for rival networks in LLA to establish themselves as material and sustainable competitors to Openreach, and ultimately for competition to become effective (such that BT no longer has SMP), we seek to provide adequate protection to leased-line customers and existing models of competition in the short term. However, as described in Volume 2 Section 5, the competitive conditions vary between HNRs and Area 2. As a result, our approach to remedies to achieve these objectives also varies to reflect the differing underlying conditions.

LLA Area 2

- 1.48 As described in Volume 2 Section 5, we believe there is, or there is potential for, material and sustainable competition in LLA Area 2. Given this, there is a continuing role for our regulation to promote network competition, by preventing Openreach from exploiting its SMP to undermine the development of network competition. Accordingly, we are

¹² Such as Project Gigabit.

proposing to maintain measures we introduced in 2021 to promote network competition, and supplement these where necessary to ensure their effectiveness.

- 1.49 We recognise that investment in networks which provide LLA (by LL-only operators, and some WLA network operators) has occurred in the WFTMR21 LLA Area 2 since 2021. For those investments already made, we aim to provide a stable regulatory environment that is in line with the position set out in the WFTMR21 (unless there are good reasons for departing from that position). Although LLA build is more difficult to forecast, there is the potential for further investment and so we still aim to promote additional investment for this review period. We also note that for providers of both WLA and LLA services, promoting competition and investment in the LLA market could support their overall business case of network deployment as well as providing incentives to innovate and continue to compete in the provision of LLA.
- 1.50 Network competition will provide increasing protection for leased-line customers in the long term, and in some areas effective competition may emerge such that the need for regulation may reduce or fall away. However, this will take time and therefore we seek to provide adequate protection for leased-line customers and existing models of downstream competition in the short term. Accordingly, we propose to maintain access to Openreach's existing wholesale leased line services. In proposing prices and other regulatory conditions, we have exercised our discretion in favour of an approach that seeks to promote competition and investment in networks, while still providing sufficient protection to leased-line customers and existing models of downstream competition in the short term.

LLA HNR

- 1.51 In the HNR Area, there are at least two rival networks present to compete with BT, but competition is not yet effective. Our overall objectives for HNR Area are the same as Area 2. Since 2021, there has been additional investment from leased line providers, leading to an expansion of the HNR Area. Therefore, in seeking to promote investment and network competition in the HNR Area, our proposed remedies reflect the fact that network competition is stronger than in LLA Area 2. Similarly, although we seek to provide adequate protection to leased-line customers and existing models of downstream competition in the short term while competition develops, the extent of protection necessary is lower than in Area 2 given current market conditions.
- 1.52 Accordingly, we propose to maintain access to Openreach's existing wholesale leased line services, but with less restrictive pricing and other regulatory conditions than Area 2.

LLA Area 3

- 1.53 In LLA Area 3 our objective continues to be to promote competition based on access to Openreach's networks and to protect leased-line customers.
- 1.54 As explained in Volume 2, we do not consider that this area is likely to have the potential for material and sustainable network competition to emerge.
- 1.55 In the absence of network competition, or the likelihood of the potential for material and sustainable competition, our focus in this market is to protect leased-line customers given Openreach's incentive and ability to engage in behaviour that could harm consumers (see Volume 2, Section 7). To do this, we propose regulations to promote access-based competition to Openreach's network, and for this to be as far upstream as possible. Accordingly, we propose to maintain access to Openreach's existing wholesale leased lines and dark fibre services to promote competition based on access to Openreach's networks.

We then seek to set prices and other regulatory conditions for the regulated access services such that leased-line customers are adequately protected, including from excessive prices and poor-quality service.

- 1.56 We are not promoting Openreach investment in this market in the same way as WLA Area 3, since its existing network is capable of meeting current and future demand without technological change. However, we aim to ensure that Openreach can recover its reasonable investment costs to provide a high-quality service and to incentivise Openreach to innovate its product offer in this area.

IEC market

- 1.57 At all regulated BT exchanges (BT Only and BT+1) our objectives are to promote competition based on access to Openreach’s network and to protect IEC customers.
- 1.58 This differs from our approach in the WFTMR21, where we differentiated our approach based on the level of potential investment by rival PCOs. Our change in approach is because, as explained in Volume 2, there has been limited additional build by PCOs at BT Only and BT+1 exchanges and we do not expect much further competitive investment. Given this, we consider that promoting investment and network competition in IEC is unlikely to be effective over the 2026-2031 period and will not deliver benefits to consumers in the long term.
- 1.59 Therefore, in the absence of competitive network investment, our focus in this market is to promote competition based on access to Openreach’s network and protect IEC customers. Where Openreach has SMP, it has the incentive and ability to engage in behaviour that could harm IEC customers (for example, charging excessive prices).
- 1.60 Accordingly, we aim to promote access-based competition, by securing effective access to BT’s network at all BT Only and BT+1 exchanges and to encourage telecoms providers who rely on access to BT’s network to invest as far upstream as possible. As a result, we propose to maintain access to Openreach’s existing wholesale leased lines and extend the availability of DFX.
- 1.61 We are not promoting Openreach investment in this market, since its existing network is capable of meeting current and future demand without technological change. However, we aim to ensure that Openreach can recover its investment costs to provide a high-quality service and to incentivise Openreach to innovate its product offer in this area.

Approach to copper retirement and exchange exit

- 1.62 Investment in gigabit-capable networks is part of a wider transformation of the UK’s telecoms infrastructure. On the Openreach network, this transformation has three major parts:
- a) FTTP roll-out and subsequent migration of copper-based services to FTTP services. Longer term this means the withdrawal of copper-based services. This is known as ‘copper retirement’.
 - b) Migration of telephone services to Voice-over IP (VoIP) technology and the withdrawal of traditional analogue telephony. This is known as ‘PSTN retirement’, with PSTN standing for the legacy public switched telephone network.
 - c) Openreach’s exchange exit programme – the long-term reduction in the number of exchanges in the Openreach network. Openreach has prioritised exiting 105 exchanges

by 2030, following an initial three pilot exchange exits by 2026.¹³ It will then turn its focus to exiting the remaining c.4,500 qualifying exchanges in the 2030s.¹⁴ Openreach has identified around 1,000 exchanges which will remain part of its long-term network architecture (known as ‘enduring exchanges’).¹⁵

- 1.63 We remain supportive of Openreach retiring its old copper network. Our regulatory approach will take into account how to achieve the best outcomes for consumers, both in relation to the speed of migration to the better services available on gigabit-capable networks, and to ensuring the promotion of competition.
- 1.64 We also consider it important that vulnerable consumers are appropriately protected during the transition to gigabit-capable networks and the retirement of copper-based services. UK Government interventions, as well as commercial investment and our regulation, will play a role in ensuring consumers are supported during this transition.¹⁶
- 1.65 We are supportive of Openreach exiting exchanges to move to a more efficient network, provided this is done in a way that mitigates potential harm to consumers or competition. We recognise that exiting exchanges provides the opportunity for Openreach and telecoms providers to consolidate infrastructure, reduce energy consumption and increase efficiency.
- 1.66 We consider the overall process of exchange exit to be best achieved through commercial agreement. Our approach is to maintain existing regulation where we consider it appropriately balances supporting exit and protecting consumers and competition. We also propose to adjust obligations, such as the obligations to provide DFX and active IEC services, to reflect the reality of an exchange having been exited (once exit has happened).

Proposed package of remedies

General remedies

- 1.67 We are proposing to retain the existing suite of general remedies in all markets where we have provisionally identified BT to have SMP. The general remedies seek to address the competition concerns outlined in Volume 2, Section 7. The primary general remedy is a requirement on Openreach to provide access to its network on reasonable request. The proposed general remedies also include non-discrimination requirements to ensure that Openreach does not unduly discriminate between different customers when supplying access products.
- 1.68 Our proposed general remedies, and rationale for these, are set out in Volume 3, Section 4.

¹³ Openreach, 2024. [Exchange Exit: Openreach industry consultation response March 2024; How we propose to exit the 105 priority exchanges by 2030](#) Accessed on 14 January 2025; Openreach, 2023. [Openreach industry consultation response December 2023: How Openreach propose to exit the 103 priority exchanges by 2030, published June 2030](#), Page 3, Accessed on 14 January 2025.

¹⁴ Openreach, [Exchange Exit programme](#). Accessed on 14 January 2025.

¹⁵ Openreach, 2023. [Openreach industry consultation response December 2023: How Openreach propose to exit the 103 priority exchanges by 2030, published June 2030](#), Page 3. Accessed on 14 January 2025.

¹⁶ The Department for Science, Innovation and Technology (DSIT) has played a role in PSTN retirement and consumers’ migration to digital Voice over Internet Protocol (VoIP) services. For example, the major providers and network operators have signed a number of voluntary charters with DSIT to ensure that vulnerable customers (and CNI customers) are protected and supported during the migration. See here: DSIT, 18 December 2023, [PSTN Charter](#) and DSIT, 11 March 2024, [Network Operator Charter](#). And see: Ofcom, 18 December 2023, for a summary of our work [protecting consumers during the migration to digital landlines](#).

Physical Infrastructure Access (PIA)

- 1.69 We propose to maintain the requirement on Openreach to offer wholesale access to BT's ducts and poles (known as PIA), our key upstream remedy. PIA seeks to promote competition and investment in WLA and LLA networks, as it reduces the cost and increases the speed of network rollout by Openreach's competitors. It remains a key pillar of our approach in terms of existing altnet deployment, future expansion and connecting customers to networks over the TAR26 period.
- 1.70 We also propose to continue to charge-control PIA at cost, to allow Openreach to recover its costs, and to maintain our approach of requiring it to be provided subject to a strict no undue discrimination obligation.
- 1.71 Our proposed PIA remedy, and rationale for it, is set out in Volume 3, Sections 4 and 5. Our proposed PIA charge controls are set out in Volume 4, Section 4.

Wholesale Local Access (WLA)

- 1.72 In addition to the general network access requirement set out above, we propose a specific requirement on Openreach to offer WLA products (MPF and VULA) in WLA Areas 2 and 3. This is necessary as a large number of users rely on these products, and VULA is important in supporting the transition to gigabit capable services. A specific access requirement will provide certainty as to the basis on which users have access to these products.
- 1.73 In WLA Area 2, we propose a pricing continuity approach to set an inflation-indexed charge control on MPF and FTTC 80/20 rentals (or FTTP 80/20 rentals where a copper-based service is not available). We are proposing that rental charges for other bandwidths will not be charge controlled. These remedies continue to promote investment and give network competition the opportunity to emerge in Area 2, while providing a degree of consumer protection in the short term.
- 1.74 In WLA Area 3, we propose to continue to adopt a RAB approach to provide pricing continuity by setting an inflation-indexed charge control on MPF and FTTC 80/20 rentals (or FTTP 80/20 rentals where a copper-based service is not available). As in WLA Area 2, we are not proposing to charge control higher bandwidth rentals. These remedies seek to promote Openreach investment in gigabit-capable networks, while providing sufficient consumer protection.
- 1.75 Finally, given the potential incentive on Openreach to seek to stifle the emergence of new competitors, we propose to prohibit geographic pricing within WLA Area 2 for wholesale broadband rental charges, connection charges and retail inducements which amounts to undue discrimination. We are also alive to the risk that other commercial terms could have an impact on providers' ability to become stronger competitors. We are proposing that Openreach is required to notify certain proposed commercial terms. This would allow Ofcom time to investigate these terms on a case-by-case basis before they are implemented and, if appropriate, intervene before they come into force.
- 1.76 Our proposed remedies for WLA are set out in Volume 3, section 6. We set out our rationale for the WLA charge controls in Volume 4, section 1. We set out our approach to regulating discounts and other commercial terms in Volume 3, section 9.

Copper retirement

- 1.77 In the WFTMR21 we set out a framework for regulatory transition from wholesale copper-based services to wholesale FTTP services in the WLA markets in Area 2 and Area 3. We propose to maintain our existing approach to copper retirement in this market review, which entails a gradual deregulation of Openreach's WLA copper-based services using thresholds based on Openreach coverage in each exchange area.
- 1.78 We propose to retain a second threshold that allows Openreach pricing freedom over copper-based services in an exchange area once certain conditions have been met.¹⁷ Currently this includes a condition for ultrafast coverage to have reached 100% coverage less 'excluded' premises in the relevant exchange area. In this document we seek stakeholder views on different options for how to 'exclude' premises for this purpose. Until such time as we set exclusions by way of a direction, 100% ultrafast coverage of an exchange area would continue to be required for the second threshold to be triggered.
- 1.79 We also propose not to set a third threshold (which would permit the withdrawal of copper-based services) during this review period. Our proposed copper retirement policy is set out in Volume 3, Section 2.

Exchange exit

- 1.80 In Volume 3, Section 3 we outline our approach to exchange exit. We believe that the overall process of exchange exit is best achieved through commercial agreement, and that there are enough incentives on all sides to reach a commercial agreement on the terms of exchange exit, which allows the benefits of exchange exit to be realised while also delivering good outcomes for competition and consumers.
- 1.81 We are proposing to maintain our existing suite of regulation to mitigate risks to competition and consumers during the review period. In particular we propose to maintain our regulation in relation to MPF. In relation to IEC, we are proposing changes to the SMP conditions to ensure the obligations to provide DFX and active IEC services cease when telecoms providers have exited an exchange.

Leased Line Access (LLA)

- 1.82 We propose to continue to require Openreach to offer active leased lines in the HNR area, LLA Area 2 and Area 3, as a large number of leased-line customers continue to rely on these products, and a specific access requirement will provide certainty regarding the basis on which users have access.
- 1.83 In LLA Area 2, we propose to maintain our existing approach to remedies (a CPI-0% charge control on active leased lines, and no requirement to provide dark fibre access (DFA)) to promote network competition. We consider that this approach will also provide sufficient protection to consumers while competition develops.
- 1.84 In LLA Area 3, we propose to retain our requirement for Openreach to offer cost-based DFA. We also propose to amend the existing charge control on active leased lines to set a

¹⁷ The second threshold allows Openreach to raise prices on copper broadband services once coverage in an exchange area is completed (less excepted premises) and a minimum of two years have passed since the stop-sell notification (the first threshold is reached).

cost-based charge control on lower bandwidth services, and to retain a CPI-0% control on very high bandwidth services. This is because we consider that DFA is less likely to be an effective constraint on the price of lower bandwidth leased lines and therefore a tighter charge control on lower bandwidths is necessary to protect those users from BT's SMP.

- 1.85 Finally, Openreach could use geographic discounts (and other commercial terms) on leased lines to undermine altnets' and leased line only operators' ability to strengthen their position as competitors to Openreach. Therefore, we propose to continue to prohibit geographic pricing which is unduly discriminatory and require Openreach to notify certain commercial terms that are conditional on the volume/range of services purchased in LLA Area 2.
- 1.86 Our proposed remedies for LLA are set out in Volume 3, section 7. We set out our rationale for the LLA and DFA charge controls in Volume 4, section 2. We set out our approach to regulating discounts and other commercial terms in Volume 3, section 9.

Inter-exchange connectivity (IEC)

- 1.87 We propose to maintain the requirement on Openreach to provide active IEC services from all regulated exchanges. We also propose to extend the DFX remedy to all regulated exchanges as we do not expect further material competitive network investment in IEC at these exchanges and consider that DFX offers benefits over and above active products.
- 1.88 We propose a cost-based charge control on DFX at BT Only exchanges and BT+1 exchanges. We also propose to maintain a CPI-0% charge control on all active IEC services at both BT Only and BT+1 exchanges, to provide a suitable level of consumer protection during the transition to DFX services.

Quality of Service (QoS)

- 1.89 We are proposing to broadly maintain the existing rules for how quickly Openreach must carry out repairs and installations of its main network access products in regulated markets including copper-based broadband, ethernet and dark fibre.
- 1.90 We propose to make an adjustment to our existing minimum QoS standards on Openreach's FTTC and MPF network access products in WLA Area 2 and WLA Area 3. This is because over the 2026-2031 review period we expect volumes of copper-based broadband to fall as customers migrate to FTTP.¹⁸ For the obligations on Openreach to comply with QoS standards for FTTC/MPF installations and repairs, we propose keeping the same standards applied UK-wide but that Openreach is no longer required to meet these standards in each of seven management regions.¹⁹ We propose to continue to require Openreach to report on its performance in installing and repairing FTTC/MPF connections by management region as well as the UK as a whole.²⁰
- 1.91 We propose introducing new minimum QoS standards on FTTP in WLA Area 3 from 1 April 2027 using the same metrics which we have found effective for regulating legacy copper-based network access products but set at levels adjusted to the specifics of the product and geography. This will provide certainty that Openreach's performance in installing and

¹⁸ Including Openreach's G.fast, SOGEA, SOG.fast and SOTAP products.

¹⁹ Excluding the Hull Area so meaning the whole of WLA Area 2 and 3.

²⁰ Excluding the Hull Area.

repairing FTTP meets a minimum level in WLA Area 3 where we expect retail competition to remain reliant on access to BT’s network. We propose to enhance transparency and reporting requirements on Openreach’s performance in installing and repairing FTTP in WLA Area 2 and 3 including, specifically, in relation to how Openreach performs in delivering more complex FTTP installations.

- 1.92 We propose retaining existing minimum QoS standards for LLA Area 2, LLA Area 3 and IEC BT Only and BT+1 exchanges markets and associated transparency and reporting obligations.²¹ We are not proposing to direct Openreach to comply with any QoS standards, transparency or reporting requirements in the physical infrastructure market at this time.
- 1.93 Details of our proposed QoS remedies, and our rationale for them in light of our proposed approach and objectives for each of the markets as described above, is set out in Volume 5.

Regulatory financial reporting

- 1.94 We propose to continue to impose financial reporting obligations on BT to ensure sufficient and robust information is published by BT and provided privately to Ofcom to enable us to perform our duties and for stakeholders to have confidence that BT has complied with its SMP conditions. In Volume 6 we propose:
- a) An accounting separation obligation, to prevent discrimination by BT in favour of its own activities to prevent unfair cross-subsidy.
 - b) Cost accounting obligations, to ensure that BT has in place a system of rules that support the attribution of revenues and costs to individual markets and services.
 - c) A set of five directions to implement our detailed regulatory financial reporting requirements.

Legal duties

- 1.95 In Volume 1, Section 2, we explain how our objectives and the package of remedies we are proposing are consistent with our duties under sections 3 and 4 of the Act. In the following two subsections, we explain how we have had regard, as legally required, to the desirability of promoting economic growth and the previous government’s Statement of Strategic Priorities in formulating our proposals. In Volumes 3 to 6, we then go on to explain how our proposed remedies meet the more specific legal tests set out in the Act.

Growth Duty

- 1.96 In formulating our proposals, we are required to have regard to the desirability of promoting economic growth (the “growth duty”).²² We do so in the context of our primary duty to further the interests of citizens and consumers, where appropriate by promoting competition, and having regard, amongst other things to encouraging investment and innovation.
- 1.97 In accordance with the statutory guidance on the growth duty²³, where we have discretion to do so, we have considered how best to promote growth through our proposals, and in particular how to positively affect the key drivers of economic growth identified in the

²¹ We propose to continue without minimum QoS standards in the HNR Area.

²² Section 108, Deregulation Act 2015

²³ DBT, 2024. [Growth Duty: Statutory Guidance – Refresh](#).

guidance. As set out in the guidance, not all of the drivers identified will be applicable to every regulator or to each policy choice. We therefore set out below the drivers which we consider most relevant to Ofcom and this review:

- a) **Infrastructure and investment:** The guidance identifies infrastructure as playing a vital role in supporting a competitive and growing economy, by providing services upon which businesses and citizens depend. This is at the heart of our strategic approach to the Telecoms Access Review which we deliver in the context of our 10-year overarching telecoms strategy, which we set out in 2021. That strategy was, and remains, to promote investment in gigabit-capable networks by Openreach and other telecoms providers in order to promote network-based competition.

As set out in more detail in Volume 1, Section 2, delivering this strategy is central to economic growth, supporting higher productivity and innovation across all sectors of the economy, providing opportunities for the deployment of new technologies and for public sector transformation. Consistent with the approach we set out in 2021, we recognise that the investments being made by all network operators in gigabit-capable networks have long payback periods and material competition takes time to develop and become sustainable. We aim to provide a stable regulatory environment that is in line with the position set out in the WFTMR21 unless there are good reasons for departing.

Our proposals are intended to encourage BT's competitors to build their own networks where it is economic to do so, rather than relying on network access from Openreach. We propose to continue the requirement on Openreach to provide PIA, enabling telecoms providers to lay their own fibre networks using Openreach's infrastructure.

In areas of the UK where there is unlikely to be material and sustainable competition to BT in the commercial deployment of competing networks, the proposals are intended to promote investment by Openreach.

- b) **Innovation:** The guidance also identifies innovation as a key driver of economic growth through the development of new ideas, products and processes. Innovation may also drive economic growth by increasing access to resources, leading to competitiveness through the creation of new products and services. The network competition we are seeking to promote with our proposals should bring longer term benefits from innovation, choice, and stronger incentives to price keenly to attract customers and to further improve quality of service. We consider that network competition is a more effective spur for innovation and investment in high quality networks than access-based competition. This is because network providers have much greater scope for product differentiation and can strive to win customers and generate higher margins by offering a better service than their competitors. Network competition allows market forces to play a much stronger role in shaping decisions about what networks to build, what technologies to use, and how to deliver them more cost effectively. It also promotes more aggressive competition to attract and retain customers by offering them the services they want. See Volume 1, Section 2.
- c) **Competition:** As set out above, our principal duty is to further the interests of citizens and consumers, where appropriate by promoting competition, and as highlighted above, promoting competition is one of the strategic objectives of this review. See

Volume 1, Section 2, in which we discuss our duties under the Act in relation to the objectives of this review.

- 1.98 In developing our proposals to give effect to our strategic approach, we have demonstrated the behaviours of smarter regulation. Above we have discussed how our proposals will facilitate innovation by encouraging investment. In developing the proposals themselves, we draw on our sectoral and regulatory expertise, as well as the extensive ongoing engagement we have undertaken with our stakeholders (see Volume 1, Section 2).

Statement of Strategic Priorities

- 1.99 We are required by section 2B(2) of the Act, when carrying out our telecoms functions, to have regard to a Statement of Strategic Priorities (SSP) that has been laid before Parliament and designated by the Secretary of State (or any subsequent amended or replacement SSP that has been so laid and designated).
- 1.100 On 29 October 2019, the previous government designated its SSP for telecommunications, the management of radio spectrum, and postal services. We have a duty to take the SSP into account in carrying out our telecoms functions, including publishing our proposals in this document for consultation. If the current UK Government were to designate a replacement SSP before we issue our final statement, we would be required to have regard to that (rather than the current SSP) in reaching our final decisions. This review includes proposals which would take forward a number of the areas covered by the current SSP:
- world-class digital infrastructure;
 - furthering the interests of telecoms consumers; and
 - ensuring secure and resilient telecoms infrastructure.
- 1.101 There are six areas of the SSP on full-fibre connectivity which are particularly relevant, which we address in turn.

Making the cost of deploying full-fibre networks as low as possible by addressing barriers to deployment, and supporting market entry and expansion by alternative network operators through effective access to Openreach's ducts and poles

- 1.102 As we set out in Volume 2, mandating access to Openreach's physical infrastructure has been transformational in enabling investment and deployment of fibre networks across the UK, as it reduces the cost and increases the speed of network rollout by competitors. This has enabled telecoms providers to lay their own fibre networks using Openreach's infrastructure, regardless of whether they are serving residential customers, large businesses or mobile operators. We propose to continue the requirement on Openreach to provide PIA. Further detail about our proposals to regulate PIA can be found in Volume 3, Section 5 and Volume 4, Section 4.

Stable and long-term regulation that incentivises network investment and ensures fair and effective competition between new and existing network operators

- 1.103 In 2021, we recognised that the long-term nature of network investments requires stability of regulation and therefore set expectations about future regulation to 2031 and beyond. The market review process requires us to review the relevant markets every 5 years taking account of recent and prospective market developments, but our decisions in 2021 stand as the starting point for this review. This document therefore sets out our detailed plans for regulation of the fixed telecoms markets from 2026-2031. We aim to provide a stable

regulatory environment that is in line with the position set out in the WFTMR21 unless there are good reasons for departing.

- 1.104 While our future decisions will depend on the circumstances that exist when we carry out our next reviews, we also outline in this document how we would expect to regulate beyond 2031.

An ‘outside in’ approach to deployment that means gigabit-capable connectivity across all of the UK is achieved on a similar timescale, and no areas are left behind

- 1.105 Our proposals in relation to Area 3, as set out in this document, will continue to complement the schemes from the UK and devolved Governments to help improve coverage of broadband services to the hardest to reach areas.
- 1.106 PIA is available so any commercial rollout by altnets is supported, as discussed above. PIA is also available to support publicly funded rollout.
- 1.107 Specifically, in Area 3, we do not expect rollout by altnets to be material and so we are proposing to continue to regulate in a way which incentivises investment in WLA by Openreach. In LLA Area 3 we are also proposing to require access to Openreach’s dark fibre at a price that reflects its costs to promote competition at the most upstream level possible.

A switchover process to enable consumer migration to gigabit-capable services

- 1.108 As gigabit-capable network deployment progresses, customers currently using the Openreach copper network can be migrated over to a gigabit-capable network. Eventually Openreach’s copper network can be decommissioned to avoid the costly running of two parallel networks.
- 1.109 To support migration to gigabit-capable networks, we are proposing to broadly retain our existing approach to copper retirement. This entails a gradual deregulation of Openreach’s WLA copper products using thresholds based on Openreach coverage in each exchange area. We want our regulation to support a smooth transition from Openreach’s legacy copper network to new gigabit-capable networks, while facilitating the wider objectives of this review.
- 1.110 Further detail about our proposals can be found in Volume 3, Section 2.

The policy and regulatory framework should be sufficiently flexible and forward-looking to support convergence between fixed and mobile networks

- 1.111 We continue to see more convergence in the telecoms sector. We adapted our reviews to take account of that, undertaking a single unified market review since 2021. Our decisions also support the deployment of 5G networks through promoting more efficient provision of backhaul connectivity. Our proposal to continue to require Openreach to offer dark fibre at cost-based charges in LLA Area 3 facilitates this, and in LLA Area 2 we expect our approach to promoting investment and network competition will lead to commercial provision of these services.

Insufficiency of competition law

- 1.112 Before proposing ex-ante regulation, we consider whether competition law would be sufficient to address the competition problems we have identified. For the reasons set out in Volume 2, Sections 3-6 as part of our provisional assessment of the three-criteria test

under section 79(2B), we consider that competition law alone would not be sufficient to address our competition concerns in the relevant markets.

2. Regulatory support for copper retirement

Introduction

- 2.1 In this section we set out our proposed approach to transitioning WLA regulation from Openreach’s wholesale copper-based services to its wholesale FTTP services.
- 2.2 Over time, customers currently using Openreach’s legacy copper-based network will migrate, either to Openreach’s FTTP network or to rival networks. Eventually Openreach’s copper-based network can be decommissioned to avoid the costly running of two parallel networks. We want our regulation to support a smooth transition away from Openreach’s copper-based network, while facilitating the wider objectives of this review.²⁴
- 2.3 We are proposing to retain our approach from the WFTMR21. This involves a three-stage regulatory transition on an exchange level basis. In the WFTMR21, we specified the threshold for when the first stage is met. However, we have not yet specified any exclusions for the purposes of the second threshold and did not specify the third threshold.
- 2.4 At present, Openreach has met the first threshold in 852 exchanges, but has yet to meet the second threshold in any exchange area. In this consultation we are proposing to maintain the approach to the second threshold envisaged in the WFTMR21 and are considering how best to implement this, including setting out potential options for how we might identify ‘excluded premises’ when applying the second threshold. In this review we are proposing not to define criteria for the third threshold.
- 2.5 This section is structured as follows:
 - a) First, we set out the background, explaining what copper retirement is, relevant Openreach initiatives and our current regulation.
 - b) Then we discuss why we think our overarching approach remains appropriate.
 - c) We set out our proposals to retain the first and second thresholds, and that we are not planning on specifying a third threshold at this stage. We also explore options for identifying excluded premises when applying the second threshold, which we are particularly seeking stakeholder views on.
 - d) Then we discuss how to reflect exchange exit.
 - e) Finally, we discuss our approach to monitoring.

²⁴ When we refer to “copper-based services” in this section we are referring to Copper-based Network Access, i.e. the wholesale provision of network access by the Dominant Provider over its electronic communications network where the physical connection between the local access node and the Network Termination Point comprises copper wires either in whole or in part.

Background

Copper retirement

- 2.6 Openreach has made significant progress with its FTTP deployment. As of January 2025, Openreach had deployed FTTP to 17 million premises across the UK.²⁵ Openreach plans to deploy FTTP to 25 million premises by December 2026, and intends to reach up to 30 million premises with FTTP by the end of 2030.²⁶
- 2.7 Over time, customers currently using Openreach’s legacy copper-based network will migrate, either to Openreach’s FTTP network or to rival networks. Eventually Openreach’s copper-based network can be decommissioned to avoid the costly running of two parallel networks. We refer to this as ‘copper retirement’.
- 2.8 Reflecting this, in the WFTMR21 we set out a process to transition WLA regulation from Openreach’s wholesale copper-based services to its wholesale FTTP services.

PSTN retirement is a separate issue

- 2.9 Copper retirement is separate to the retirement of public switched telephone networks (‘PSTN retirement’). PSTN retirement requires customers to move to digital landlines by the time the relevant PSTN network is retired. BT and Openreach plan to retire BT’s PSTN network and the Openreach wholesale services that deliver PSTN by January 2027.²⁷ Migration to a digital landline can be done while consumers remain on copper-based broadband products such as FTTC, although it can also be done as customers upgrade to FTTP.
- 2.10 For the majority of premises, migration to a digital landline and the subsequent PSTN switch-off will progress at a faster pace than copper retirement. For most areas the complete retirement of copper services will take place years after PSTN retirement.

Exchange exit is a separate issue

- 2.11 While both copper retirement and exchange exit involve customers migrating away from copper-based services, they are different.
- 2.12 Firstly, from a technical and operational perspective, to successfully exit an exchange a full transition of customers from copper-based services to FTTP is not necessary. FTTC or SOGEA services (which use copper lines from the premises to the cabinet) are provided from enduring exchanges, and therefore can be supplied even if BT exits non-enduring exchanges. Secondly, Openreach’s exchange exit programme currently covers a small proportion of exchanges over the 2026-31 review period.²⁸ In contrast, our proposals to support copper retirement, such as the thresholds set out below, could apply more widely across the UK over the review period, depending on the speed and breadth of Openreach’s FTTP deployment.

²⁵ Openreach. 6 January 2025. [A record year for UK broadband build and usage](#). Accessed 14 January 2025.

²⁶ Openreach. 7 December 2023. [Openreach hits halfway point in UK broadband upgrade plan](#). Accessed 17 January 2025.

²⁷ Digital landline is the delivery of landline calls over a broadband connection using a digital technology called VoIP. For further information see Ofcom, 7 February 2024, [Moving landline phones to digital technology: what you need to know](#).

²⁸ 108 exchanges out of c.5,600. Openreach. [Exchange Exit programme](#). Accessed 24 February 2025.

Openreach has introduced commercial offers that support its copper retirement plans

2.13 Since the WFTMR21, Openreach has introduced the Equinox 1 and 2 Offers. These offer lower FTTP prices to ISPs that meet targets for using Openreach FTTP for new orders (where it is available), instead of copper-based broadband products.²⁹ As a result of these offers there has been a significant fall in ISPs' propensity to place new orders for copper-based broadband products in areas where Openreach FTTP is available.³⁰

The WFTMR21 approach to supporting copper retirement: a regulatory transition from copper to FTTP

2.14 In WFTMR21 we set out our decision to transition WLA regulation from Openreach's wholesale copper-based services to its wholesale FTTP services. This was intended to support Openreach's business case for FTTP deployment and support the migration of customers away from Openreach's legacy copper-based network, either to Openreach's FTTP network or to rival networks. At the same time, we sought to ensure that there was appropriate wholesale regulation to protect customers.

2.15 In the WFTMR21 we set out a three-stage regulatory transition, that would take place on an exchange-by-exchange basis:

- a) We established the **first threshold**. This enabled Openreach to stop selling Copper-based Network Access services to premises in an exchange area when:³¹
 - i) Openreach has published a notice at least 12 months in advance of the date when it expects 75% of premises in an exchange area to be covered by ultrafast;^{32,33}
 - ii) Openreach makes ultrafast services available at 75% of premises in the exchange area;
 - iii) Those premises are passed with FTTP (if they are not, Openreach is still required to meet new requests for Copper-based Network Access at those premises); and
 - iv) Openreach publishes a 'First Threshold Notice' notifying industry and Ofcom the threshold has been met.³⁴
- b) We established the **second threshold**. The charge control on the anchor Copper-based Network Access services would be withdrawn at premises in an exchange area when:
 - i) Openreach has published a notice at least 12 months in advance of the date when it expects all premises in an exchange area to be covered by ultrafast (to "complete" the exchange);³⁵
 - ii) Openreach makes ultrafast services available at 100% of the premises in the exchange area (excluding any premises that Ofcom directs);

²⁹ To obtain the full discounts, 90% of an ISP's new orders with Openreach must be for FTTP. Further details are set out in 2023 Equinox 2 Statement, Paragraphs 2.13-2.31.

³⁰ [redacted] [redacted] response dated [redacted] to s135 notice dated [redacted], question [redacted].

³¹ "Copper-based Network Access" means the wholesale provision of network access by BT over its electronic communications network where the physical connection between the local access node and the Network Termination Point comprises copper wires either in whole or in part.

³² By 'ultrafast' we mean broadband services provided using the Openreach network capable of delivering a minimum of 300 Mbit/s services, be this by FTTP or G.fast.

³³ SMP condition 8.2.

³⁴ SMP conditions 1.6-1.11.

³⁵ SMP condition 8.2.

- iii) At least two years has passed since the First Threshold Notice was issued.
 - iv) Those premises are passed with Openreach FTTP (if they are not, price control regulation continues to apply to the anchor copper service at those premises); and
 - v) Openreach publishes a 'Second Threshold Notice' notifying industry and Ofcom the threshold has been met.³⁶
 - vi) We said that we would give a direction about the circumstances in which premises can be excluded from the definition of a completed exchange. However, we have not done so to date.
- c) We proposed a **third threshold** that would relate to the complete deregulation of Copper-based Network Access. This would enable existing copper-based services to be withdrawn. While we proposed the concept of the third threshold, we thought it was too early to define the conditions that should trigger it.
- 2.16 In the period between the First Threshold Notice and Second Threshold Notice being issued, we decided on parallel running of charge controls on FTTC 40/10 and FTTP 40/10 at premises with FTTP available.
- 2.17 We considered that progress through the different stages should be transparent, and above we describe the formal notices for the various thresholds. We also implemented a transparency and monitoring regime to better understand progress and be alert to potential issues. Openreach has voluntarily increased transparency through industry working groups and its customer portal, which we continue to be supportive of.

Progress towards the current thresholds

- 2.18 Since the WFTMR21, we have been monitoring progress against the framework. As of 17 February 2025, a First Threshold Notice had been published in 852 exchanges. We understand that this will increase to 1,283 exchanges by 14 February 2026 (i.e. close to the end of the 2021-26 review period on 31 March 2026).³⁷ At present there are around 5,600 exchanges.³⁸ Based on forecast information provided by Openreach to Connected Nations, we expect that around a third [33%] of exchanges ([33%]) will reach the first threshold coverage requirement of 75% by April 2026.³⁹ This is shown in Figure 2.1.⁴⁰
- 2.19 Openreach has continued expanding its ultrafast coverage beyond the 75% threshold in many exchanges. Based on forecast information provided by Openreach to Connected Nations, we expect that over a quarter [25%] of exchanges ([25%]) will exceed 95% ultrafast Openreach coverage, and less than 2% [2%] of exchanges ([2%]) will be at 100% coverage

³⁶ SMP conditions 1.6-1.11.

³⁷ Openreach. [FTTP Priority Exchange Stop Sell Tranche Overview February 2025](#). Accessed 14 February 2025.

³⁸ Openreach. [Exchange Exit programme](#). Accessed 24 February 2025.

³⁹ Ofcom analysis of Connected Nations coverage data (collected August 2024), Connected Nations planned network deployment (collected May 2024), and additional planned network deployment data provided for TAR26 (collected August-September 2024, for additional detail see Annex 7)

⁴⁰ The Connected Nations figure is a forecast based on build plans received from Openreach and therefore may be subject to forecasting error. Furthermore, Openreach does not have to issue advance notification or Threshold Notices for all exchanges that are expected to be at 75% coverage, which could account for differences between the number of exchanges at 75% coverage and the number under a First Threshold Notice.

by April 2026 (the start of the review period).⁴¹ This is also shown in Figure 2.1. We expect Openreach to continue to build at pace after April 2026, therefore additional exchanges are likely to hit these thresholds during the TAR period.⁴²

Figure 2.1: Share of total Openreach exchanges with at least X% Openreach ultrafast coverage – current (July 2024) and forecast (April 2026)⁴³

[X]

- 2.20 To date, we have not consulted on what premises should be excluded when assessing whether the second threshold is met or provided a direction on these. Therefore, to have met the second threshold, Openreach would have had to make ultrafast services available to 100% of premises served by an exchange. No Second Threshold Notices have been issued. According to Openreach, it has not proposed, published or discussed plans to issue any Second Threshold Notices.⁴⁴
- 2.21 We remain of the view that there will be premises where it will be too difficult or costly for Openreach to reasonably make ultrafast services available under its commercial programme. Given the progress Openreach is expected to make towards completion of its network deployment over the period 2026-31, we consider it is now appropriate to seek to define what premises could be excluded for the purposes of assessing whether the second threshold is met.

Proposed overarching approach to supporting copper retirement

- 2.22 As explained above, in the WFTMR21 we introduced a regulatory framework that involves a three-stage regulatory transition. We have considered whether to retain this broad three-stage regulatory approach or instead, as suggested by some stakeholders, adopt a new, different framework.
- 2.23 Stakeholders have made two broad suggestions for altering our existing framework.
- a) Some stakeholders have questioned the need for the second threshold at all, under which the charge control on copper-based access is removed. PXC argued that lifting

⁴¹ Assumes the number of exchanges remains constant between July 2024 and April 2026. Ofcom analysis of Connected Nations coverage data (collected August 2024), Connected Nations planned network deployment (collected May 2024), and additional planned network deployment data provided for TAR26 (collected August-September 2024, for additional detail see Annex 7)

⁴² Based on forecast information provided by Openreach to Connected Nations, we expect that [X] [X] of exchanges ([X]) will exceed 95% ultrafast Openreach coverage by July 2027 (the latest forecast available). Ofcom analysis of Connected Nations coverage data (collected August 2024), Connected Nations planned network deployment (collected May 2024), and additional planned network deployment data provided for TAR26 (collected August-September 2024, for additional detail see Annex 7)

⁴³ Analysis of data collected by the Connected Nations team. Assumes the number of exchanges remains constant between July 2024 and April 2026. Ofcom analysis of Connected Nations coverage data (collected August 2024), Connected Nations planned network deployment (collected May 2024), and additional planned network deployment data provided for TAR26 (collected August-September 2024, for additional detail see Annex 7)

⁴⁴ Openreach response dated 10 July 2024 to s135 notice dated 19 June 2024, question C4.

the charge control would not be an effective mechanism to encourage consumer migration off copper-based services. PXC considered that withdrawal by a set date would be a more effective message for consumers, and thus Ofcom should consider skipping the second threshold and moving directly to the third.⁴⁵ [3<] considered that the current framework effectively forces ISPs to quickly migrate customers onto Openreach FTTP, and that the removal of the second threshold would mitigate this impact.⁴⁶

- b) Some stakeholders called for a “competitively neutral” approach:
- i) INCA and nexfibre cited the importance of networks attracting customers migrating away from Openreach’s copper-based services, with nexfibre saying that once an ISP has committed to a particular FTTP network in a specific area, it is less likely to switch to a competitor network in the near future.⁴⁷ It therefore called for a “competitively neutral” approach, and that Ofcom carefully assess the potential impact of the framework on Openreach’s competitors.⁴⁸ Both INCA and nexfibre suggested that coverage by other networks should be able to trigger the first threshold if they reach sufficient premises in an exchange area with FTTP, even if Openreach has not done so.⁴⁹
 - ii) INCA proposed that a ballot could be implemented at a point in the copper retirement process (e.g. when the first threshold is met) which either requires consumers to make an active choice on the available providers, or randomly assigns them to an available provider. It also suggested increased transparency to retail customers of the alternative networks available.⁵⁰

2.24 We do not consider that either of these suggested alternative approaches would be appropriate.

2.25 We continue to consider that the second threshold has an important role as part of a gradual regulatory transition. Providing Openreach with the flexibility to increase the price of copper-based access services (at premises where Openreach FTTP is available) represents an intermediate means of encouraging migration to other gigabit-capable services that is less drastic than complete withdrawal of copper-based access services.

2.26 In relation to stakeholders’ call for a more competitively neutral approach, we consider that there are considerable challenges with the approaches suggested and/or these are outside the scope of this market review.

- a) In some cases, it is unclear whether the alternative approaches suggested by stakeholders are capable of being effective. The framework set out in the WFTMR21 involves the removal of regulatory requirements on Openreach in relation to the

⁴⁵ PXC. Telecoms Access Review 2026: PXC integrated submission on market analysis and remedies (non-confidential). Paragraph 2.131-2.133.

⁴⁶ [3<]

⁴⁷ nexfibre. Copper retirement and the Telecoms Access Review: nexfibre submission (non-confidential). Page 2; INCA. Strengthening infrastructure competition by addressing barriers to expansion (non-confidential). Page 13.

⁴⁸ nexfibre. UK fibre: a fork in the road - Telecoms Access Review (non-confidential). Paragraph 113; nexfibre. Copper retirement and the Telecoms Access Review: nexfibre submission (non-confidential). Page 4-6.

⁴⁹ nexfibre. UK fibre: a fork in the road - Telecoms Access Review (non-confidential). Paragraph 164. INCA. Strengthening infrastructure competition by addressing barriers to expansion (non-confidential). Page 21.

⁵⁰ INCA. Strengthening infrastructure competition by addressing barriers to expansion (non-confidential). Pages 19-21.

provision of copper-based access services. Openreach is free to choose how it behaves once those requirements are removed. For example, suppose we were to change our rules to deregulate Openreach in areas where altnet FTTP is available but Openreach FTTP is not. In this scenario, Openreach might simply choose to continue to make copper-based access services available at current prices until its own FTTP network were deployed.

- b) It is unclear how INCA’s suggested ballot approach would operate, particularly as our powers to set SMP conditions do not permit us to *require* ISPs or customers to make an active choice between Openreach copper-based services and FTTP networks. The regulatory framework empowers us to require an operator with SMP, here Openreach, to provide access to its network, and to impose other obligations related to that access. In addition, our objectives are to promote network competition which in turn allows ISPs and customers to make an informed choice between Openreach and rival fibre networks based on price and quality of service. Assigning customers randomly to one of the available gigabit-capable networks would take away that choice.
- c) We consider that providing information on the networks available in an area to consumers is outside the scope of this review. As explained in Volume 1, Section 2, demand side issues are more appropriately considered and addressed through consumer focused interventions that apply to all providers, rather than through TAR26 rules that only apply to providers with SMP.

- 2.27 As explained below, we have taken impacts on network competition into account when proposing how to specify the second threshold.
- 2.28 We propose maintaining the three-stage regulatory framework that we set out in the WFTMR21. Such a framework supports a smooth transition away from Openreach’s copper-based network, assisting the migration of customers to gigabit-capable networks. In addition, both Openreach and altnets have made significant investment in FTTP against the backdrop provided by this framework. We thus regard consistency with the WFTMR21 regulatory approach as important.
- 2.29 Given that we propose maintaining the three-stage regulatory framework, the following sections discuss the first, second and third threshold in turn.

First threshold

Proposed approach

- 2.30 We propose maintaining the existing approach to the first threshold in the review period, as described in Paragraph 2.15(a) above.

Rationale

- 2.31 As noted in Paragraph 2.13 above, the Equinox 1 and 2 Offers have led to a significant fall in ISPs’ propensity to place new orders for copper-based broadband products in areas where Openreach FTTP is available. While these offers do not require ISPs to completely stop selling these products, they may mean that the first threshold has less of an impact than expected in the WFTMR21.
- 2.32 Despite this, we do not consider that it is appropriate to make changes to this threshold. It has already been widely applied. As explained above, as of 17 February 2025 a First

Threshold Notice had been published in 852 exchanges and this number will grow further by the time the review period begins. Maintaining our existing approach ensures regulatory stability, which we consider to be important given that both Openreach and altnets have made significant investment in FTTP since 2021.

Second threshold

Structure of this section

- 2.33 In this section we consider our approach to the second threshold. This raises several issues that we go through in turn.
- 2.34 First, we consider whether to maintain the approach to the second threshold set out in the WFTMR21. This approach involves assessing whether the second threshold is met based on ultrafast coverage in an exchange area (which we refer to below as an ‘exchange-based approach’) and only excluding premises from that assessment in limited circumstances. We consider whether to instead:
- a) exclude premises in a wider set of circumstances than envisaged in the WFTMR21; or
 - b) depart from an exchange-based approach and instead apply the second threshold based on the circumstances at individual premises (which we refer to as a ‘premises-based approach’).
- 2.35 Next, we consider two potential options for implementing our preferred exchange-based approach:
- a) Defining the specific circumstances under which premises would be excluded when assessing whether the second threshold is met (which we refer to below as a ‘Defined Exclusions Approach’); or
 - b) Setting a percentage of premises that would automatically be excluded when assessing whether the second threshold is met (which we refer to below as a ‘Fixed Percentage Approach’).
- 2.36 We then consider whether to maintain the minimum period set out in the WFTMR21 before the second threshold can come into effect.
- 2.37 Finally, we discuss the issue of vulnerable consumers.

Summary of proposed approach

- 2.38 We propose maintaining the approach to the second threshold set out in the WFTMR21, namely:
- a) An exchange-based approach that requires Openreach to make ultrafast services available at 100% of premises in the exchange area, excluding any premises that Ofcom directs;
 - b) Premises should only be excluded when assessing whether the second threshold is met if they are unable to receive ultrafast services due to exceptional circumstances beyond Openreach’s control (by which we mean premises where it would be too difficult or costly for Openreach to reasonably make ultrafast services available under its commercial programme); and

- c) Require Openreach to publish a notice at least 12 months in advance of the Second Threshold Notice and also require at least two years between the First Threshold Notice and the Second Threshold Notice.
- 2.39 In WFTMR21, we envisaged defining the specific circumstances under which premises would be excluded when assessing whether the second threshold is met (a ‘Defined Exclusions Approach’). However, we think there are difficulties in identifying in a reasonably accurate and practicable fashion the circumstances in which premises should be excluded. Therefore, as set out below, we seek stakeholder views on whether and how this approach could operate in practice.
- 2.40 If a Defined Exclusions Approach cannot operate in a reasonably accurate and practicable fashion, then we would consider alternative approaches to the second threshold. We discuss below an alternative approach of setting a percentage of premises that would automatically be excluded when assessing whether the second threshold is met (a ‘Fixed Percentage Approach’).
- 2.41 Once the second threshold is met, the charge control on copper-based access services will be lifted for premises with access to Openreach FTTP. When this happens, we consider that it is important for Openreach and ISPs to take appropriate steps to adequately protect vulnerable consumers. We invite stakeholder views on how best to accomplish this.
- 2.42 We intend to consult again to set out more detailed proposals for the second threshold, based on feedback from this consultation.⁵¹

General approach to the second threshold

- 2.43 In the WFTMR21, in order for the second threshold to be triggered we required that Openreach make ultrafast services available at 100% of the premises in the exchange area (excluding any premises that Ofcom directs). We intended for premises to only be excluded when assessing the second threshold in limited circumstances: the March 2021 Statement referred to “premises [that] may not be able to receive ultrafast services due to circumstances beyond Openreach's control”.⁵²
- 2.44 Openreach has proposed the following alternative approaches to the second threshold:
- a) **Exchange-based approach that excludes more premises:** If an exchange-based approach were maintained, Openreach suggested that more premises should be excluded than envisaged in the WFTMR21, such as premises served by other fixed networks.
 - b) **Premises-based approach:** Openreach proposed that for any premises in its FTTP footprint, the second threshold will be triggered two years after the first threshold came into force. It proposed that the earliest date would be 31st March 2028. This is Openreach's preferred approach.
- 2.45 We have considered three options for defining the second threshold:
- a) **Option one: Regulatory continuity:** Maintain the approach envisaged in the WFTMR21, namely an exchange-based approach where premises should only be excluded when

⁵¹ In particular, any exclusions we define would be set out in a direction which would be subject to consultation in accordance with the Act.

⁵² Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26](#). Volume 3: Non-pricing remedies, Paragraph 2.153.

assessing whether the second threshold is met if they are unable to receive ultrafast services due to exceptional circumstances beyond Openreach's control.

- b) **Option two: Exchange-based approach that excludes more premises:** Take a broader approach to defining which premises should be excluded when assessing whether the second threshold is met. This would allow Openreach to meet the second threshold with lower ultrafast coverage within an exchange area than Option one.
- c) **Option three: Premises-based approach:** A premises-based approach where, at premises where Openreach FTTP is available, the second threshold is automatically triggered after a set period after the first threshold comes into force. We have assumed that this set period is relatively short, so that the second threshold is reached for more premises, more quickly than under Option one.

2.46 Below we discuss the potential impact of these three options on the following factors:

- a) Openreach's investment in gigabit-capable networks;
- b) Network competition; and
- c) Consumer protection.

Openreach's investment in gigabit-capable networks

2.47 In theory, which premises are excluded when assessing whether the second threshold is met could have an impact on Openreach's investment incentives. It could impact both the total level of Openreach gigabit-capable coverage and the sequencing of its build.⁵³

However, the theoretical impact of each three of the options is likely to be different and difficult to determine:

- a) A high and achievable threshold under Option one could incentivise Openreach to build to additional premises within an exchange and sooner. However, a high threshold under Option one that is too difficult or too costly for Openreach to achieve may not have this effect. A lower threshold under Option two may also not have this effect, since Openreach would surpass it anyway.
- b) Under a premises-based approach (Option three), Openreach does not need to achieve a higher level of coverage beyond the 75% coverage required to meet the first threshold. This could provide Openreach with greater certainty that it can meet (and benefit from) the second threshold wherever it deploys FTTP. This might incentivise Openreach to build to more premises and more quickly than an exchange-based approach that is too difficult or too costly for Openreach to achieve. Conversely, Openreach might build to fewer premises within an exchange area since ultrafast coverage does not need to be near-complete in order to meet the second threshold.

2.48 We also recognise that the strength of these build incentives depends on the costs and benefits to Openreach of reaching the second threshold. These depend on several factors, including:

- a) The impact of higher prices for copper-based services on Openreach's FTTP take-up;
- b) The impact of higher prices for copper-based services on customers' (including ISPs') incentives to switch to any rival networks which are available;
- c) The relative importance of prices for copper-based services for driving FTTP take-up, compared to other commercial levers that are available to Openreach such as its FTTP pricing; and

⁵³ For example, whether Openreach prioritises achieving a very high degree of coverage in some exchange areas at the expense of delaying build in other exchange areas.

- d) The extra cost to Openreach of having to adjust its build plans to reach that threshold (Option one and two only). For example, Openreach might need to deploy FTTP to more premises in a particular exchange area to hit the second threshold. If capital and engineering resources need to be redeployed, there may be downsides associated with slowing build elsewhere.
- 2.49 There are also many other factors driving when and where Openreach builds FTTP.⁵⁴ It is therefore difficult to predict the strength of the investment incentives created by Options one to three at this point.
- 2.50 In summary, the impact of Options one to three on Openreach’s future investment is uncertain. It is heavily dependent on the level at which the threshold is set under Options one and two. This uncertainty also makes it difficult to compare Option three with these other options.
- 2.51 Given this uncertainty, our provisional view is that we should place less weight on the impact of Options one to three on Openreach’s investment incentives.

Network competition

- 2.52 Rival networks could be affected by the design of the second threshold via:
- a) the impact on the timing and location of Openreach’s FTTP build in the period 2026-31; and
 - b) the impact of higher Openreach wholesale copper prices.
- 2.53 As explained above, the impact of the three options on (a) is unclear. Therefore, our assessment of the potential impact of Options one to three on network competition focusses on (b).⁵⁵
- 2.54 Under Options two and three, Openreach could meet the second threshold and increase the price of copper-based services sooner than under Option one.
- 2.55 Higher Openreach prices for copper-based services could accelerate migration to FTTP. The impact of this on altnets will depend on the extent to which ISPs are able to choose to migrate customers taking copper-based products to altnets, instead of Openreach FTTP. It will also depend on the extent to which end-users respond to higher prices for copper-based services by switching to altnets.
- a) Where customers are not yet able to move to an altnet then providing additional regulatory support for Openreach to drive customers to its FTTP network more quickly risks undermining the development of network competition.⁵⁶ As set out in Section 1, increased altnet take-up may strengthen network competition in the future.

⁵⁴ For example, Openreach’s October 2023 internal network strategy document explains that [redacted] [redacted] response dated [redacted] to s135 notice dated [redacted], question [redacted].

⁵⁵ As set out in Section 1, in WLA Area 2 our objectives include promoting competition and investment in gigabit-capable networks. Our objectives in WLA Area 3 are different. Given that our proposed WLA Area 2 will cover approximately 90% of premises in the UK, we consider that it is important to take the impacts on network competition into account when determining the second threshold.

⁵⁶ The focus here is on temporary obstacles that customers may face to using altnets, rather than enduring obstacles that customers may face to using altnets. This is because Option one (which results in the second threshold being met later than Options two and three) could give altnets an opportunity to overcome these temporary obstacles. In the case of enduring obstacles, the choice between Options one to three is unlikely to matter much.

- b) Where end-consumers and ISPs are well placed to choose between moving to an altnet or using Openreach FTTP then network competition is unlikely to be harmed if the second threshold is reached. Indeed, altnets may benefit since higher prices for copper-based services may result in some consumers switching away from Openreach entirely.
- 2.56 We are concerned that Options two and three would give regulatory support for Openreach raising the price of copper-based services sooner than Option one and, as a result, may harm the development of stronger network competition.⁵⁷ While it is difficult to assess the scale of this risk, it would be lower under Option one.
- 2.57 We note that Option one, regulatory continuity, would be consistent with the basis on which altnets have made significant investment in FTTP in the period 2021-2026. In contrast, Options two and three are more likely to represent a departure from the assumptions about future regulation when those investments were made.

Consumer protection

- 2.58 Under Options two and three, Openreach could meet the second threshold and increase the wholesale price of copper-based services (at premises where Openreach FTTP is available) sooner than under Option one. We would expect those increased wholesale prices to feed through into higher retail broadband prices for consumers taking copper-based services, either within that exchange area or more generally if ISPs face difficulties in targeting price rises.
- 2.59 The purpose of the second threshold is to enable Openreach to use higher prices for copper-based services to encourage migration away from its copper-based network. This does, however, require Ofcom to exercise its judgment about the point at which the protection offered to consumers by our charge controls on copper-based access should be removed. We consider that regulatory continuity (Option one) helps to ensure a more measured pace of migration away from Openreach's legacy copper-based network, either to Openreach's FTTP network or to rival networks, than Options two and three. In our view, Option one provides an appropriate degree of protection from higher retail prices to those customers that are slower to migrate.

Provisional conclusion

- 2.60 Overall, we propose to maintain the approach envisaged in the WFTMR21, namely an exchange-based approach where premises should only be excluded when assessing whether the second threshold is met if they are unable to receive ultrafast services due to exceptional circumstances beyond Openreach's control (Option one). By this, we mean premises where it will be too difficult or costly for Openreach to reasonably make ultrafast services available under its commercial programme.
- 2.61 This helps to ensure a more measured pace of migration away from Openreach's legacy copper-based network, which provides an appropriate degree of protection from higher retail prices to those customers that are slower to migrate. This approach reduces any risks to the development of stronger network competition. Furthermore, significant build has

⁵⁷ As explained in Volume 2, Section 4, altnets are not yet established competitors to BT. Further take-up is required to secure funding for additional network build (including infill) and sustain ongoing network operations. Furthermore, altnets need time to drive take-up e.g. through additional wholesale agreements and building brand reputation, which takes time.

occurred since 2021 (both from Openreach and altnets). Regulatory continuity ensures that we do not change the expectations under which those investments were made.

2.62 Below we consider how Option one could be implemented in practice.

Approaches for identifying excluded premises

2.63 As set out above, we consider that premises should only be excluded when assessing whether the second threshold is met if they are unable to receive ultrafast services due to exceptional circumstances beyond Openreach's control. This section now moves on to consider how to identify excluded premises in practice.

2.64 We have identified two potential options:

- a) **Defined Exclusions Approach:** Defining the specific circumstances under which premises would be excluded when assessing whether the second threshold is met. This was the approach envisaged in WFTMR21.
- b) **Fixed Percentage Approach:** Setting a fixed percentage of premises that would automatically be excluded when assessing whether the second threshold is met. We envisage that this percentage would be the same in each exchange area for simplicity, but we also discuss alternative options.

2.65 Both options aim to exclude a limited number of premises from the second threshold requirement that Openreach makes ultrafast services available at 100% of premises in an exchange area. However, they work in different ways, with different implications. We assess these two alternative approaches below.

Defined Exclusions Approach

2.66 In WFTMR21, we envisaged defining the specific circumstances under which premises would be excluded when assessing whether the second threshold is met. This approach involves Ofcom specifying in a direction the specific circumstances in which premises would be excluded. It would be for Openreach to identify the individual premises that it considers satisfy the terms of the direction.

2.67 The number of premises that are unable to receive ultrafast services due to exceptional circumstances beyond Openreach's control will vary between exchange areas. In theory, the Defined Exclusions Approach means that the amount of ultrafast coverage Openreach needs to meet in a particular exchange area reflects these differences.

2.68 If we were to adopt this approach, for the reasons set out below, we are minded to exclude the following categories of premises:

- a) Premises that Openreach is unable to access;
- b) Premises where the cost to Openreach of making ultrafast services available is high and that are served, or contracted to be served, with gigabit-capable broadband by non-Openreach providers using public funding; and
- c) Other premises where the cost to Openreach of making ultrafast services available is very high and that are not expected to be supported by existing public funding.

2.69 We discuss each of these in more detail below and in Annex 12.

2.70 For this approach to be feasible, we would need to define excluded premises with sufficient clarity as to provide legal certainty to Openreach and industry. The number of excluded premises in a particular exchange area would need to be capable of being evidenced, so that Openreach can demonstrate compliance and we can monitor and enforce where

necessary. In this respect, we think there are difficulties with implementing the Defined Exclusions Approach. These would need to be overcome in order for us to be able to apply this approach effectively in practice. We provide an overview of these difficulties below (further detail is provided in Annex 12). We seek stakeholder views on whether and how this approach could operate in practice.

Premises that Openreach is unable to access

- 2.71 As explained in detail in Annex 12, there are instances in which Openreach will be denied permission to access land or premises to provide ultrafast services. For example, in the last five years, Openreach has requested [redacted] wayleaves and only [redacted] have been granted.⁵⁸
- 2.72 We are minded to exclude premises that Openreach is unable to access when assessing whether the second threshold is met. Being unable to access some premises represents exceptional circumstances beyond Openreach's control and should not block further deregulation at other premises where Openreach FTTP is available.
- 2.73 In practice, the process for Openreach seeking to gain access to a premise can involve multiple steps (e.g. Openreach may make repeated attempts to negotiate access). We would need to define the premises that we are excluding based on a clear and demonstrable point in the process of seeking access. We would also need to be satisfied that Openreach has taken reasonable steps to gain access before seeking to exclude these premises. However, we would need to balance this against the risk that an overly burdensome requirement could make excluding these premises unworkable in practice.
- 2.74 In Annex 12, we explain that where Openreach has made an unsuccessful application for a court order, this would clearly demonstrate that Openreach had pursued all options for gaining access to premises and that the lack of access was clearly beyond Openreach's control. However, defining exclusions based on a court decision could risk setting the bar too high and therefore making it too slow, difficult and/or costly for Openreach to meet the second threshold.
- 2.75 Another option would be excluding premises when they reach an earlier point in the process. If we were to do so, we would need to avoid setting the bar too low, meaning that Openreach could meet the second threshold even if it has not exhausted the reasonable steps it could take to seek access to premises.

High cost premises that are served by non-Openreach providers using public funding

- 2.76 We have also considered whether it would be appropriate to exclude premises that are served, or contracted to be served, with gigabit-capable broadband by non-Openreach providers using public funding, such as through Project Gigabit.
- 2.77 Public funding is targeted at premises that are deemed to be commercially unattractive (i.e. Openreach and its competitors have no commercial plans to build), so deploying ultrafast broadband to these premises is likely to be high cost. As such, the presence of a rival network is likely to further reduce Openreach's commercial incentives to provide access to ultrafast broadband. Therefore, we are minded to exclude such premises when assessing whether the second threshold is met. The high cost of build, combined with the presence of a publicly funded rival network, represents exceptional circumstances beyond Openreach's

⁵⁸ [redacted] response dated [redacted] to s135 notice dated [redacted], question [redacted].

control and should not block further deregulation at other premises where Openreach FTTP is available.

- 2.78 To exclude these premises both Openreach and Ofcom would need access to a comprehensive data set which accurately identifies each of the non-Openreach premises which are publicly funded. However, as explained further in Annex 12, the data that is currently available is not complete and has further limitations. It is also unclear whether sufficiently comprehensive data will become available in the future.

Other very high cost premises

- 2.79 For some premises the cost to Openreach of making ultrafast services available is very high. This often reflects circumstances such as extreme rurality, where these premises may be better served by alternative technologies such as fixed wireless access services or satellite broadband. This could also reflect more complex builds, such as where a train track or river blocks the route from the aggregation point to the premises. While public funding schemes will be available for some of these premises, this may not always be the case.
- 2.80 We are minded to exclude such premises when assessing whether the second threshold is met. The very high cost of build, combined with the absence of public funding, represents exceptional circumstances beyond Openreach’s control and should not block further deregulation at other premises where Openreach FTTP is available.
- 2.81 For this to work in practice there would need to be a practical, reasonably accurate and verifiable way to estimate the costs for Openreach of deploying ultrafast broadband to the remaining premises in an exchange area that takes into account the particular features of very high cost premises.⁵⁹ If those costs are too high (for example because they exceed some pre-specified level) then the remaining premises in that exchange area could be excluded and the second threshold would be met.
- 2.82 It may be theoretically possible for Openreach to model these costs. However, currently no suitable model for applying the Defined Exclusions Approach exists, so either it would need to be built for this purpose or adapted from an existing model produced for some other purpose.⁶⁰ As discussed in Annex 12, this is likely to be a significant task with potential data and practical challenges. The model is also likely to need to be updated as information on costly and difficult premises improves.
- 2.83 In addition, we would need to satisfy ourselves that the model is fit for purpose. This also applies to whatever updates are made to the model over time.

Provisional conclusion

- 2.84 In conclusion, our initial view is the Defined Exclusions Approach is attractive in principle since it is better targeted at premises that are unable to receive ultrafast services due to exceptional circumstances beyond Openreach’s control. It means that the amount of ultrafast coverage Openreach needs to meet in a particular exchange area reflects circumstances in that exchange.
- 2.85 However, for this approach to work it is necessary to identify in a reasonably accurate and practical fashion all the categories of premises that we wish to exclude. We consider that

⁵⁹ This calculation may need to omit premises that should be excluded when assessing whether the second threshold is met for other reasons (e.g. because Openreach cannot gain access).

⁶⁰ We explain in Annex 12 why Openreach’s existing FTTP ‘Cost at the DP’ (CAD) modelling tool and Ofcom’s Fibre Cost Model are currently not suitable for this particular purpose.

there are difficulties in doing so. These would need to be overcome for the Defined Exclusions Approach to work effectively. We seek stakeholder views on whether and how this approach could operate in practice.

Fixed Percentage Approach

- 2.86 Given the challenges with the implementation and monitoring of a Defined Exclusions Approach, we have considered whether a Fixed Percentage Approach would be appropriate.
- 2.87 We could set a 'Fixed Percentage' of premises (by way of illustration, 2%) that would automatically be excluded when assessing whether the second threshold is met. This would mean that once Openreach makes ultrafast services available to 98% of premises in an exchange area (in this example) the second threshold could be met.⁶¹ We envisage that this percentage would be the same in each exchange area for simplicity, but we also discuss alternative options below.
- 2.88 The main advantage of this approach is that, once the Fixed Percentage is decided, we anticipate that it would be practical to determine whether the second threshold is met. This could be done in the same way that the 75% coverage figure used in the first threshold is assessed. Unlike the Defined Exclusions Approach, it would not be necessary to assess individual categories of excluded premises in each exchange area.
- 2.89 As set out above, we consider that premises should only be excluded when assessing whether the second threshold is met if they are unable to receive ultrafast services due to exceptional circumstances beyond Openreach's control. We would thus need to select a Fixed Percentage that is a reasonable approximation for the proportion of premises in this category. In doing so, we would need to ensure that it does not result in a second threshold that is too low (as explained in Paragraphs 2.44-2.57 above, a low second threshold could be detrimental to consumer protection and the development of stronger network competition). However, we would also need to ensure that it does not result in a second threshold that is unreasonably high, since this would stall the process of transitioning WLA regulation from Openreach's wholesale copper-based services to its wholesale FTTP services.
- 2.90 One option would be to determine the Fixed Percentage based on a simple analysis of Openreach's forecast coverage by exchange area, based on its commercial build plans. As a purely illustrative example of what this might entail, we could use the Openreach build plans submitted to Connected Nations. If the majority of the exchanges passing the first threshold (i.e. with Openreach ultrafast broadband available at more than 75% of premises) were expected to reach 98% coverage then this might suggest that 2% is a reasonable Fixed Percentage to adopt.⁶²
- 2.91 Alternatively, we could go beyond this simple analysis and set the threshold based on an estimate of the number of premises that should be excluded. As with the Defined Exclusions Approach our starting point could be the following categories of premises:
- a) Premises that Openreach is unable to access;

⁶¹ Subject to the other criteria required as part of the second threshold.

⁶² Obviously, before using Openreach's forecast data to set the Fixed Percentage we would need to understand how those forecasts were constructed and how reliable they are for gauging the number of premises where deploying ultrafast broadband is particularly difficult.

- b) Premises where the cost to Openreach of making ultrafast services available is high and that are served, or contracted to be served, with gigabit-capable broadband by non-Openreach providers using public funding; and
- c) Other premises where the cost to Openreach of making ultrafast services available is very high and that are not expected to be supported by existing public funding.

2.92 In principle, we could use current and forecast evidence on the three categories above, along with our regulatory judgment, to estimate roughly what percentage of premises fall into each of these categories.⁶³

2.93 However, under either of these options, there are several issues with a Fixed Percentage Approach:

- a) Setting a single Fixed Percentage for all exchange areas does not reflect the reality that conditions vary between them. Each of the categories in Paragraph 2.88 are likely to vary between exchange areas, possibly by significant amounts.
- b) We could try to account for this variation by coming up with a broad classification of each exchange area (e.g. mainly urban, mainly rural, mainly suburban) and applying a different Fixed Percentage to each type of exchange. However, this would add complexity.
- c) In either case, we may lack clear and reliable data to calculate the Fixed Percentage.
- d) Setting the Fixed Percentage is likely to involve regulatory judgement, and we will need to balance the risk that it is set too high or too low.

2.94 In conclusion, our provisional view is that setting the Fixed Percentage at an appropriate level will involve regulatory judgement, particularly given differences between exchange areas. However, once the Fixed Percentage is set, this approach appears practical to apply.

Provisional conclusion

2.95 As explained above, in theory the Defined Exclusions Approach is attractive. However, for this approach to work it is necessary to identify in a reasonably accurate and practical fashion all the categories of premises that we wish to exclude. We consider that there are practical difficulties in doing so. If these difficulties can be overcome, then we would be minded to adopt this approach.

2.96 If a Defined Exclusions Approach cannot operate in a reasonably accurate and practicable fashion, then we would consider alternative approaches to the second threshold. This includes the Fixed Percentage Approach. We welcome stakeholder views on these issues.

2.97 As explained above, we intend to consult again to set out more detailed proposals for the second threshold, based on feedback from this consultation.

Minimum period before the second threshold comes into effect

Proposal

⁶³ For example, we know that access to multi-dwelling units (MDUs) is more likely to be problematic. We could make a simple assumption about the proportion of MDUs that Openreach is unable to access and multiply this by the proportion of premises accounted for by MDUs. This would give a rough proxy for the proportion of all premises that Openreach is unable to access.

- 2.98 We propose maintaining the minimum two-year transition period between the First Threshold Notice and the Second Threshold Notice.

Rationale

- 2.99 In the WFTMR21, we set a minimum two-year period between the First Threshold Notice and the Second Threshold Notice. We considered that this struck an appropriate balance between facilitating migration and protecting consumers, particularly vulnerable consumers.⁶⁴
- 2.100 [3<] was concerned that ISPs would effectively be forced to migrate their customers as quickly as possible onto Openreach FTTP. To mitigate this impact, it considered that Ofcom should extend the minimum period between the First Threshold Notice and the Second Threshold Notice to four years. It considered that this would allow competing networks time to achieve sufficient scale to provide sustainable competition to Openreach in the long term.⁶⁵
- 2.101 In practice, how quickly Openreach can issue a Second Threshold Notice will depend on the way we define the second threshold. As explained above in Paragraphs 2.44-2.58, our assessment of how to specify this threshold considers the potential impacts on network competition, as well as Openreach investment and consumer protection. Accordingly, we do not consider that the four-year period suggested by [3<] is necessary to avoid undermining the development of stronger network competition.
- 2.102 We have also considered whether a longer transition period is necessary to protect consumers and the ISPs that use Openreach’s copper-based access services. We maintain the view set out in the WFTMR21 that two years (minimum) between the First Threshold Notice and the Second Threshold Notice is appropriate, particularly given the requirement for Openreach to also provide notification one year in advance of issuing either notice. This provides sufficient time for ISPs to plan and communicate with their customers.⁶⁶

Vulnerable consumers

- 2.103 Once the second threshold is met, the charge control on copper-based access services will be lifted for premises with access to Openreach FTTP. As a result, the price of these services may rise. In response, ISPs may raise retail prices to consumers taking copper-based products and/or seek to migrate consumers to Openreach’s FTTP network or to rival networks. These measures may have a greater impact on vulnerable consumers. For example, it may take longer to migrate vulnerable consumers off a copper-based service due to specialised equipment at their premises such as telecare alarms.
- 2.104 We consider that it is important for Openreach and ISPs to take appropriate steps to adequately protect vulnerable consumers where FTTP is available, but there is a risk where

⁶⁴ Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26](#). Volume 3, Paragraphs 2.110-2.114.

⁶⁵ [3<].

⁶⁶ From the time that the First Threshold Notice is notified (i.e. one year in advance), a minimum of three years would need to elapse before the Second Threshold Notice could be issued. This is longer than the permitted maximum residential contract term (24 months). This addresses the risk that an ISP enters into a contract with an end-user to supply copper-based broadband, only to be faced with the unexpected removal of the charge controls midway through.

there is a barrier to these customers migrating and the Second Threshold Notice has been issued. Therefore, we invite stakeholder views on how best to accomplish this.

Third threshold

Proposal

2.105 In this review we are proposing not to define criteria for the third threshold.

Rationale

2.106 We set out proposals in relation to the third threshold in our October 2020 Copper Retirement Consultation.⁶⁷ However, in the WFTMR21 we decided that it was too early in the migration process to define the conditions that should trigger the complete deregulation of copper-based access services.⁶⁸

2.107 Once the third threshold is reached, Openreach can begin withdrawing supply of copper-based access services. Experience from the PSTN retirement shows that ceasing services is complex and involves significant risk to some consumers and that needs to be effectively managed, particularly for vulnerable consumers.⁶⁹

2.108 We continue to believe that it remains too early to define criteria for the third threshold. There are currently considerable uncertainties about how quickly exchange areas will reach the second threshold and how Openreach will make use of the greater pricing freedom it will have once that threshold is met. There are also uncertainties over how quickly consumers will migrate away from copper-based products to Openreach's FTTP network or to rival networks. As FTTP build and take up progress over the course of the review period, we are likely to have clearer evidence on which to base an assessment of how and when the third threshold should be triggered.

Exchange exit and our regulatory framework

2.109 The current regulatory framework (described at Paragraph 2.15 above) is based upon exchange areas. However, those areas may change in the future as a result of exchange exit.⁷⁰

⁶⁷ Ofcom. October 2020. [Copper retirement – conditions under which copper regulation could be completely withdrawn in ultrafast exchanges.](#)

⁶⁸ Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26.](#) Volume 3, Paragraphs 2.118-2.129.

⁶⁹ Where Openreach are seeking to withdraw certain services to support exchange exit, we set out our position in Section 3.

⁷⁰ At present, we understand that Openreach classifies premises to an exchange area based on the exchange that originally served copper products to them. Where a premise is “reparented” to be served by FTTC or FTTP from an enduring exchange, the premise is still counted in the original exchange area. We understand from Openreach that once it exits the original exchange, it does not have a formally agreed policy for whether it will reclassify those lines as belonging to the enduring exchange. Openreach response dated 21 February 2025 to s135 notice dated to 10 February 2025, question 2.

- 2.110 In the review period, the number of exchanges that Openreach will exit is relatively small.^{71 72} Therefore, we propose to maintain our current regulatory framework (e.g. how the thresholds are assessed, what regulation applies at a particular premise etc.) and the associated SMP conditions.⁷³
- 2.111 However, we welcome views on whether this approach has any unintended consequences.

Monitoring regime

- 2.112 In this sub-section we briefly explain our approach to monitoring the implementation of the proposed framework.
- 2.113 We plan to continue to regularly engage with Openreach to monitor progress against the thresholds. We will also continue to formally request information from Openreach on copper retirement issues where appropriate, or in light of a specific concern.
- 2.114 If we introduce an approach to excluding premises (e.g. a Defined Exclusions or a Fixed Percentage Approach) for the purposes of the second threshold, we would set out how we would intend to monitor those premises that Openreach is excluding.

Consultation question(s)

Question 3.1: Do you agree with our proposed approach to supporting copper retirement? Please set out your reasons and supporting evidence for your response.

Question 3.2: What are your views in relation to our initial thinking on how we might identify excluded premises? Please set out your reasons and supporting evidence for your response.

⁷¹ As set out in Section 3, Openreach has prioritised exiting 108 exchanges by December 2030, with decommissioning of three pilot exchanges in 2026, followed by the so called 'Phase 1' tranche of 12 exchange exits in 2028. Openreach. [Exchange Exit list by Phase](#). Accessed 19 February 2025.

⁷² We recognise that this is likely to be a bigger issue in the 2031-36 review period.

⁷³ SMP conditions 1.6-1.12

3. Exchange exit

Introduction

- 3.1 In this section, we discuss Openreach’s exchange exit programme and we set out our approach to exchange exit.
- 3.2 We note that commercial negotiations are ongoing between Openreach and providers regarding the terms of exit in the Priority 108 exchanges, and we will continue to monitor progress and outcomes.

Openreach’s exchange exit programme

- 3.3 Openreach has announced plans to exit exchanges that it will no longer need to support its future network plans. Exchange exit by Openreach enables BT Group to close exchange buildings.⁷⁴
- 3.4 Openreach has prioritised exiting 108 exchanges by December 2030, with decommissioning of three pilot exchanges by 2026, followed by the so called ‘Phase 1’ tranche of 12 exchange exits in 2028.⁷⁵ The 108 exchanges Openreach are aiming to exit by 2030 are known as the Priority 108 (P108) exchanges.⁷⁶ This is ahead of an expected broader programme in the 2030s. In the long-term, BT expects to reduce the number of exchanges from the current c.5,600 exchanges to c.1,000.⁷⁷
- 3.5 At present, Openreach leases space and equipment in exchanges to telecoms providers, creating network nodes. These are used to aggregate traffic and can act as interconnection points between networks and other network nodes. Providers also put equipment in exchanges to consume Openreach access products provided from these exchanges, namely legacy broadband services and leased line services.
- 3.6 The Openreach exchange exit programme is a highly complex, long-term ambition, that will cover multiple review periods and spans all of the regulated fixed telecoms markets. For example, the programme involves migrating all broadband and leased line services provided from the closing exchange to an enduring exchange. In some cases, customers need to be migrated to a different service, whereas in others the circuit needs to be re-

⁷⁴ BT exchange buildings have multiple tenants. For example, exchange tenants can include various providers, mobile operators, mast operators and others. Openreach manages the relationships with providers who purchase products from them, but BT Group as the overall leaseholder is responsible for the other tenants. We understand Openreach is responsible for removing all fixed telecoms providers’ services when exiting an exchange. Once Openreach and provider equipment has been removed from the exchange, Openreach will inform BT, which will then decommission the building (Openreach, [Openreach Industry Consultation: Exchange Exit Pilots](#). Accessed 19 February 2025).

⁷⁵ Openreach. [Exchange Exit list by Phase](#). Accessed 19 February 2025.

⁷⁶ Openreach has prioritised exiting 105 priority exchanges by 2030, following an initial three pilot exchanges – collectively known as the P108. (Openreach. March 2024. [Exchange Exit: Openreach industry consultation response](#). Accessed 14 January 2025; Openreach. June 2023. [Openreach industry consultation response December 2023](#), Page 3. Accessed 14 January 2025).

⁷⁷ Openreach has identified 959 exchanges which will remain part of its long-term architecture (known as ‘enduring exchanges’). Openreach. [Exchange Exit list](#). Accessed 19 February 2025.

routed while ensuring minimal disruption. Telecoms providers with equipment in exchanges that will be exited will need to remove that equipment and reconfigure their networks.⁷⁸

- 3.7 Openreach started discussions on exiting its network of exchanges in 2020 and has since consulted with industry a number of times on the concept, approach and commercial support available from Openreach.⁷⁹ Openreach is currently negotiating with its customers on the specific terms of exit from the P108 exchanges.⁸⁰

Drivers behind exchange exit

- 3.8 BT's exchange footprint is a legacy of the original Public Switched Telephone Network (PSTN) rollout from the early 20th century, and of exchange-based ADSL broadband which developed in the mid-1990s. The topology of the network and the size of the buildings was largely dictated by the technical limitations of the copper technology at the time. Moving over to a network topology relying on both FTTP and FTTC networks, Openreach will have fewer limitations in relation to:
- a) The space required at each exchange to house equipment that aggregates and routes traffic; and,
 - b) How close the exchange needs to be to the end user, as FTTP and FTTC services allow for much longer distances than older copper-based technologies.
- 3.9 These factors in combination mean that the developments in network technology create the opportunity for BT and Openreach to consolidate their assets. For Openreach, it can consolidate the network as relying on FTTC and FTTP services will need fewer exchange buildings, as those buildings can be further apart and more equipment can be stored in one location.
- 3.10 Virtually all exchange buildings are leased by BT Group from a company called Telereal.⁸¹ BT's contract with Telereal has a break in 2031 where BT Group can hand back the exchanges it no longer needs without incurring additional cost.⁸² BT (and by extension Openreach, who are charged by BT Group for the space in the exchange buildings) can make significant cost savings by closing exchanges, principally through a reduction of spend on leases and power.⁸³ BT estimate that the overall efficiency opportunity per annum to 2035 is [X] for network simplification, and a further [X] from exchange closure.⁸⁴ BT also cite other benefits, including environmental benefits and freeing up brownfield land for development.⁸⁵
- 3.11 We understand that Openreach expects these cost savings to pass through to its customers and end-users. We understand that in principle industry is generally supportive of the programme and potential cost savings involved, although some potential concerns have been raised about how it will work in practice (we discuss these further below).

⁷⁸ Or agree terms that enable Openreach to remove and dispose of any remaining equipment.

⁷⁹ Openreach. [Exchange Exit Programme](#). Accessed 17 January 2025

⁸⁰ Openreach. [Exchange Exit Programme](#). Accessed 17 January 2025.

⁸¹ Openreach response dated 21 February 2025 to s135 notice dated 10 February 2025, question 8b.

⁸² Openreach response dated 21 February 2025 to s135 notice dated 10 February 2025, question 8b.

⁸³ Openreach response dated 21 February 2025 to s135 notice dated 10 February 2025, question 8a. There is also a benefit of the transition to an FTTP network which uses less space and power than older technologies.

⁸⁴ BT response dated 25 February 2025 to s135 notice dated 10 February 2025, question 1.

⁸⁵ BT response dated 25 February 2025 to s135 notice dated 10 February 2025, question 1.

Commercial negotiations

3.12 Since 2021, Openreach has published a number of consultations with industry on exchange exit, alongside engagement with industry and the OTA2 to progress the commercial and technical aspects of the process. A summary of developments is shown in Table 3.1 below.⁸⁶

Table 3.1: Summary of developments in the commercial negotiations

Date	Openreach milestone
November 2021	Openreach launched a consultation with industry on exchange exit at three pilot exchanges.
May 2022	Openreach launched the exchange exit pilot at three exchanges.
June 2023	Openreach launched a consultation with industry on exiting priority exchanges by 2030.
December 2023	Openreach published a response to industry on its consultation on exiting priority exchanges by 2030.
March 2024	Openreach published a further response to industry on its consultation on exiting priority exchanges by 2030.
September 2024	Openreach published a list of enduring exchanges, and the list of exchanges which will be exited by 2030 by phase.
November 2024	Openreach published the draft contract terms it is offering to industry

Impact of exchange exit

3.13 As explained above, exchange exit provides the opportunity for both Openreach and other providers to consolidate infrastructure, reduce energy consumption and increase efficiency. However, it also carries potential risks to competition and consumers depending on how it is implemented. In particular:

- a) We consider that our provisional findings that BT continues to have SMP in the relevant markets means that, absent regulation, there is a risk that Openreach has the ability and incentive to manage exchange exit in a way that harms competition, and ultimately consumers.
- b) Exchange exit directly impacts end-users whose services are affected, and this includes vulnerable consumers and critical national infrastructure.

3.14 Below we explore these risks in more detail, including stakeholder views.

⁸⁶ Openreach. [Exchange Exit Programme](#). Accessed 20 February 2025.

The impact of exchange exit on regulated products

- 3.15 Exchange exits will impact the range of regulated products provided in those exchange areas, but some products will be more affected than others, impacting different Openreach customers differently.⁸⁷
- 3.16 Firstly, there is an impact on telecoms providers who purchase regulated products from Openreach to offer retail products to residential consumers and businesses:
- a) Some products will be unaffected as they are already provided from the enduring exchange. For the most part, FTTP and FTTC are examples of this.
 - b) Some products will be affected but can be re-routed to/through an enduring exchange. For the most part this will affect leased lines. Telecoms providers who have related equipment in closing exchanges will need to remove that equipment, and if appropriate, move it to the gaining enduring exchange.
 - c) Products that rely on copper between the exchange and the end-user, such as WLR and MPF, cannot be provided from another exchange. The end-user will need to migrate to an alternative service.
- 3.17 This means telecoms providers will need equipment and connectivity in and to the enduring exchanges. They will no longer need equipment in exiting exchanges for the purposes of aggregating access traffic from Openreach's wholesale access services.
- 3.18 Secondly, there is the impact on telecoms providers who rely on IEC products, and those who rely on space and/or power in the exchange buildings for reasons other than (exclusively) using Openreach's wholesale access services. This includes telecoms providers that use connectivity between BT exchanges to build their backhaul networks. It also includes some alternative network operators that have built their own fixed access network in a BT exchange area and use space and/or power in the exchange building for their access aggregation node, and/or also use connectivity from BT exchanges to backhaul access traffic to their own core and/or backhaul network. In these cases, telecoms providers will need to move this equipment and reroute connections.
- 3.19 Thirdly, some stakeholders have raised concerns about a potential impact on PIA users. Although the use of Openreach's ducts and poles does not involve exchange buildings, PIA users could be impacted if re-routing of connections as part of exchange closure results in capacity constraints, for example, in duct routes near a closing exchange or between exchanges.

The relationship between exchange exit and copper retirement

- 3.20 Copper retirement (see Section 2) is about the long-term removal of copper-based services from the Openreach network. To support this process, our framework transfers regulation from copper-based products to FTTP products over time. While both copper retirement and exchange exit involve customers migrating away from copper-based services, they are different.
- 3.21 Firstly, from a technical and operational perspective, to successfully exit an exchange a full transition of customers from copper-based broadband services to FTTP is not necessary. FTTC or SOGEA services (which use copper lines from the premises to the cabinet) are provided from enduring exchanges, and therefore can be supplied even if Openreach exits

⁸⁷ For more detail on which products will be impacted, see the Openreach website: [Exchange Exit Programme](#).

the non-enduring exchange. Secondly, Openreach's exchange exit programme currently covers a small proportion of exchanges over the 2026-2031 review period.⁸⁸ In contrast, our proposals to support copper retirement, such as the thresholds set out in Section 2, could apply more widely across the UK over this review period, depending on the speed and breadth of Openreach's FTTP deployment.

Stakeholder views

- 3.22 We understand that generally industry is supportive of exchange exit, given the long-term benefits of exiting exchanges, described above. However, stakeholders have raised various concerns with Openreach throughout their consultation process.⁸⁹ They have also raised various concerns with Ofcom in pre-consultation submissions, including the following:
- a) **Discrimination:** Openreach could have the incentives to use exchange exit in favour of BT downstream. It could also take decisions that favour its own network at the expense of competitors.
 - b) **Capacity issues:** The potential for limited space in enduring exchanges, and in existing physical infrastructure, including the potential for Openreach to favour BT downstream for space.
 - c) **Impact and cost of re-routing:** Cost and procedural implications associated with migrating lines and re-routing networks, and how these costs are shared between Openreach and providers. Some telecoms providers are also concerned that the impact and cost of re-routing is more significant for providers that connect their own infrastructure (e.g. access network and/or backhaul) at an Openreach exchange compared to providers that use Openreach products and infrastructure.
 - d) **Impact on end-users:** The challenge and cost of project managing and coordinating network changes, including communicating with end-users and dealing with possible outages, alongside the potential end-user disruption that could be caused and any associated customer churn. Also, specific disruption to vulnerable end-users and critical national infrastructure (CNI).
 - e) **The possible impact to the availability and reach of third-party backhaul providers:** It has been raised that some alternative providers may exit exchanges early to take advantage of favourable terms offered from Openreach, which may reduce the reach of third-party backhaul providers. A decrease in exchanges will also lead to longer distances between exchanges, which may impact products with a technical distance limitation.⁹⁰
 - f) **Service Level Agreements and Service Level Guarantees:** There were other submissions around SLAs/SLGs for circuit migration approaches not currently subject to SLA/SLGs, the impact on QoS more generally, as well as independent dispute resolution to quickly resolve disputes.
 - g) **The longer-term exchange exit programme:** while the majority of concerns raised by stakeholders have centred around the P108, we have also heard concerns around the longer-term exchange exit programme, and Openreach's intention to exit c.4,500 exchanges after 2030, and Openreach giving more certainty to industry on the longer term plans.

⁸⁸ 108 exchanges out of c.5,600.

⁸⁹ Openreach. [Exchange Exit Programme](#). Accessed 20 February 2025.

⁹⁰ INCA, July 2024. Exchange closure Issues for the Telecoms Access Review (non-confidential). Paragraphs 38-40.

- 3.23 BT Group and Openreach have submitted that we should ensure the regulatory framework enables the exchange exit programme to proceed in line with their published plans and proposals. Openreach did not believe its obligations to supply leased lines, PIA or exchange based services were impacted by exchange exit, as it can meet such obligations from enduring exchanges. However, it did want clarity on pricing remedies and terms of supply for these products in the context of incentivising providers. It also expected Ofcom to clarify future obligations related to inter-exchange dark fibre services.⁹¹
- 3.24 Openreach requested that we reflect the fact that it has notified industry of its intention to exit the Priority 108 exchanges before 1 April 2026 by adapting our regulation to allow stop-sell and lifting of charge control and/or withdrawal of MPF where FTTP/FTTC is available at defined dates during the upcoming review period.
- 3.25 Openreach also requested that we introduce formal exchange exit notifications for exchanges beyond the P108. It proposed that where Openreach may notify plans to exit within the TAR period, defined dates for stop-sell, lifting of charge controls and withdrawal of MPF would be set out in proposals to industry following consultation and confirmed in the formal Exchange Exit Notifications to Ofcom.⁹²

Our approach to exchange exit

- 3.26 We are supportive of Openreach exiting exchanges to move to a more efficient network, provided this is done in a way that mitigates potential harm to consumers or competition. Exiting exchanges provides the opportunity for Openreach and telecoms providers to consolidate infrastructure, reduce energy consumption and increase efficiency. In the longer term, exchange exit may lead to significant cost savings which could lead to lower prices for Openreach's customers and end-users.
- 3.27 As explained above, exchange exit is a complex operational process that requires significant co-ordination between Openreach and providers. We consider Openreach and providers are best placed to negotiate a commercial agreement on the terms and practicalities of the exchange exit process. We believe that there are enough incentives on all sides to reach a commercial agreement on the terms of exchange exit, which allows the benefits of exchange exit to be realised while also delivering good outcomes for competition and consumers.
- 3.28 We have monitored negotiations over the last year and engaged with Openreach and providers. At the time of this consultation, these commercial negotiations are ongoing between Openreach and providers regarding the terms of exit in the Priority 108 exchanges. We will continue to monitor the negotiations as they progress.
- 3.29 Notwithstanding the above, stakeholders have suggested that changes to the regulatory framework may be needed, either to address the concerns raised with us by industry, or to provide further regulatory support for exchange exit. We have therefore considered this in developing our proposals for regulation for the period 2026-2031.

⁹¹ Openreach. July 2024. Telecoms Access Review (TAR) 2026 Openreach Submission (non-confidential). Paragraph 157.

⁹² Openreach. July 2024. Telecoms Access Review (TAR) 2026 Openreach Submission (non-confidential). Paragraph 160-163.

- 3.30 In the next sub-section, we consider our existing regulation and our expectations of how exchange exit should be handled. Specifically, we discuss:
- a) Some important issues relating to how exchange exits should be managed to mitigate potential issues for consumers and competition;
 - b) How our regulation for access to MPF products applies in the context of exchange exit; and
 - c) How our IEC regulations apply and how we propose to adapt our IEC regulation in the context of exchange exit.

Mitigating potential impacts on competition and consumers

Regulatory obligations continue to apply

- 3.31 As explained in Paragraph 3.15-3.19 above, exchange exit affects a range of regulated products that are provided at or from that exchange. Providers rely on these products to compete in the relevant wholesale and retail markets. Where exchange exit affects the provision of regulated products, Openreach must continue to comply with its regulatory obligations.
- 3.32 Where we find SMP, we impose a requirement on Openreach to provide access to its network, including the provision of specific access services, but the regulatory requirement is generally not location-specific (except for IEC which we discuss below). Openreach therefore has the freedom to change its network topology. However, regardless of any topology changes, Openreach continues to be required to provide the relevant form of access for as long as the SMP condition remains in force.⁹³ Therefore, Openreach will need to provide alternative connectivity solutions where regulated services are impacted by exchange exit, that comply with its regulatory obligations.
- 3.33 More generally we expect Openreach to work in good faith with providers to identify solutions to support the transition away from the current exchange footprint.

Non-discrimination obligations apply to the process of exchange exit

- 3.34 The suite of regulated products includes a range of non-discrimination requirements, which prohibit Openreach from unduly discriminating between customers. These requirements apply to the process of exchange exit, insofar as it concerns regulated products.
- 3.35 We consider that this addresses the concern that Openreach could favour its own business divisions (Openreach or divisions downstream of Openreach) during the process of exchange exit, to the detriment of its competitors in the relevant wholesale and retail markets. For example, Openreach is prevented from unduly discriminating by favouring downstream divisions for space in enduring exchanges, or prioritisation of products that BT uses. It is also prevented from taking decisions that unduly favour users of Openreach's own wholesale access network over altnets that use IEC services.
- 3.36 More generally, non-discrimination by Openreach is a central part of the BT Commitments. The Openreach Monitoring Unit will continue to monitor whether Openreach complies with these Commitments, including in relation to exchange exit.

⁹³ Openreach also remains subject to its other SMP obligations, e.g. the requirement to provide advance notice to access seekers of changes to technical information such as locations of network access and the requirement for the terms and conditions of access to be fair and reasonable.

Clear and transparent timelines

- 3.37 Where regulated products will be affected, or where there will be changes that impact the provision of regulated products to end-users, appropriate notice should be given of changes.⁹⁴ Reasonable notice of exchange exit is important so that providers have appropriate and equal notice to plan for changes in their networks.
- 3.38 In its June 2023 industry consultation document Openreach proposed to provide formal notification of exchange exit within a target minimum of four years prior to exchange exit.⁹⁵
- 3.39 We note that Openreach have to date already provided a number of details regarding the P108 exchanges that it is exiting. This includes:
- a) A published list of the P108 exchanges that are due to be closed in the 2026-31 review period; and,⁹⁶
 - b) phased deadlines for exit.⁹⁷
- 3.40 We note that timings for phased deadlines and final exit dates were published in September 2024 for closures beginning in September 2028. We consider that it is important Openreach meet the expectation that it has set of providing notification a minimum of four years ahead of planned exit. Given it has indicated an intention to do so, we do not propose to introduce any additional requirements for advance notice of exchange exit in this review period.⁹⁸

Minimise end-user disruption

- 3.41 Exchange closure carries the risk of temporary disruption for end-users. In some cases, Openreach will be migrating customers over to new lines to enable exchange exit. At the point of switch over, there may be a risk that there is some downtime for the end-user. This could particularly be impactful for critical national infrastructure, vulnerable consumers or for those who require round the clock connectivity. However, providers and Openreach have incentives to minimise such disruption.
- 3.42 As with other migration programmes, we expect the impact on vulnerable consumers and critical national infrastructure to be considered, managed and risks should be mitigated appropriately.⁹⁹ We expect industry as a whole to take all appropriate measures to minimise end-user disruption and ensure vulnerable consumers are migrated to alternative services before an exchange is exited.
- 3.43 We note for regulated products in the WLA, LLA and IEC markets, Openreach is generally required to include SLAs and SLGs in the contracts, and we are not proposing to alter the QoS standards to reflect exchange exit. Openreach will be required to meet the QoS standards we impose (see Volume 5 for our proposals in relation to QoS standards).

⁹⁴ We note that existing SMP conditions already require Openreach to provide notice for some changes to their network, for example amendments to terms and conditions and changes to technical information (see Section 4 for details).

⁹⁵ Openreach. June 2023. [How we propose to exit the 103 priority exchanges consultation issue 4 - Published 22 June 2023](#). Page 5. Accessed 20 February 2025

⁹⁶ Openreach. [Exchange Exit list](#). Accessed 19 February 2025.

⁹⁷ Openreach. [Exchange Exit list by Phase](#). Accessed 19 February 2025.

⁹⁸ We note that we have proposed to introduce a new requirement on Openreach to notify us after an exchange has been fully exited, to ensure that industry is clear when relevant regulation is no longer applicable to an exchange. Detail of this proposal is included at Section 4.

⁹⁹ Ofcom. 2019. [The future of fixed telephone services](#).

Further regulatory support for MPF in relation to exchange exit

- 3.44 Openreach has requested changes to regulation to support withdrawal of MPF at closing exchanges.¹⁰⁰
- 3.45 Openreach has asked for regulatory support for MPF stop sell, removal of the charge control and withdrawal of the product at the P108 exchanges, to be triggered at relevant points in the upcoming review period.¹⁰¹ It has offered to continue to make SOTAP for Analogue available to support ongoing provision of services at those exchanges to CNI, landline only (noting the fixed telephony USO) and vulnerable customers. Openreach believes it will be unable to supply FTTP or FTTC to some premises in the P108 and is in discussions with providers to address these premises.¹⁰² Openreach also asked if Ofcom could clarify the circumstances under which ongoing requests for certain forms of network access, such as MPF access, would not be considered reasonable.¹⁰³
- 3.46 Our provisional view is that further regulatory support for MPF deregulation and withdrawal, in the form sought by Openreach, is unnecessary for the following reasons:
- a) Our understanding is that the vast majority of the remaining MPF customers in the P108 exchanges are with major ISPs.¹⁰⁴ Therefore migrating these customers by commercial agreement appears to be a viable option.
 - b) We recognise that a ‘tail’ of customers might remain on MPF products as an exchange exit nears. These could be customers with large ISPs, but the customer has not engaged with its provider in relation to migration, or they could be customers with smaller ISPs where the provider has not engaged fully, or where the customer has not engaged and migrated.
 - c) In theory, this ‘tail’ of customers on MPF risks blocking the exit of an exchange, even if it consists of only one customer. SMP conditions 1.1 and 2.1 require the provision of network access where this is reasonably requested by a provider.¹⁰⁵
 - d) However, the access requirements in SMP conditions 1.1 and 2.1 may be disapplied in circumstances where Ofcom provides consent. We would consider any request for consent by Openreach on a case-by-case basis taking into account the particular circumstances at the relevant time, in accordance with our duties. We would likely take into account the number of customers remaining on MPF, any protections that have been put in place for those customers and the behaviour of relevant providers (e.g. if a particular provider is obstructing an exchange closure from proceeding).
- 3.47 In addition, we think the changes to regulation being sought by Openreach risk reducing the likelihood of a commercially negotiated outcome that is in the best interests of consumers. As we have noted, there is an ongoing negotiation between Openreach and telecoms providers around the terms of exchange closure in relation to the P108, which includes providers’ migration away from MPF products. Removing Openreach’s current requirement to supply MPF on charge-controlled terms and giving Openreach the option to unilaterally switch off service at specified dates could reduce some telecoms providers’ bargaining power in these negotiations, with the risk that this could lead to worse outcomes overall.

¹⁰⁰ Openreach. Telecoms Access Review (TAR) 2026 Openreach Submission (non-confidential). Paragraph 165.

¹⁰¹ Openreach. Telecoms Access Review (TAR) 2026 Openreach Submission (non-confidential). Paragraph 161.

¹⁰² Openreach. Telecoms Access Review (TAR) 2026 Openreach Submission (non-confidential). Paragraph 166.

¹⁰³ Openreach. Telecoms Access Review (TAR) 2026 Openreach Submission (non-confidential). Paragraph 167.

¹⁰⁴ Openreach response dated 21 February 2025 to s135 notice dated 10 February 2025, question 6.

¹⁰⁵ Subject to SMP Conditions 1.2 and 1.5

Impact of exchange exit on interexchange connectivity including DFX

- 3.48 As explained in Section 8, inter-exchange connectivity (IEC) provides a service to backhaul aggregated end-user traffic between specific points of aggregation (BT exchanges).
- 3.49 Given these products exist to enable the backhaul of traffic between exchanges, the exchange exit programme will have a direct impact, as IEC lines will no longer be available from or to an exchange after it has been exited.
- 3.50 We note that individual providers use IEC circuits – both active IEC lines and DFX lines - within their network differently. Some providers may use Openreach IEC lines to backhaul aggregated traffic from Openreach access lines, whereas others may use an Openreach IEC line to backhaul traffic from their own access network.
- 3.51 We understand that Openreach’s general approach to exchange exit for IEC services is to ensure connectivity to providers through migration to designated handover sites, and availability of alternative services. What this means in practice will vary by use case of IEC lines. For example:
- a) Where a provider (e.g. an ISP) is using an active or passive IEC service to backhaul aggregated traffic from Openreach access lines, Openreach intends to migrate the relevant access lines to the enduring exchange and charge them at local access pricing.¹⁰⁶ This alternative will make the need for the original IEC line redundant.
 - b) Where providers (e.g. an altnet) are using Openreach IEC lines, particularly DFX, to backhaul traffic from their own access networks, the altnet’s demand for connectivity remains after exchange closure. We understand that as part of the ongoing commercial negotiations between Openreach and providers, Openreach has offered to “grandfather” existing DFX lines in the P108 that have been installed before 1 April 2024.¹⁰⁷ This proposal is designed to ensure that alternative connectivity solutions are provided for existing circuits. We will wait to see the outcome of this proposal in the broader commercial negotiations.
- 3.52 While we await the outcome of the commercial negotiations, we note that Openreach continues to have an obligation to provide IEC services.¹⁰⁸ Where Openreach does agree commercial terms with providers and fully exits an exchange, we recognise that it is then appropriate to reflect the fact that the exchange has been exited and DFX and IEC actives are no longer required to be provided from that exchange. Therefore, our proposed approach to the SMP conditions for DFX and active IEC products is detailed below.
- 3.53 As noted above, the obligation to provide IEC services is currently location-specific.¹⁰⁹ We are proposing to maintain this approach in general, but with a mechanism for the obligations to provide DFX and active IEC services to cease upon written notice from

¹⁰⁶ Openreach response dated 21 February to s135 notice dated 10 February 2025, question 3b.

¹⁰⁷ We understand that grandfathering in this instance means maintaining the line via the DFX external termination product at no additional cost to the provider, but with a rearrangement of the existing DFX product to terminate outside the exchange. Openreach response dated 21 February 2025 to s135 notice dated 10 February 2025, question 3.

¹⁰⁸ In line with SMP conditions 2.4 and 2.5.

¹⁰⁹ Openreach is required to provide DFX from/to specific exchanges listed in Schedule 4 to the SMP conditions (current SMP Condition 2.5) and to provide active IEC services (Ethernet and WDM) at BT only and BT+1 exchanges (current SMP Condition 2.4 insofar as it relates to “IEC” and “IEC BT+1” markets; with those markets in turn defined by reference to the specific list of exchanges in Schedule 4).

Openreach that all telecoms providers have ceased to use network access at that exchange and have terminated their licences for space and power.¹¹⁰

- 3.54 This approach maintains the obligation to provide DFX and active IEC products (and their associated regulatory protections) at an exchange until all telecoms providers have exited under commercial terms agreed with Openreach. However, after that point has been reached, it ensures our regulatory obligations reflect that the exchange has been exited and IEC services are no longer required to be provided from that exchange. We discuss our legal powers and the proportionality of this approach in Section 8.
- 3.55 We recognise that, as for MPF, in theory this proposed approach risks a ‘tail’ of remaining IEC customers blocking the exit of an exchange. However, as discussed above, the access requirements in SMP conditions 1 and 2 may be disapplied in circumstances where Ofcom provides consent. We would consider any request for consent by Openreach on a case-by-case basis taking into account the particular circumstances at the relevant time, in accordance with our duties.
- 3.56 Given the ongoing negotiation between Openreach and telecoms providers around the terms of exchange exit in relation to the P108, we consider that an alternative approach of removing Openreach’s current requirement to supply IEC actives and DFX at exiting exchanges at specified dates could reduce some telecoms providers’ bargaining power in these negotiations, with the risk that this could lead to worse outcomes overall for consumers.

Summary and longer term

Summary of proposals

- 3.57 In summary we are proposing to maintain our existing suite of regulation to mitigate risks to competition and consumers during the review period. In particular, we are maintaining our regulation in relation to MPF. In relation to IEC services, we are also proposing that Openreach’s obligations to provide DFX and active IEC services should be maintained until after an exchange has been exited. In both cases, we consider that Openreach and providers are best placed to commercially negotiate the terms of migration.

Longer term

- 3.58 Exchange exit is a long-term programme that will run through to the end of the decade and for most of the 2030s. We will monitor progress and outcomes in relation to the Priority 108 exchanges that are due to be exited this decade, to inform whether any changes are needed to the regulatory framework in the next review period.
- 3.59 We recognise that beyond the P108, Openreach plans to exit more exchanges in the early 2030s, and the process for this will need to begin in this review period. We would encourage Openreach and providers to begin to consider how they will approach these lines in the 4,500+ exchanges that are due to be exited as part of the wider exchange exit programme, and believe this should be done in line with the points set out in this Section with regard to minimising the risks to consumers and competition. We will continue to engage with industry as appropriate as the programme develops.

¹¹⁰ See proposed wording of draft SMP conditions 2.4, 2.5, 2.11 and 2.12 and the definitions of “IEC BT Only” and “IEC BT+1”.

Consultation question(s)

Question 3.3: Do you agree with our proposed approach to exchange exit? Please set out your reasons and supporting evidence for your response.

4. General remedies

Introduction

- 4.1 In this section, we set out the general remedies that we propose to impose on Openreach, designed to address the competition concerns that we have provisionally identified in our market assessment (Volume 2) and in line with our proposed approach to remedies (Section 1).
- 4.2 The proposed general remedies would require Openreach to provide network access and impose supporting obligations in the markets where we have provisionally identified BT as having SMP. These are the markets for physical infrastructure in the UK outside the Hull area, wholesale local access (WLA) in Area 2 and Area 3, leased line access (LLA) in Area 2, Area 3 and the High Network Reach (HNR) Area, and inter-exchange connectivity (IEC) in BT Only and BT+1 exchanges (which we refer to collectively as the “relevant fixed telecoms markets”). The proposed general remedies are similar to those imposed in the 2021 WFTMR.¹¹¹

Table 4.1: Summary of the proposed general remedies

Proposed remedies
Requirement to provide network access on reasonable request
Requirement to publish and operate a process for requests for new forms of network access (SoR)
Requirements for equivalence of inputs (EOI) and no undue discrimination (NUD)
Requirement to publish a Reference Offer (RO)
Requirement to notify changes to charges, terms and conditions
Requirement to notify technical information
Requirement for quality of service (QoS)
Regulatory financial reporting

- 4.3 We describe below the form of remedy which we are proposing to impose in each market. This includes how we propose to apply the general remedies in the WLA market in view of our approach to supporting copper retirement, our proposed exemptions to the general remedies in each market, and our proposed approach to certain commercial terms offered by Openreach.

¹¹¹ Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26](#).

Requirement to provide network access on reasonable request

Our proposals

- 4.4 For each of the relevant fixed telecoms markets, we are proposing to retain the requirement on Openreach to offer network access where a third party reasonably requests it, and that it must do so on fair and reasonable terms and conditions, as soon as it is reasonably practicable.
- 4.5 We also propose that this obligation should continue to include a requirement for Openreach to provide network access at fair and reasonable charges where there is no charge control or where no basis of charges obligation applies. In addition, we are proposing that this fair and reasonable requirement should apply to FTTP services where a charge control applies.¹¹²
- 4.6 We also propose to retain a power for Ofcom to make directions in order that we can secure the supply of services and, where appropriate, fairness and reasonableness in the terms and conditions (and in certain circumstances, also the charges) of network access.

Rationale

- 4.7 We consider that our proposed network access obligation is appropriate and proportionate in relation to BT's market power in each of the relevant fixed telecoms markets.
- 4.8 The level of investment required by a third party to replicate Openreach's physical infrastructure, WLA, LLA and/or IEC networks, and the time it would take to do this, are significant barriers to entry. As set out in the WFTMR21, we remain of the view that the ATI regulations do not address these competition concerns sufficiently.¹¹³
- 4.9 Therefore, an obligation requiring Openreach to provide network access where a third party reasonably requests it is vital to promoting and protecting competition in downstream markets. Without such a requirement, Openreach would have the incentive and ability to refuse access at the level of each relevant fixed telecoms market or provide access on less favourable terms, thereby benefiting its own retail divisions and hindering downstream competition, ultimately against the interests of consumers.
- 4.10 Our proposed network access obligation includes an obligation on Openreach to provide any ancillary services that are necessary to make effective that network access. We note that certain ancillary services, such as accommodation and Cablelink, may be used to support network access in multiple relevant fixed telecoms markets. To facilitate efficient use of the network, we propose to retain the obligation to allow telecoms operators the flexibility to use ancillary services across multiple types of access, i.e. cross-market. In addition, to facilitate transparency, we would continue to expect that Openreach's product pages provide clear signposting and clear naming of available ancillary services within a

¹¹² I.e. to FTTP 80/20 where Openreach does not have an active FTTC connection and is unable to provide a copper-based network access service; or where a Second Threshold Notice in relation to copper retirement has been issued.

¹¹³ Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26](#). Volume 3, Paragraphs 3.12 – 3.18.

given market and, for clarity, of ancillary services that may be used to support multiple relevant fixed telecoms markets.

Disapplication of the general network access obligation in relation to supporting copper retirement

- 4.11 In Section 2 we propose how we will support the copper retirement process through a framework to manage the regulatory transition from copper-based services to FTTP services in the WLA market. In particular, we propose to maintain the phased removal of the current regulation of copper-based services. To implement this regulatory approach to supporting copper retirement, we propose to retain the following limitations to the general network access obligation on Openreach in the WLA market:
- a) We propose that the general requirement to provide network access on reasonable request will not apply to new forms of network access using Openreach's copper network, unless to facilitate migration to ultrafast broadband.
 - b) In exchange areas where Openreach has made ultrafast broadband available to 75% of premises (the first threshold), we propose that, in addition to a) above, for premises where FTTP is available, the general requirement to provide network access on reasonable request will not require Openreach to meet new requests for any network access which uses its copper network, including MPF, FTTC and G.fast services.
- 4.12 This continued limited application of the general remedies would allow Openreach to focus on the ongoing deployment of new FTTP services, while ensuring that telecoms providers can safely migrate customers that are currently using copper-based services.

Fair and reasonable pricing

- 4.13 We consider that for each relevant fixed telecoms market there is a risk that Openreach might fix or maintain some or all of its prices for network access at an excessively high level, or impose a price squeeze¹¹⁴ in relation to such access so as to have adverse consequences for end-users of public electronic communications services.¹¹⁵

Risks of excessive pricing

- 4.14 To address the risk of excessive pricing in the physical infrastructure, WLA, LLA and IEC markets, we are proposing to impose on Openreach:
- a) charge control obligations for most of our specific access obligations (PIA, MPF, VULA 80/20, specific types of leased lines,¹¹⁶ specific types of dark fibre¹¹⁷) and certain ancillary services; and
 - b) a basis of charges obligation for existing PIA services not subject to a charge control, and for certain ancillary services including electricity (see Volume 4 Section 5).
- 4.15 We have considered whether further regulation, in the form of a fair and reasonable requirement, is required to address a risk of excessive pricing in these markets.
- 4.16 In the WLA, LLA and IEC markets, new forms of network access and some existing forms of network access will not be subject to any charge control or basis of charges obligation

¹¹⁴ Also known as "margin squeeze".

¹¹⁵ For the LLA HNR Area, our provisional view is that the greater degree of network competition means the risk of excessive pricing is low (given competing leased line networks are already present), but there is a risk of a price squeeze.

¹¹⁶ Ethernet and WDM at all bandwidths in the LLA markets in Area 2 and Area 3, and in the IEC markets.

¹¹⁷ Dark fibre access in the LLA Area 3 market and inter-exchange dark fibre in the IEC markets.

under our proposals. However, we expect the proposed charge controls and basis of charges obligation that we are imposing to act as an anchor, and so limit the risk of excessive pricing, on these forms of network access. Therefore, we do not consider that the residual risk of excessive pricing is sufficient to warrant further regulation.

- 4.17 In the physical infrastructure market, new forms of network access will not be subject to any charge control or basis of charges obligation under our proposals. We are concerned that Openreach will have the incentive and ability to set excessive prices in relation to new forms of network access. This is because the existing PIA products (and any downstream services) may not be good substitutes to act as an anchor, and so limit the risk of excessive pricing, on these new forms of network access. Therefore, we consider that further regulation is required to address this specific risk.

Risks of price squeeze

- 4.18 We have considered whether regulation, in the form of a fair and reasonable requirement, is required to address the risk that Openreach imposes a price squeeze i.e. sets wholesale prices that leave insufficient margin for competitors to compete.

Risk of a price squeeze harming downstream competition based on access to Openreach's network

- 4.19 We have considered the risk of a price squeeze between forms of network access in the WLA, LLA and IEC markets, and the corresponding retail products. Such a price squeeze would harm downstream competition based on access to Openreach's network.
- 4.20 To the extent that a charge control or a basis of charges obligation applies, we do not consider that the residual risk of a price squeeze, between the relevant wholesale telecoms markets and the retail market, is sufficient to warrant further regulation. This is because a control on wholesale charges means BT could only impose a price squeeze by lowering the retail price, rather than by raising the wholesale price, which is likely to make a price squeeze more costly for BT and therefore less likely.
- 4.21 However, where a charge control or a basis of charges obligation does not apply in each of the WLA, LLA and IEC markets, we consider that there is a risk of a price squeeze given BT's vertical integration and our provisional conclusion that it has significant market power. We consider that regulation is required to address this risk.

Risk of a price squeeze harming network competition based on access to Openreach's physical infrastructure

- 4.22 We have also considered the risk of a price squeeze between forms of network access in the physical infrastructure market, and the corresponding downstream products. Such a price squeeze would harm network competition, which is reliant on access to Openreach's physical infrastructure.
- 4.23 To the extent that a charge control or a basis of charges obligation applies to PIA prices, Openreach is unable to enact a price squeeze by raising PIA prices. However, stakeholders have raised concerns that there is a risk that Openreach could set FTTP prices in the WLA market that result in a price squeeze between Openreach's PIA prices and FTTP prices. That is, Openreach's FTTP prices leave insufficient margin for a reasonably efficient operator (which uses PIA) to compete.
- 4.24 Generally, we expect the risk of a price squeeze to be limited where a charge control or basis of charges obligation applies for the reasons set out above. However, we agree that

there is still a risk of a price squeeze between PIA prices and FTTP prices even where PIA prices are charge controlled at cost.

- 4.25 This is because Openreach has scale and incumbency advantages that potentially allow it to reduce its downstream FTTP prices and squeeze the margin available to reasonably efficient competitors, while still recovering its costs. Competition in the WLA market is still nascent, and so if Openreach were to undermine the opportunity for reasonably efficient competitors to recover their costs, this is likely to discourage their future investment and expansion, which in turn would weaken the competitive constraint it might otherwise face in the longer term. As such, even though it is unable to enact a price squeeze by increasing PIA prices, it is still likely to have the incentive and ability to do so by reducing its downstream FTTP prices. We consider that regulation is required to address this risk.
- 4.26 Separately, where a charge control or a basis of charges obligation does not apply in the physical infrastructure market (i.e. to new forms of network access), we consider that there is a risk of a price squeeze since it can enact it by raising PIA prices, given BT's vertical integration and our provisional conclusion that it has significant market power. We consider that regulation is required to address this risk.

Proposals

- 4.27 In light of the above, we are proposing to impose an obligation for network access charges to be fair and reasonable where there is no basis of charges obligation or a charge control. We interpret this to mean:
- In the physical infrastructure market, Openreach should not set prices in relation to new forms of access that result in excessive pricing or equate to a price squeeze.¹¹⁸
 - In each of the WLA, LLA and IEC markets, Openreach should not set prices that would equate to a price squeeze.¹¹⁹
- 4.28 In addition, to address our concerns about a price squeeze between PIA prices and FTTP prices, we are proposing a requirement for FTTP charges to be fair and reasonable at all times. We interpret this requirement for fair and reasonable charges to mean Openreach should not set prices that leave an insufficient margin between its weighted average FTTP price and PIA prices. While we would assess any dispute on the relevant facts, our starting point for assessing a dispute is that a sufficient margin should be based on the costs of a reasonably efficient operator.
- 4.29 This requirement would apply to FTTP 80/20 including in instances where that product is subject to a charge control. We consider that both a charge control and a fair and reasonable charges obligation are warranted in this case. While the risk of excessive pricing is addressed by the charge control, as discussed above, we consider there is a residual risk of a price squeeze with the PIA price if Openreach reduces its FTTP prices below the level at which a reasonably efficient operator can compete with it in the WLA market.

¹¹⁸ While we would assess any dispute on the relevant facts, our starting point for assessing a dispute is that a sufficient margin should be based on the costs of a reasonably efficient operator.

¹¹⁹ While we would assess any dispute on the relevant facts, our starting point for evaluating cost and margins on individual services in this context would be to allow a LRIC retail margin on each service, assessed by reference to an equally efficient operator (EEO) standard.

Our provisional conclusion on the requirement to provide network access on reasonable request

- 4.30 We consider that the proposal to retain the requirement in each relevant fixed telecoms market for Openreach to provide network access on reasonable request is proportionate in that it is targeted at addressing the market power that we have provisionally found BT holds. We do not consider that a different type of obligation or a more limited network access requirement would be sufficient to address the competition concerns we have provisionally identified. We are implementing a phased removal of regulation on copper-based services, such that there is no unnecessary overlap of regulation.
- 4.31 With the exception of network access to FTTP 80/20 services, we propose to impose the condition that charges should be fair and reasonable only where there is no charge control or basis of charges obligation. In relation to the FTTP 80/20 exception, we have explained above why it is proportionate to propose both a fair and reasonable charges obligation and a charge control in this case.
- 4.32 The proposed conditions in relation to the fairness and reasonableness of network access will enable us to intervene more quickly where terms and conditions and charges are not fair and reasonable than if we relied solely on ex post competition law. We believe it is appropriate for this condition to include the power for Ofcom to make directions in order to secure the supply of services, and fairness and reasonableness in the terms and conditions (and charges) of network access. Therefore, we propose that the condition for each relevant fixed telecoms market includes a requirement for Openreach to comply with, any such direction(s) as Ofcom may make.
- 4.33 In order to implement these proposals, we propose to set draft SMP Condition 1 published in Volume 7. Section 87(1) of the Act, provides that, where we have made a determination that a person (here BT) has SMP in an identified services market, we shall set such SMP conditions authorised by that section as we consider appropriate to apply to that dominant provider in respect of the relevant network or relevant facilities and apply those conditions to that person. Specifically, section 87(3) of the Act authorises Ofcom to set SMP services conditions requiring the dominant provider to give such entitlements as Ofcom may from time to time direct as respects the provisions of network access to the relevant network, the use of the relevant network and the availability of relevant facilities.
- 4.34 Section 87(5) of the Act provides that SMP services conditions authorised under section 87(3) of the Act may include provision for securing fairness and reasonableness in the way in which requests for network access are made and responded to, and provision for securing that the obligations contained in the SMP services conditions are complied with within the periods and at the times required by or under the conditions
- 4.35 In determining which conditions are authorised by section 87(3) to set in a particular case, we must take into account, in particular, the factors set out in section 87(4). In this case:
- the economic viability of building alternative access networks means that in the absence of regulatory intervention, it is unlikely that there will be significant network build by telecoms providers other than Openreach in all areas of the country. Where we do see network build, it takes time for network competition to emerge;
 - we consider that it is feasible for Openreach to provide the physical infrastructure access and the downstream remedies we are proposing to require, and we have designed the scope of our proposed requirements with this in mind;

- we do not consider that our proposal will risk undermining investment made by Openreach in its network;
- we consider that our proposed network access requirement, including our proposals in relation to fair and reasonable charges, is an important element of securing economically efficient network-based competition;
- we consider that the proposed disapplication of the general network access requirement in relation to supporting copper retirement takes account of the technological developments that are likely to affect the design and management of the network;
- to the extent that the proposed general network access requirement has the effect of favouring fibre based technology we consider that this is consistent with our duties in section 3(4)(d) and (e), and section 4(8) of the Act; and
- we consider that the proposed general network access requirement is an important element in supporting innovative business models that support sustainable network-based competition.

4.36 We set out in Volume 4, Sections 1-4, how we consider our proposals to set SMP conditions requiring BT to provide network access on reasonable request on fair and reasonable terms, conditions and charges in the physical infrastructure, WLA, LLA and IEC markets satisfy the tests set out in section 88 of the Act.

Requirement to publish and operate a process for requests for new forms of network access

Our proposals

4.37 We propose to retain a condition in each relevant fixed telecoms market regarding the process by which Openreach must address requests for new forms of network access (known as the Statement of Requirements or SoR process). This condition would require Openreach to publish guidelines in relation to requests for new forms of network access (which must provide for Openreach to respond to these requests in a reasonable amount of time, have clear and transparent criteria to assess requests and to set out clear reasons for rejecting requests), deal with the request in accordance with those guidelines and would allow Ofcom to direct Openreach to make amendments to those guidelines.

Rationale

4.38 For the reasons set out below, we remain of the view that a requirement to have a process by which Openreach must address requests for new forms of network access is an appropriate and proportionate measure to complement the general network access requirement discussed above.

4.39 Vertically integrated telecoms providers have the ability and incentive to favour their own downstream business over third-party telecoms providers by differentiating on price or terms and conditions. Where a telecoms provider has SMP at the upstream level, such discrimination can harm competition in downstream markets. One form of discrimination is in relation to the handling of requests for new types of network access. This has the potential to distort competition at the retail level by placing third-party telecoms providers

at a disadvantage compared with the downstream retail business of the vertically integrated provider with SMP. We consider BT is in this position in each of the relevant fixed telecoms markets in which we have provisionally found it to have SMP.

- 4.40 The requirement to publish guidelines, respond to requests and demonstrate clear reasoning for rejecting requests provides transparency to enable us, and telecoms providers, to hold Openreach to account. The requirements ensure that all requests for new forms of network access are dealt with to a reasonable and consistent standard. Absent regulation, Openreach would have the ability to delay decisions beyond a reasonable period and make decisions with no requirement for explanation.

Our proposed approach

- 4.41 The form of requirement we propose to retain only goes as far as we consider is necessary to address our concerns. Rather than specifying the exact process that Openreach must follow, the condition we are proposing to retain for each relevant fixed telecoms market allows Openreach to implement its own process within certain parameters. In particular, we are proposing to retain a condition requiring Openreach to publish guidelines in relation to requests for new forms of network access (which must provide for Openreach to respond to these requests in a reasonable amount of time, have clear and transparent criteria to assess requests and to set out clear reasons for rejecting requests), deal with the request in accordance with those guidelines and providing for power of direction to allow Ofcom to direct Openreach to make amendments to those guidelines.
- 4.42 In order to implement these proposals, we propose to set SMP Condition 3 published in Volume 7. Section 87(5) of the Act allows Ofcom to implement SMP services conditions that secure fairness and reasonableness in the way in which requests for network access are made and responded to by the dominant provider, and SMP services conditions that secure that the obligations imposed in the conditions are complied with within periods and at times required by or under the conditions.

Requirements for equivalence of inputs (EOI) and no undue discrimination (NUD)

Our proposals

Equivalence of inputs (EOI)

- 4.43 In the WLA, LLA and IEC markets we propose to retain a requirement on Openreach to provide network access on an Equivalence of Inputs basis (EOI). This requires Openreach to provide, in respect of a particular product or service, the same product or service to all telecoms providers (including its own downstream divisions) on the same timescales, terms and conditions (including price and service levels), by means of the same systems and processes,¹²⁰ and by providing the same information. We propose the EOI condition will apply to all services in these markets except:
- services which are not already supplied on a EOI basis;
 - accommodation services other than in relation to the allocation of space and power;

¹²⁰ We include in this any sub-products, sub-systems, sub-processes and platforms.

- sub-loop unbundling;
- Openreach’s use of dark fibre as an input to active services;
- wholesale WDM circuits;
- BT’s core network; and
- such provision of network access as Ofcom may consent to in writing.

No undue discrimination (NUD)

- 4.44 In all the relevant fixed telecoms markets, we also propose to retain a requirement on Openreach not to unduly discriminate in relation to the provision of network access including specific forms of network access (NUD condition). In all of the relevant fixed telecoms markets aside from physical infrastructure, we propose to retain our interpretation of undue discrimination to be when Openreach “does not reflect relevant differences between (or does not reflect relevant similarities in) the circumstances of customers in the transaction conditions it offers, and where such behaviour could harm competition.”¹²¹
- 4.45 In the WLA and LLA Area 2 markets, our proposed NUD condition retains a provision which expressly states that different prices in different geographic areas for certain rental charges may be deemed to constitute undue discrimination in breach of the prohibition. We propose to extend this provision so that it also applies where different prices are charged in different areas in respect of certain connection charges. In the WLA Area 2 market, we are proposing a similar NUD condition where Openreach makes a retail offer to consumers, which is intended to incentivise them to buy broadband services provided over Openreach’s network, and the nature of the offer varies according to the location of the consumer or is only available to consumers within certain areas covered by Openreach’s network.
- 4.46 Our proposals relating to geographic pricing are set out in more detail in Section 9.
- 4.47 In the physical infrastructure market, we propose to retain a requirement on Openreach not to unduly discriminate in relation to the provision of the network access to its physical infrastructure. We propose to continue to interpret this condition 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. We also propose to maintain a requirement on Openreach to publish such information on non-discrimination in relation to network access in the physical infrastructure market as we may direct.

Our reasoning

- 4.48 BT is vertically integrated, combining ownership and operation of activities across the value chain. Through Openreach, it owns and operates the physical infrastructure and the network that delivers fixed-line communications services to UK consumers and business. BT also owns and operates retail businesses that sell services carried over that network.
- 4.49 It is important that Openreach does not unduly discriminate between different customers when supplying access services. Wherever possible, Openreach should provide access to itself, to BT downstream and to other telecoms providers on the same terms. Without this level playing field, Openreach could engage in practices that could distort downstream

¹²¹ Ofcom, 2005. [Undue discrimination by SMP providers](#).

competition, negatively affecting consumer outcomes. For example, Openreach could distort downstream competition by offering access to its physical infrastructure on terms that favour Openreach's network business, or by offering access to its network on terms that favour BT's retail businesses.

- 4.50 A non-discrimination obligation is intended to prevent such discrimination in a way that may distort competition.
- 4.51 Of the various forms of non-discrimination obligation, we consider EOI to be the most effective. EOI does not require all providers to use exactly the same services, systems and processes. Rather, it requires all services,¹²² systems and processes to be available on the same basis to all providers. This means that EOI does not prevent flexibility, but there will clearly be a trade-off between the value of EOI and the amount of flexibility that providers want to use – in that if providers use a product more flexibly the value of EOI will be less.
- 4.52 While our strong preference is for EOI, we are conscious that applying EOI to existing arrangements can be very disruptive and costly, as it can require the re-engineering of existing systems and processes. Where such disruption and/or cost is high, imposing EOI would be disproportionate and so only NUD would apply.
- 4.53 Where we do not impose EOI, we generally interpret the NUD condition as requiring Openreach to build any new or upgraded services, systems and processes in a way that supports EOI where possible.¹²³ This gives us the option of imposing an EOI obligation in the future, while avoiding unnecessary disruption and cost.
- 4.54 As per our interpretation of undue discrimination outlined above, the NUD condition requires Openreach to supply equivalent services on equivalent terms, unless any non-equivalence reflects relevant differences between the circumstances of customers and does not harm competition.
- 4.55 Our proposals in relation to each of the relevant fixed telecoms markets are set out below. We consider that these proposed requirements are appropriate and proportionate in relation to BT's market power in each of the relevant fixed telecoms markets in relation to which they are proposed.

Physical infrastructure market

- 4.56 In the physical infrastructure market, we propose to maintain the existing requirement on Openreach not to unduly discriminate in relation to the provision of network access including specific forms of network access (NUD condition). We also propose to maintain the existing interpretation of the NUD condition in the physical infrastructure market, as explained in paragraph below.
- 4.57 We consider that this requirement and our interpretation has been broadly effective in protecting competitors from undue discrimination in the physical infrastructure market and has supported network build using Openreach's physical infrastructure.

¹²² We include in this any sub-products, sub-systems, sub-processes and platforms.

¹²³ Developing new and upgraded services, systems and processes would include for example, major platform rebuild/transformation utilising new hardware, operating systems or databases, regardless if the re-platformed system feels and behaves like the legacy system or otherwise.

- 4.58 We consider that the ongoing increase in the use of PIA supports our view that our approach to PIA, including our NUD requirement, has been broadly effective. Data setting out the increase in PIA usage over the last five years is set out in Section 5.
- 4.59 In addition to the continued increase in the use of PIA, we have also seen ongoing improvements being made to the PIA product as a result of positive industry engagement and use of our existing remedies such as the SOR process. By way of illustration, previously when a third party encountered a pole without sufficient capacity for its planned pole attachments, the third party would have to raise a network adjustment and wait for Openreach to attend to expand capacity (such as by removing redundant dropwires). This introduced a delay for the third party connecting the end-user to the downstream service. However, recent changes to the standard PIA contract requested by PIA users mean they are now able to remove Openreach's existing redundant copper dropwires themselves.

Equivalence of inputs

- 4.60 We consider imposing an EOI requirement in this review period would not be proportionate. Openreach has been extensively using its physical infrastructure to supply a broad range of services over many decades. To implement full EOI today would therefore require extensive re-engineering with the associated disruption and cost.
- 4.61 In addition, imposing an EOI obligation on Openreach in relation to PIA would require it to alter its organisational structure to separate the part which uses PIA as an input from that which supplies and manages PIA. We consider that this would be disruptive (impacting on availability of key services at an important time for network rollout, including connecting customers to the new networks that have been built) and would increase Openreach's costs.
- 4.62 We also consider that imposing full EOI now would give rise to a risk that future developments of the PIA product in the short term could be driven by Openreach and its need to comply with full EOI, rather than third party users of PIA. Although EOI would not prevent flexibility in the way Openreach and third parties use PIA, as explained above, there is a trade-off between flexibility and the value of EOI
- 4.63 Therefore, we propose not to impose an EOI requirement in the physical infrastructure market.

No undue discrimination

- 4.64 We propose to maintain our interpretation of NUD in the physical infrastructure market as requiring strict equivalence where possible in respect of all processes and sub-products that contribute to the supply and consumption of network access, with discrimination permitted only in cases where Openreach can demonstrate that a difference in respect of a specific process step or sub-product is justified. Where Openreach can justify any processes or systems used by PIA users as being different from those used by Openreach, the condition would still require these to be broadly equivalent. This means that any difference must not put PIA users at a disadvantage, particularly in terms of extra cost, time or uncertainty, compared to the processes Openreach follows internally.
- 4.65 In practice, we consider this requires:
- i) **Openreach to supply equivalent services** unless any non-equivalence reflects relevant differences between the circumstances of customers and does not harm competition. In the context of the physical infrastructure market this means that

any difference must not put network users at a disadvantage, particularly in terms of extra cost, time or uncertainty, compared to Openreach. Hence, it would not be justifiable for Openreach to impose PIA systems or engineering constraints on PIA users that it did not consider necessary for itself.¹²⁴

- ii) **EOI for new or upgraded services and systems and processes.** We would require a strong justification for Openreach not doing so and consider such circumstances should be exceptional. We consider that making new or upgraded services, systems and processes equivalent from the outset will not involve the same level of disruption and cost as re-engineering existing ones.

- 4.66 With regards to our view that the NUD obligation requires Openreach to provide new or upgraded services, systems or processes on an EOI basis, we note that this interpretation covers new or upgraded systems, processes or services whether they are built for Openreach's own use of physical infrastructure or built solely for third parties' use of physical infrastructure.
- 4.67 For the avoidance of doubt, where we refer to Openreach's own use of physical infrastructure, we are referring to systems, processes or services that relate to the supply of physical infrastructure access to itself, not to systems, processes or services that relate solely to its activities downstream as a network builder.¹²⁵
- 4.68 Where Openreach develops new or upgraded systems, processes or services designed for third-party use, we expect it to justify why it is not applying them to itself. This means that Openreach should not be developing PIA as a product without bringing its own use of physical infrastructure in line with how third parties use PIA. Therefore, we expect to see a natural convergence of Openreach's use of physical infrastructure with third parties' use of physical infrastructure as Openreach moves away from the legacy internal products to new and upgraded systems, processes and services.¹²⁶
- 4.69 In order to ensure that changes to systems, services or processes that impact the use of physical infrastructure do not lead to a material, competitive disadvantage for PIA users, Openreach should consider how any new or upgraded services, systems or processes impacts the level playing field. Similarly, when Openreach is considering a request from third parties for changes to systems, services or processes, it must consider how its response impacts the level playing field.
- 4.70 We expect Openreach to be able to demonstrate how it has considered these impacts and demonstrate that it is not putting PIA users at a material competitive disadvantage as a result of any physical infrastructure developments. Openreach should be able to set out why any developments that introduce or maintain non-equivalent systems, services or processes are necessary, justified and comply with our proposed NUD requirement. We encourage Openreach to continue to make use of the industry forum to share details of any

¹²⁴ We would expect that unless otherwise justified the processes associated with the raising, validation, execution and auditing of PIA network adjustments offer telecoms providers the same degree of discretion, timeliness and flexibility as Openreach's direct labour force or their third-party contract partners have in addressing physical infrastructure remedial works for their full-fibre deployment programmes.

¹²⁵ By way of illustration, where Openreach improves internal systems that relate to infrastructure quality and damage reporting, we would require a strong justification for Openreach not making these systems available on an EOI basis. However, Openreach will also have internal systems that coordinate fibre network design, as well as engineering workload management and quality assurance processes related to its fibre network deployment. Competing providers will have their own systems and processes for such activities.

¹²⁶ Notwithstanding the point made above that there is flexibility for users of PIA to use it in different ways.

developments under consideration in advance, and gather industry feedback, so it can better consider impacts on the level playing field.

- 4.71 In relation to where Openreach supplies PIA to BT downstream, we consider our proposed NUD condition would require Openreach to supply PIA to BT downstream divisions on an equivalent basis to how third parties use PIA.¹²⁷ As mentioned above, this does not prevent BT's downstream divisions and other providers using PIA using PIA flexibly which could result in them using slightly different services, system and processes.

Transparency measures

- 4.72 Given the importance of NUD in creating an environment in which competing providers have the confidence to make very substantial capital investments relying on access to Openreach's physical infrastructure network, we propose to retain the requirement on Openreach to publish such information on non-discrimination in relation to network access as we may direct.
- 4.73 We note that industry has defined and implemented a set of KPIs to provide transparency to PIA users, the OTA2 and Ofcom. Openreach publishes these KPIs on a quarterly basis. In our view, these have been broadly successful in setting out Openreach's performance with regard to PIA in a transparent manner.
- 4.74 We propose not to impose non-discrimination KPIs. This is because the industry-agreed voluntary KPIs provide sufficient transparency and are more flexible, allowing measures to be refined and developed. These KPIs continue to be discussed at an industry level and we expect there to be some ongoing development as to the exact KPIs/metrics reported.

Compliance

- 4.75 We continue to monitor compliance as part of our ongoing PIA monitoring and compliance function. We note that this team engages with industry and collaborates closely with the OTA2 with regards to compliance, including compliance with our current NUD requirements. The Openreach Monitoring Unit (OMU) also plays a crucial role in monitoring the NUD requirements, including publishing the annual Openreach Monitoring Report. Where this monitoring results in compliance concerns, Ofcom's enforcement team would consider whether to open an investigation, in line with Ofcom's enforcement guidelines.¹²⁸ (See section 5 for more on PIA implementation and compliance).

NUD guidance for PIA pricing

- 4.76 In Annex 11, we provide guidance on how we will interpret the no undue discrimination condition with respect to PIA pricing.

WLA, LLA and IEC markets

Equivalence of inputs

- 4.77 In the WLA, LLA and IEC markets, we consider that EOI is likely to continue to be the most effective approach to limit the ability of Openreach to discriminate in respect of network access. This is because Openreach is already providing most services in these markets on EOI basis and we expect it to continue doing so in future. Therefore, we propose to retain an EOI requirement covering all WLA, LLA and IEC services (including all future requests for

¹²⁷ That is, we do not expect differences between BT downstream and third party PIA users to be justified.

¹²⁸ Ofcom, 2025. [Regulatory Enforcement Guidelines for investigations](#).

network access), except where exemptions are specifically identified (see “exemptions to EOI” below).

- 4.78 We note that EOI does not prevent Openreach from innovating or tailoring its services to meet telecoms provider needs. It simply means that any service must be made available to all telecoms providers on the same basis. So, if Openreach offers a particular commercial access arrangement, this must be made available on the same terms to all telecoms providers. We also note that one proposed EOI exemption is that Ofcom should be able to consent in writing to the provision of network access on a non-EOI basis where circumstances warrant (this is set out in the following sub-section).

Exemptions to EOI

- 4.79 We consider that EOI is not appropriate for all products in these markets. Where we consider an EOI obligation to be inappropriate or disproportionate, the risk of discriminatory behaviour still arises. Therefore, services that are not subject to EOI would still need to be protected by the no undue discrimination obligation (NUD requirement). Below, we set out a number of services that we propose to exempt from an EOI obligation.

Table 4.2: Exemptions to the EOI condition in the WLA, LLA and IEC markets

Market	Exemptions to the EOI condition
WLA, LLA and IEC	Existing network access not required to be provided on an EOI basis
	Accommodation services, other than in relation to the allocation of space and power
	Such provision of network access as Ofcom may consent in writing
WLA	Sub loop unbundling (SLU)
LLA and IEC	Dark fibre as an input to active services
	Wholesale WDM circuits
	BT’s core network

Existing network access not required to be provided on an EOI basis

- 4.80 We propose to retain that where network access in the WLA, LLA and IEC markets is currently provided on non-EOI terms, the EOI obligation will not apply. This would ensure that where investment has already taken place because of previous deregulation, Openreach is not required to identify and re-engineer existing network infrastructure, a process that is likely to involve significant costs, time and be disruptive for Openreach. This is consistent with the approach we have taken in previous market reviews.¹²⁹

¹²⁹ For WLA services see Ofcom, 2018. [Wholesale Local Access Statement](#), Paragraph 6.97. For leased lines see Ofcom, 2019. [Promoting competition and investment in fibre networks: review of the physical infrastructure and business connectivity markets](#), Paragraphs 11.60 and 11.61, and Ofcom, 2013. Business Connectivity Market Review Statement, Paragraph 12.201.

Accommodation services, other than in relation to allocation of space and power

- 4.81 The availability of accommodation services in BT exchanges is an important enabler of competition in the WLA, LLA and IEC markets as well as the physical infrastructure market. It allows telecoms providers to connect to access products such as FTTP and EAD Local Access and facilitates competition in downstream markets.
- 4.82 Space and power in BT's exchanges are particularly limited, and in the absence of regulation BT would have the incentive and ability to discriminate in favour of its own needs in allocating such space and power. Therefore, we propose to retain the EOI requirement on the allocation of space and power in the WLA, LLA and IEC markets. For clarity, in relation to space and power, we propose that it continues to be allocated on first come first serve (FCFS) basis which we see as a fair and reasonable approach.
- 4.83 However, BT's requirements for accommodation services are likely to be different to those of other telecoms providers because of the scale of its equipment deployment. BT's downstream divisions are likely to use different accommodation products from those used by other telecoms providers, even if those divisions were required to obtain these products from Openreach.
- 4.84 Given this, we are proposing to retain the exemption from the EOI requirement on BT for accommodation services other than the allocation of space and power in all relevant fixed telecoms markets (except the physical infrastructure market where we are proposing EOI does not apply).

Ofcom discretion to consent in writing to provision on a non-EOI basis

- 4.85 In previous reviews, stakeholders have raised concerns about the effect the imposition of an EOI obligation could have on Openreach's ability to respond in a competitive or innovative way to customer requirements in markets where customer have options to use other network operators. In the WFTMR 2021 we decided that Ofcom should be able to consent in writing to the provision of network access on a non-EOI basis where circumstances warrant, in an effort to provide greater flexibility. We propose to retain this option in the next review period.

Sub loop unbundling (SLU)

- 4.86 We propose to retain an exemption on Openreach from the application of the EOI obligation to SLU services in the WLA market. It is likely that an EOI obligation in respect of SLU would require Openreach to re-engineer existing services and processes, which would be costly. We consider that this cost would be disproportionate given the current and projected low level of use of SLU services.¹³⁰

Dark fibre as an input to active services

- 4.87 We propose to retain an exemption on Openreach from the application of the EOI obligation to our proposed dark fibre remedies (dark fibre access, dark fibre inter-exchange and dark fibre combined) in the LLA and IEC markets where dark fibre is used by Openreach as an input to its active services.
- 4.88 We continue to believe that imposing an EOI in this specific case would be disproportionate.

¹³⁰ For discussion of SLU volumes, see Section 6.

- 4.89 In practice, imposing an EOI obligation on Openreach would require Openreach to alter its organisational structure to separate the part which uses dark fibre as an input (into the supply of actives) from that which supplies and manages dark fibre, which would be costly and disruptive. Altering Openreach's organisational structure (and implementing the associated systems changes) would also likely increase Openreach's overall cost for the provision of active and dark fibre circuits.
- 4.90 We continue to believe that the NUD condition addresses our competition concern, without incurring any of the disadvantages that would result from Openreach being obliged to provide dark fibre to itself under an EOI obligation only.
- 4.91 We also propose to retain the interpretation of the NUD condition to mean that Openreach should not favour its own active products over the provision of dark fibre to other telecoms providers. For example, the allocation of available dark fibre between Openreach's active products and provisioning of dark fibre circuits to other telecoms providers should not be unduly discriminatory. Accordingly, if there is a limited amount of dark fibre available on a given route, Openreach should not unduly prioritise the provisioning of active services over the provisioning of dark fibre to other telecoms providers.
- 4.92 The proposed exemption outlined above applies only where Openreach is providing dark fibre to itself as an input to active products. Where Openreach supplies dark fibre downstream to BT or non-BT customers, we propose that an EOI obligation should apply.

Wholesale WDM services

- 4.93 In the LLA and IEC markets, telecoms providers may wish to provide leased lines using a combination of their own networks and WDM services from Openreach, using non-standard WDM interfaces to facilitate interconnection. BT's downstream operations, however, may be more likely to use WDM services from Openreach to deliver end-to-end services without interconnection, and would therefore use WDM services with standard interfaces.
- 4.94 Where Openreach provides WDM services to other telecoms providers which differ from those it provides to itself only in relation to the interfaces used, we propose to retain an exemption from the EOI obligation in relation to the prices Openreach charges for these services. Openreach would be required not to discriminate unduly between the prices it charges for these services, which we would interpret to mean that the difference in price between the variants of the same product should be no greater than the difference between their long run incremental costs. All other aspects of providing such services would be on EOI basis.
- 4.95 We believe this proposal is proportionate because Openreach may have no need to consume WDM services with non-standard interfaces and an EOI requirement is therefore likely to have limited effect. This proposal is consistent with our previous regulation of WDM services.¹³¹
- 4.96 In addition, we note that we have in previous business connectivity reviews exempted Openreach from the EOI obligation in relation to WDM services that are longer than 70km.¹³² This exemption is related to BT's Wavestream National services. To deliver these

¹³¹ See Ofcom, 2016. Business Connectivity Market Review Statement, Paragraphs 11.66-11.68; Ofcom, 2016. Business Connectivity Market Review Statement, Paragraphs 8.90-8.92.

¹³² See Ofcom, 2013. Business Connectivity Market Review Statement, Paragraph 13.73 and Ofcom, 2011. Business Connectivity Market Review Consultation, Annex 10.

services, Openreach uses a fibre splice to interconnect the LLA fibre to the IEC fibre without any active equipment (point-to-point solution), or uses proprietary interfaces for the Network Termination Equipment (NTE) and core WDM equipment (shared solution). BT has previously submitted that, if Openreach is required to provide the Wavestream National services on an EOI basis, it would need to upgrade its equipment and systems which would significantly increase the cost of delivering these services. We therefore propose to maintain this exemption.

BT's core network

- 4.97 BT's core network is based on its 21CN network and includes core nodes located in 106 exchanges.¹³³
- 4.98 In Volume 2, Section 6, we propose to find BT to have SMP in the IEC markets at BT Only and BT+1 exchanges. There are 16 BT exchanges captured by our provisional SMP finding where BT has deployed both backhaul and core nodes. We have considered whether the EOI obligation in the IEC markets should apply to connections to the exchanges where BT has deployed both backhaul and core nodes, and propose to retain an exemption on BT from its EOI obligation in relation to its core network.¹³⁴
- 4.99 Requiring Openreach to provide network access on an EOI basis at the 16 BT core exchanges would mean that BT would, in addition, need to self-consume active leased lines and/or dark fibre in order to run its core network. As part of the WFTMR 2021, BT informed us that, if EOI is imposed on BT core exchanges, this would create uncertainty in the way BT plans its investments in the core network and would impose disproportionate costs on BT in terms of network resilience and the cost of providing core network services.¹³⁵ We considered that this represents an unacceptable level of cost and disruption, and was not needed to address our competition concerns in the IEC market in addition to the specific access remedies we imposed.
- 4.100 Given this, in the WFTMR 2021 we applied an EOI exemption to the BT core nodes sited at regulated BT exchanges. We propose to retain this exemption in the next review period for the 16 BT core exchanges we have identified.
- 4.101 The number of core nodes has been relatively stable over time and so we are not expecting significant changes in the size of BT's core network in this review period. However, in light of the exchange exit programme (discussed in section 3) BT has advised us that in a very small number of instances, existing core nodes will need to be relocated from closing to enduring exchanges.¹³⁶ It will be open to BT to apply to Ofcom for consent for the disapplication of the EOI obligation in relation to any relocated core node should this be required during the review period. Where a core node moves from one regulated BT

¹³³ BT response dated 27 November 2024 to s135 notice dated 23 October 2024, question C1.

¹³⁴ We are consulting on the principle of retaining an exemption on BT from its EOI obligation in relation to its core network, rather than consulting specifically on the 16 BT core exchanges. As explained in Annex 10, footnote 158, we may seek updates to some elements of the data and refresh the affected modelling accordingly which means the BT core exchanges where the exemption applies may change.

¹³⁵ Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26](#), Volume 3, Page 66.

¹³⁶ [X] core nodes are expected to be relocated in the 2026-31 review period due to exchange exit, and two core nodes are expected to be closed without relocating. BT response dated 27 November 2024 to s135 notice dated 23 October 2024, question C2.

exchange to a competitive and deregulated BT exchange, the EOI obligation will cease to apply.

No undue discrimination

- 4.102 As explained earlier in this section, in the WLA, LLA and IEC markets, we propose to retain a requirement on Openreach not to unduly discriminate in relation to the provision of network access including specific forms of network access (NUD condition). We propose to retain our interpretation of undue discrimination to be when Openreach “does not reflect relevant differences between (or does not reflect relevant similarities in) the circumstances of customers in the transaction conditions it offers, and where such behaviour could harm competition.”¹³⁷
- 4.103 We propose to retain the requirement on Openreach to provide all services on a basis that is not unduly discriminatory. Where we consider an EOI obligation to be inappropriate or disproportionate, the risk of discriminatory behaviour still arises. Therefore, services that are not subject to EOI would still need to be protected by the no undue discrimination obligation. Where an EOI obligation does apply, we consider that it may not be effective in preventing discriminatory behaviour in all circumstances, and therefore we apply both an EOI and NUD requirement.¹³⁸ This applies to all markets where we propose to identify BT as having SMP. Our interpretation of the no undue discrimination obligation would vary depending on the specific characteristics of each market.

Provisional conclusion

- 4.104 We consider the proposed non-discrimination conditions as detailed above would be proportionate in that they seek to prevent discrimination that would adversely affect competition and ultimately cause detriment to citizens and consumers. Furthermore, we consider that these requirements represent the minimum required to address our competition concerns.
- 4.105 To implement these decisions, we propose to set SMP Conditions 4 and 5 in Volume 5. Section 87(6)(a) of the Act authorises the setting of an SMP services condition requiring the dominant provider not to discriminate unduly against particular persons, or against a particular description of persons, in relation to matters connected with network access to the relevant network or with the availability of relevant facilities. Section 87(6)(b) of the Act authorises the setting of an SMP services condition requiring the dominant provider to publish, in such manner as we may direct, all such information as they may direct for the purpose of securing transparency in relation to such matters.

Requirement to publish a Reference Offer (RO)

Our proposals

- 4.106 We propose to retain the requirement on Openreach to publish a Reference Offer (RO) in relation to the provision of network access in each relevant fixed telecoms market. The RO

¹³⁷ Ofcom, 2005. [Undue discrimination by SMP providers](#).

¹³⁸ For example, where BT may not consume certain Openreach products or product variants, there is a risk that Openreach could favour the products or variants that BT consumes over those it does not. In this case, EOI would not be, or would be less, effective.

must include terms and conditions for provisioning, technical information, Service Level Agreements (SLAs) and Service Level Guarantees (SLGs), and availability of co-location. We also propose to retain a requirement on Openreach to publish an Internal Reference Offer (IRO) where supplying services to itself on a non-EOI basis (e.g. physical infrastructure and dark fibre).

Rationale

- 4.107 We consider that these proposed requirements are appropriate and proportionate in relation to BT's market power in each of the relevant fixed telecoms markets.
- 4.108 A requirement to publish a RO has two main purposes:
- a) to assist transparency for the monitoring of potential anti-competitive behaviour; and
 - b) to give visibility to the terms and conditions on which other providers will purchase wholesale services.
- 4.109 The RO helps ensure stability (in regard to investment and promoting market entry) in the relevant fixed telecoms markets, allowing for speedier negotiations, avoiding possible disputes and giving confidence to those purchasing wholesale services that they are being provided on non-discriminatory terms. Without this, market entry might be deterred to the detriment of long-term competition and hence consumers.
- 4.110 The existing RO obligation specifies the information to be included in the RO and how the RO should be published. We consider that this comprises the minimum information necessary to achieve the purposes set out above.
- 4.111 We propose to retain the existing RO obligation, that requires the RO to set out (as a minimum):
- a) a clear description of the services on offer, including technical characteristics and operational processes for service establishment, ordering and repair;
 - b) the locations of points of network access and the technical standards for network access;
 - c) conditions for access to ancillary and supplementary services associated with the network access, including operational support systems and databases, etc.;
 - d) contractual terms and conditions, including dispute resolution and contract negotiation/renegotiation arrangements;
 - e) charges, terms and payment procedures;
 - f) service level agreements and service level guarantees (see "SLAs and SLGs obligations" below); and
 - g) to the extent that Openreach uses the service in a different manner to other telecoms providers or uses similar services, Openreach is required to publish an Internal Reference Offer in relation to those services (see "Internal Reference Offer" below).
- 4.112 Across Volume 3, we set out the RO requirements that specifically relate to the specific forms of network access (PIA, MPF, SLU, VULA, VULA 80/20, specific types of leased lines and specific types of dark fibre) we are proposing in the relevant fixed telecoms markets.

Internal Reference Offer

- 4.113 Where Openreach is supplying services to itself on a non-EOI basis (i.e. in cases of PIA and dark fibre), an Internal Reference Offer (IRO) allows us and stakeholders to identify any differences in the processes for internal use of network access compared to such use by third parties. We therefore propose to retain that, to the extent that Openreach uses the

services in a different manner to other telecoms providers or uses similar services, Openreach is continued to require to publish an IRO in relation to those services. The IRO should at a minimum include the same detail as the published RO and in sufficient detail to allow Ofcom and telecoms providers to identify any differences in process (see above, Paragraph 4.111).¹³⁹

SLAs and SLGs obligations

4.114 In order to be effective, it is important that the contractual arrangements for the supply of network access products and services that telecoms providers buy from Openreach in the relevant fixed telecoms markets are such that:

- they incentivise the efficient provision of reliable services to Openreach’s wholesale customers;
- they set out fair and reasonable compensation payments for delays in delivery and repair of such services; and
- they allow Openreach and its wholesale customers to monitor effectively the performance of Openreach’s provision and repair regulated wholesale services.

4.115 In order to achieve these objectives, contractual arrangements need to include:

- a set of SLAs which reflect the commercial SLAs provided to wholesale customers;
- a set of SLGs which set out fair and reasonable compensation for delays in the provision and repair of such services;
- a requirement that SLG payments are made on a proactive basis by Openreach; and
- specific service level commitments on the availability of the relevant operational support systems (by which telecoms providers make requests for service provision, transfers and fault repair as applicable).

4.116 We therefore propose to retain a requirement on Openreach to include in its contractual arrangements SLAs and SLGs as set out in the previous paragraph.

SLAs and SLGs negotiations

4.117 In the WFTMR 2021¹⁴⁰ we retained a set of contract negotiation principles (see Table 4.3) and SLA/SLG assessment criteria (see Table 4.4) to be applied to future industry negotiations in relation to SLAs/SLGs facilitated by OTA2. We propose that these same principles and criteria for negotiating SLAs and SLGs should continue to apply to future contract negotiations between Openreach and its customers in relation to the SLAs and SLGs for the provision of wholesale fixed telecoms products and services.

¹³⁹The scope of the no undue discrimination covers Openreach’s full product range, including those on the copper and leased line networks. Therefore, Openreach should consider their obligations in respect of all use of duct. The IRO must include a comparison of all relevant services, systems and processes (including products or programmes) that use network access.

¹⁴⁰ Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26](#).

Table 4.3: Principles for the contract negotiation process

Principle	Description
Principle 1	The OTA2 should facilitate all negotiations to create or change an SLA/SLG and that this negotiation will allow input from all affected parties.
Principle 2	The OTA2 will, using stated criteria, assess whether a request for negotiations on a new SLA/SLG or change to an existing SLA/SLG (and related contract terms) should be facilitated through this negotiation process.
Principle 3	No negotiations over the content of an SLA/SLG should extend beyond six months, with regular reporting to Ofcom. If, in the opinion of the OTA2, negotiations cannot be successfully concluded or have not been concluded within six months, then the OTA2, as part of its final report to Ofcom, will set out its view on whether and on what basis Ofcom should initiate a review.
Principle 4	Provision should continue according to the terms of an appropriate, pre-existing SLA/SLG until such time as a new SLA/SLG can be agreed.

Table 4.4: Criteria for the assessment of SLA/SLG requests

Criterion	Description
Criterion 1	The request does not duplicate an existing request that is either being considered by the OTA2 or is under discussion within an existing industry forum.
Criterion 2	The request could provide an adequate material benefit for the telecoms provider or industry and that any negative impact of the request not being addressed cannot be easily mitigated without the reasonable support of Openreach.
Criterion 3	The request does not seek to address a telecoms provider's deficiency that should more appropriately be addressed by the telecoms provider(s) themselves.
Criterion 4	The request has adequate scale and support across industry or from those telecoms providers addressing a recognised end customer group to which the request relates.

4.118 In previous reviews we have also expressed our expectations of negotiating behaviours between parties.¹⁴¹ Following concerns raised by some stakeholders in relation to recent negotiations, we reiterate our expectations on all parties to such negotiations (including Openreach) to make all reasonable efforts to exhibit the following behaviours:

- to approach negotiation of these matters with professional courtesy and an openness and willingness to consider the issues raised and any evidence presented;
- to be responsive to requests for negotiation and dialogue in a timely manner;
- to ensure that suitably empowered staff are available for meetings within a reasonable period following a request; and
- to ensure that requests for information are responded to as quickly as reasonably possible.

¹⁴¹ Ofcom. 2014. [Fixed Access Market Reviews Statement](#).

- 4.119 We believe that these expectations on stakeholders, including Openreach, should be followed across all SLA and SLG negotiations.
- 4.120 Where all parties have broadly similar negotiating strengths, commercial negotiation without the involvement of the industry regulator is the preferred method for reaching agreement on the terms of SLAs and SLGs. However, we recognise that negotiations between Openreach and its customers are not likely to be balanced.
- 4.121 Therefore, we consider that there should be a defined, structured and open process for the negotiation of SLA/SLG terms which reserve a central role for the OTA2 and set a time limit for negotiations.
- 4.122 We believe that regulatory intervention should remain the last resort for negotiations, but where industry negotiations in relation to SLAs/SLGs do not result in an agreement, Openreach and its customers remain able to refer a dispute to Ofcom.
- 4.123 Where an issue is referred to us and we consider that it is appropriate to intervene, our starting point will be the respective proposals of each of the parties. While Ofcom is not limited to the remedies proposed by the parties in resolving a dispute, we would expect to first consider whether either of the proposals would secure an outcome that appropriately meets our statutory duties. This is intended to create the incentive for parties to set out their most reasonable final positions, rather than taking an extreme position in order to try to distort any eventual regulatory outcome in their favour.

Our proposed approach

- 4.124 We consider that the proposed requirement in each relevant fixed telecoms market for Openreach to publish a Reference Offer is proportionate in that it is targeted at addressing the market power that we have provisionally found BT holds. We consider that the information that we are requiring to be published in the Reference Offer continues to be the minimum that is necessary for providing transparency for monitoring potential anti-competitive behaviour and to give visibility on the terms and conditions of network access.
- 4.125 To give effect to the Reference Offer proposals we propose to set draft SMP Condition 7 in Volume 7. Section 87(6)(c) of the Act authorises the setting of SMP services conditions requiring the dominant provider to publish, in such a manner as Ofcom may direct, the terms and conditions on which it is willing to enter into an access contract. Section 87(6)(d) also permits the setting of SMP services conditions requiring the dominant provider to include specified terms and conditions in the Reference Offer. Finally, section 87(6)(e) permits the setting of SMP services conditions requiring the dominant provider to make such modifications to the Reference Offer as may be directed from time to time.
- 4.126 In terms of implementation of these proposed Reference Offer requirements, for network access Openreach is providing as at the date the proposed condition enters into force, we propose to retain the requirement for Openreach to publish a Reference Offer on that same date. In most if not all cases, Openreach would already have a RO published for such network access. For any further network access provided after that date, Openreach would be required to update and publish the Reference Offer “as soon as reasonably practicable.” Therefore, the proposed condition permits a Reference Offer for further network access to be published at a later date, allowing for review, engagement and amendment.

Requirement to notify changes to charges, terms and conditions and other transparency measures

Our proposals

- 4.127 We propose to retain the requirement for Openreach to notify, in writing (known as an Access Change Notice, or ACN) changes to its charges, terms and conditions for network access products and services in each of the relevant fixed telecoms markets.
- 4.128 Regarding the notice period required for Openreach to inform its customers of changes, we propose that the requirement for this period be:
- a) 90 days for prices, terms and conditions relating to existing services in the relevant fixed telecoms markets;
 - b) 28 days for prices, terms and conditions relating to new service introductions;
 - c) 28 days for price reductions and associated conditions (for example, conditions applied to Special Offer) and the end of temporary price reductions, and next working day for extensions of a Special Offer on current T&C at the current Special Offer price or lower price; and
 - d) 120 days for any new or existing product where the price or other contractual conditions are conditional on the volume and/or range of services purchased.
- 4.129 We also propose to require Openreach to publish any retail inducement offer and notify Ofcom a minimum of 28 days in advance of the offer taking effect.
- 4.130 Regarding our regulatory support for copper retirement, we propose to retain four public notifications for Openreach customers and Ofcom:
- a) a 'First Threshold Notice': a notice that an exchange area has reached 75% coverage of ultrafast broadband;
 - b) a 12-month advance notice before an exchange area is expected to reach 75% coverage of ultrafast broadband;
 - c) a 'Second Threshold Notice' a notice that an exchange area has been "completed";¹⁴² and
 - d) a 12-month advance notice before an exchange area is expected to be "completed".
- 4.131 Regarding exchange exit, we propose to introduce a requirement on Openreach to publish a notification and provide this to Ofcom when an exchange has been fully exited.

Rationale

- 4.132 We consider that the proposed requirement to notify charges, terms and conditions is appropriate and proportionate in relation to BT's market power in each of the relevant fixed telecoms markets.
- 4.133 Notification of changes to charges at the wholesale level has the joint purpose of improving transparency for monitoring possible anti-competitive behaviour and giving advance warning of price changes to competing providers who purchase wholesale access services. The latter purpose ensures that competing providers have sufficient time to plan for such changes, as they may want to restructure the prices of their downstream offerings in

¹⁴² i.e. Openreach has made ultrafast services available at 100% of the premises in the exchange area (excluding any premises that Ofcom directs).

response to charge changes at the wholesale level. Notifying changes therefore helps to ensure stability in markets.

- 4.134 While price notification may have a ‘chilling’ effect (where other telecoms providers follow Openreach’s prices rather than set prices of their own accord), the relevant fixed telecoms markets are characterised by a high level of reliance by downstream telecoms providers on Openreach’s wholesale services. Therefore, we believe it is appropriate for Openreach to be subject to an obligation to notify changes to its charges for wholesale network access services in order to provide the transparency, time to plan for changes and stability needed to facilitate investment and entry.
- 4.135 We also consider it appropriate to retain the proposal that Openreach notifies changes to terms and conditions in order to ensure transparency and provide advance warning of changes to allow competing providers sufficient time to plan for them. For the same reasons as outlined above, we consider that notifying changes to terms and conditions will lead to greater market stability, without which incentives to invest might be undermined and market entry made more difficult.
- 4.136 Regarding the content of the ACN, we propose that it should continue to include:
- a) a description of the network access in question;
 - b) a reference as to where the terms and conditions associated with the network access in question can be found in Openreach’s Reference Offer;
 - c) the current and proposed new charge and/or current and proposed new terms and conditions (as the case may be); and
 - d) the date on which, or the period for which, the changes in the ACN will take effect (the “effective date”).

Changes to prices and price terms and conditions

- 4.137 Changes to prices, and related pricing terms and conditions (which we collectively refer to here as ‘prices’) for the provision of wholesale inputs in fixed telecoms markets could have material impacts on consumers. Thus, we propose to retain the requirement for Openreach to give advance notice of price changes.
- 4.138 In regard to the timings of the notification, the notification period should allow sufficient time for downstream providers to make necessary changes to their downstream products and services. We consider that except for the special cases discussed below, Openreach should give 90 days’ notice for changes to prices.
- 4.139 In the case where prices are being reduced (including where a Special Offer is being introduced), we recognise that customers benefit from shorter notification periods. For example, there may be advantages in having a shorter notification period for price reductions that could encourage migration to newer or more efficient services. Where Openreach is providing a Special Offer, customers benefit from a shorter notification period to enable them to react faster to the Special Offer, and maintain flexibility to try new services and transition over to the newly priced service, which will benefit consumers through new services and greater availability of choice. We therefore retain the proposal that 28 days is an appropriate notification period for price reductions (including the introduction of Special Offers) for products and services in the relevant fixed telecoms markets. We discuss extensions and amendments to Special Offers below.
- 4.140 Where Openreach introduces a new product or service in the relevant fixed telecoms markets, we consider that the prior notification period should reflect the lesser need for

advance notice, since there will not be existing customers for whom wholesale price changes might require revisions to their own pricing or other commercial decisions, and the existing service(s) provide the core set of input services for downstream telecoms providers, and are protected by the longer notification period. We therefore consider it appropriate to retain a 28 day notification period for new products and services.

- 4.141 Notwithstanding the discussion above, as explained in Section 9, we remain of the view that Openreach could use other commercial terms to undermine the development of network competition in the longer term. We are particularly concerned about terms such as loyalty discounts or pricing contingent on large volume commitments. For this reason, we propose to retain a notification regime for commercial terms where the price or other contractual conditions are conditional on the volume and/or range of services purchased. To facilitate the monitoring of these commercial terms, we are proposing to extend the notification period from 90 days to 120 days. Further detail on this is set out in Section 9.

Changes to non-price terms and conditions

- 4.142 Changes to non-price terms and conditions for the provision of wholesale inputs in fixed telecoms markets could also have material impacts on consumers. We consider that 90 days is an appropriate notification period for existing and new products and services in the relevant fixed telecoms markets and so are proposing to retain the obligation that, in general, at least 90 days' notification should be given for changes to non-price terms and conditions.
- 4.143 We do not consider that, where Openreach plans service development and service launches, the proposal to retain the requirement to notify changes to terms and conditions would be problematic, as we believe there is sufficient time in the development cycle of a new service to inform its customers of changes to the terms and conditions.

Extensions and amendments to Special Offers

- 4.144 A 90-day notification period has a potentially negative impact on Openreach's ability to amend Special Offer non-price terms and conditions, due to the misalignment of 28 days' notice for launching a Special Offer and/or changing prices, compared to 90 days' notice to change the terms and conditions of the Special Offer. This has the potential to make it difficult for Openreach to launch Special Offers or to amend Special Offers in their lifetimes, even when it might be beneficial to customers to do so. Therefore, we propose to retain the requirement for Openreach to provide only 28 days' notice where it plans to amend the terms and conditions of a Special Offer.
- 4.145 We also propose to retain that Openreach can, where it has notified its customers of the price that will apply at the end of the Special Offer, extend the Special Offer. Where the extension is at the current Special Offer price or below, Openreach must provide one working days' notice. Where Openreach extends the offer at another price that is below the one originally notified as the price to apply when the original Special Offer ended, we propose a 28 days' notice. We have outlined the proposed notification periods that will apply for where Special Offers are extended or amended in Table 4.5.

Table 4.5: Proposed notification periods on Openreach for amending or extending Special Offers

Amendment to Special Offer	Amendment concerns	Notification period
If Openreach wants to extend a Special Offer on current T&C at the current Special Offer price or lower price	Prices	Next working day
If Openreach wants to extend a Special Offer on current T&Cs at a price above the initial Special Offer price but below the standard price	Prices	28 days
If Openreach wants to extend a special offer on updated T&Cs or amend T&Cs of existing Special Offer, irrespective of price	T&Cs	28 days

4.146 For avoidance of doubt, the notification periods we are proposing to retain on Openreach for amending or extending Special Offers cannot supersede the proposed requirement in the WLA and LLA markets for Openreach to notify contract/pricing changes 120 days in advance specifically for commercial offers where the price or other contractual conditions are conditional on the volume and/or range of services purchased.

Requirement to notify Ofcom of changes to charges, terms and conditions in relation to Openreach's internal consumption of services in the relevant fixed telecoms markets

4.147 For each relevant fixed telecoms market, we propose to retain the requirement for Openreach to notify us of changes to charges, terms and conditions in relation to its internal consumption of any services in the relevant fixed telecoms markets.

4.148 In relation to passive remedies, while Openreach does not consume physical infrastructure and dark fibre services, we are proposing to retain the requirement on Openreach to produce an Internal Reference Offer that sets out its internal processes (see Paragraph 4.75 above). In order to ensure transparency, we propose to retain the requirement for Openreach to notify us when these internal processes change.

Notification in relation to geographic retail inducements

4.149 In Section 9, we outline our proposal to amend the NUD SMP condition to make explicit reference to retail inducements offered by Openreach on a geographic basis to encourage consumers to purchase its VULA products. This is because such retail inducements could be used by Openreach to undermine altnets' ability to become established competitors, in a similar manner to geographically targeted wholesale price cuts.

4.150 Alongside this proposal, to ensure transparency, we also propose to make a direction requiring Openreach to publish any retail inducement offer, whether or not geographically based, and notify Ofcom a minimum of 28 days in advance of the offer taking effect.

Notifications in relation to our regulatory support for copper retirement

- 4.151 Our proposed approach to supporting copper retirement set out in Section 2 means that, in a given exchange area where Openreach has reached 75% coverage of ultrafast broadband services or where it has made ultrafast services available at 100% of the premises in the exchange area (excluding any premises that Ofcom directs), our regulation will be relaxed such that Openreach can change certain charges, terms and/or conditions for its services. To ensure transparency for monitoring possible anti-competitive behaviour and to give competing providers sufficient notice, we propose to retain the requirement that Openreach make four public notifications for its customers and provide these to Ofcom:
- a) A 'First Threshold Notice' -notice that an exchange area has reached 75% coverage of ultrafast broadband;
 - b) a 12-month advance notice before an exchange area is expected to reach 75% coverage of ultrafast broadband;
 - c) a 'Second Threshold Notice' - notice that an exchange area has been "completed";
 - d) a 12-month advance notice before an exchange area is expected to be "completed".

Notification in relation to exchange exit

- 4.152 In Section 3 we discuss Openreach's exchange exit programme. We note that exchange exit may trigger some of the general notification requirements that we are proposing to maintain on Openreach, for example the requirement to provide advance notification of changes to technical information (including information on network configuration and locations of network access) and of changes to the terms and conditions of network access product and services.
- 4.153 We are also proposing a further specific obligation on Openreach to publish and send to Ofcom a notification within a reasonable time period after an exchange has been fully exited. By this, we mean when all other providers have ceased to use network access in that exchange and have terminated all licences to use space and power in that exchange. We consider that this will provide transparency to industry that the exit process is complete at this exchange (see, in particular, the discussion of DFX at Section 3, as the network access obligations for this product are location-specific).
- 4.154 Following notification from Openreach that an exchange is fully exited, we propose to maintain an updated list of exited exchanges on the Ofcom website. This should provide a list to providers of exchanges where relevant regulatory requirements have fallen away.

Our proposed approach

- 4.155 We consider that the proposed requirements to notify charges, terms and conditions are proportionate in that they only require notification of information that other telecoms providers would need to know (in order to adjust for any changes) and that the proposed notification periods are the minimum required to allow changes to be reflected in downstream offers.
- 4.156 We consider that the proposal to give advance notice of any offer of retail inducements by Openreach is proportionate in that it allows for the identification of any concerns that the offer may result in undue discrimination, ahead of implementation. The proposed notification period is the minimum required to allow for this.
- 4.157 We consider that the proposal to require Openreach to notify of exchange exit is proportionate given it is notification at the end of the process, and only requires

information that other telecoms providers and Ofcom would need to know (in order to know where relevant regulation is applicable).

- 4.158 We consider that the proposal to maintain the existing notifications in relation to copper retirement is proportionate as it goes no further than is necessary to ensure that the different stages of the regulatory transition from copper to full-fibre services are transparent and that ISPs, competitors and customers have sufficient information to plan ahead for the transition from copper-based to full-fibre based regulation.
- 4.159 To implement these proposals, we propose to set the draft SMP Condition 8 and the draft direction that we are proposing to issue under draft SMP condition 8.1 in Volume 5. Section 87(6)(b) of the Act authorises the setting of SMP services conditions which require a dominant provider to publish, in such manner as Ofcom may direct, all such information for the purpose of securing transparency in relation to matters connected with network access. Section 87(6)(c) authorises the setting of SMP services conditions requiring the dominant provider to publish, in such a manner as Ofcom may direct, the terms and conditions on which it is willing to enter into an access contract.

Requirement to notify technical information

Our proposals

- 4.160 We propose to retain the requirement for Openreach to publish, in advance, changes to technical information in each relevant fixed telecoms market. We think Openreach should notify its customers of changes to technical information not less than 90 days in advance of providing new services or amending existing technical terms and conditions.

Rationale

- 4.161 We consider that the requirement to notify technical information which we are proposing to retain in each market is appropriate and proportionate in relation to BT's market power in each of the relevant fixed telecoms markets.
- 4.162 The aim of this regulation is to provide advance notification of changes to technical characteristics to ensure that competing providers have sufficient time to respond to changes that may affect them. For example, a competing provider may need to introduce new equipment or modify existing equipment or systems to support a new or changed technical interface. Similarly, a competing provider may need to make changes to its network in order to support changes in the points of network access or configuration.
- 4.163 This proposed remedy is important in the fixed telecoms markets to ensure that providers who compete in downstream markets are able to make effective use of existing or, where applicable, new wholesale services provided by Openreach. The technical information required by other providers includes:
- new or amended technical characteristics, including information on network configuration (e.g. information about the function and connectivity of points of access, such as the connectivity of exchanges to customers and other exchanges), locations of the points of network access, and technical standards (including any usage restrictions and other security issues);

- the information provided currently in the Network Information Publication Principles (NIPP) and Access Network Facilities (ANF) agreement; and
 - any other additional information necessary to make use of the services provided in the relevant fixed telecoms markets.
- 4.164 We believe that 90 days is the minimum time that competing providers would need to make modifications to their network to support changes.
- 4.165 The one exception to this is in relation to amendments to technical specifications that are developed and agreed through NICC Standards Limited.¹⁴³ NICC is a technical forum for the UK communications sector that develops interoperability standards for public communications networks and services in the UK. NICC specifications are developed by subject matter experts from Openreach and other telecoms providers and are adopted only with the approval of NICC members.
- 4.166 In view of these arrangements, we do not consider it necessary to propose a 90-day notice period where Openreach proposes to adopt an amended NICC specification, as telecoms providers are likely to already be aware of NICC specifications due to their participation in the forum (and will therefore be satisfied that they have been agreed by industry, and not imposed by Openreach unilaterally).
- 4.167 We do, however, consider that Openreach must provide notification of changes based on the NICC standard within a reasonable period of time, but without imposing a minimum notification period. This is to ensure that published technical information is up to date, as without an obligation to notify changes based on NICC standards, service descriptions for various wholesale services could be out of date or incomplete. Our proposed SMP condition reflects this position.

Our proposed approach

- 4.168 We consider that the proposed requirement to notify technical information is proportionate in that it only requires information that other telecoms providers would need to know and that the proposed notification periods are the minimum required to allow changes to be reflected in downstream offers.
- 4.169 To give effect to these proposals we propose to set the draft SMP Condition 9 at Volume 7. As set out above, section 87(6)(b) of the Act authorises the setting of SMP services conditions which require a dominant provider to publish, in such manner as Ofcom may direct, all such information for the purpose of securing transparency in relation to matters connected with network access.

Requirement for quality of service

- 4.170 We propose to retain the SMP condition on Openreach that allows us to set directions specifying quality of service (QoS) standards and reporting requirements in relation to Openreach's QoS performance for services in all relevant fixed telecoms markets. Our detailed proposals and reasoning on QoS requirements are set out in Volume 5.

¹⁴³ NICC. [Developing interoperability standards for the UK](#). Accessed on 15 October 2024.

Regulatory financial reporting

- 4.171 We propose to retain accounting separation and cost accounting obligations on Openreach in each of the relevant fixed telecoms markets. We implement these obligations by way of a single SMP condition and associated directions (see Volume 6) which specify what information we require BT to prepare and provide for each market.
- 4.172 Further details of the accounting separation and cost accounting obligations, and our detailed regulatory financial reporting requirements, are set out in Volume 6.

Consultation question(s)

Question 3.4: Do you agree with our proposed general remedies? Please set out your reasons and supporting evidence for your response.

5. Specific remedies: Physical infrastructure market

Introduction

- 5.1 In this section, we set out our proposals to impose on Openreach a requirement to provide specific network access in the form of physical infrastructure access (“PIA”) in order to address the competition concerns that we have provisionally identified in our market assessment (set out in Volume 2, Section 3) and in line with our approach to remedies set out in Section 1.
- 5.2 We consider PIA to be our primary remedy for promoting network competition and investment in WLA and LLA networks. Mandating access to Openreach’s physical infrastructure has been transformational in enabling investment and deployment of fibre networks across the UK, as it reduces the cost and increases the speed of network rollout by competitors. An effective PIA remedy is critical as it secures the access to Openreach’s physical infrastructure for existing altnet deployment, future expansion and connecting customers to networks.
- 5.3 This requirement would apply in addition to the general network access obligation we are proposing to impose in the physical infrastructure market as set out in Section 4. We also set out our proposals to require Openreach to provide PIA ancillary services and publish a PIA reference offer.
- 5.4 Our proposed regulation should ensure that other network providers have access to PIA services on terms that provide a level playing field with Openreach’s own use. Our proposed no undue discrimination (“NUD”) requirement in the physical infrastructure market is set out in Section 4.

Table 5.1: Summary of specific remedies in the physical infrastructure market

Specific remedies: PIA
Specific access obligation to provide Physical Infrastructure Access (PIA), including network adjustments
Specific requirement to provide PIA ancillary services
Specific requirements for the publication of a Reference Offer (RO)

- 5.5 Our proposed approach to setting cost-based PIA rental charges that telecoms providers other than Openreach will pay is set out in Volume 4, Section 4.
- 5.6 Our proposed approach to Quality of Service standards in the physical infrastructure market is set out in Volume 5.

Specific access obligation to provide PIA

Summary of proposals

- 5.7 We propose to retain a specific network access remedy in the form of PIA in the physical infrastructure market. This allows other telecoms providers access to deploy and maintain their own networks in BT's underground ducts and chambers and/or overhead on its telegraph poles. We propose that the PIA remedy should have no usage or geographic scope restrictions.

Rationale

- 5.8 For the reasons set out below, we consider that our proposals are appropriate and proportionate in relation to BT's market power in the physical infrastructure market.

A specific network access remedy is necessary to address BT's SMP in the physical infrastructure market

- 5.9 Given our provisional conclusion that BT has SMP in the physical infrastructure market, we consider that absent regulation Openreach would have the incentive and ability to favour BT's downstream businesses over competing telecoms providers in the relevant downstream markets, distorting competition in these markets, which is ultimately against the interests of consumers. Openreach could refuse access to its physical infrastructure, or it could provide access to its physical infrastructure on less favourable terms and conditions compared to those obtained by its own downstream businesses.
- 5.10 Although the general network access remedy we propose in Section 4 is aimed at addressing these competition concerns, it does not provide telecoms providers with as much certainty as to the basis on which they have access. As explained in Volume 2 Section 3 and discussed above, our provisional view is that BT's SMP in the physical infrastructure market is entrenched and enduring, leading to a significant competitive imbalance between BT and alternative telecoms providers.
- 5.11 As illustrated by the charts below, PIA has played an important role in promoting the deployment of competing networks by reducing the cost and increasing the speed of deployment. It is important that there is an effective remedy in place to sustain this network competition and support it in becoming established, as well as facilitating further competitive network deployment.

Figure 5.1: Network deployment using Openreach duct over the WFTMR period¹⁴⁴

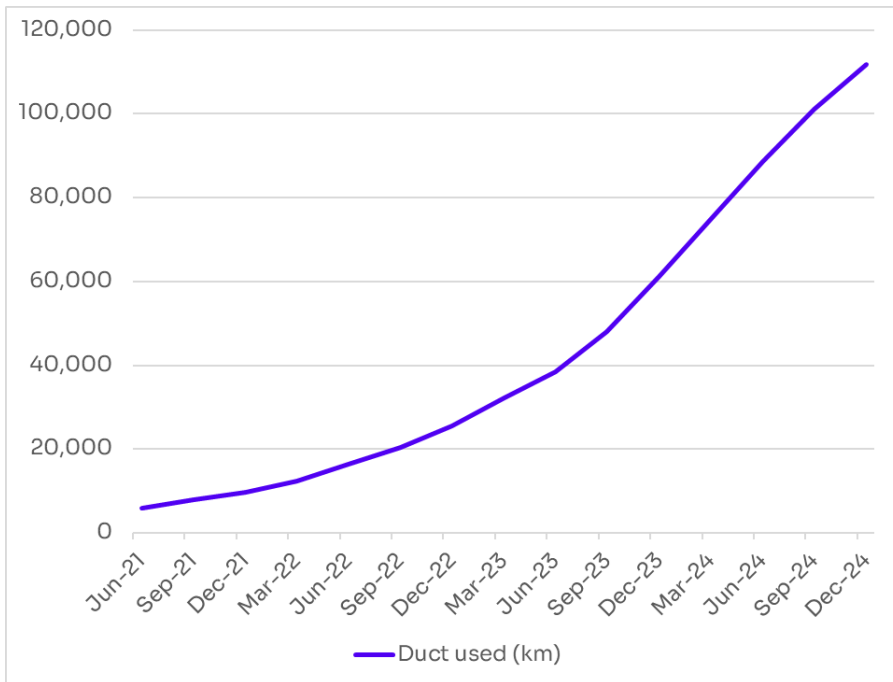
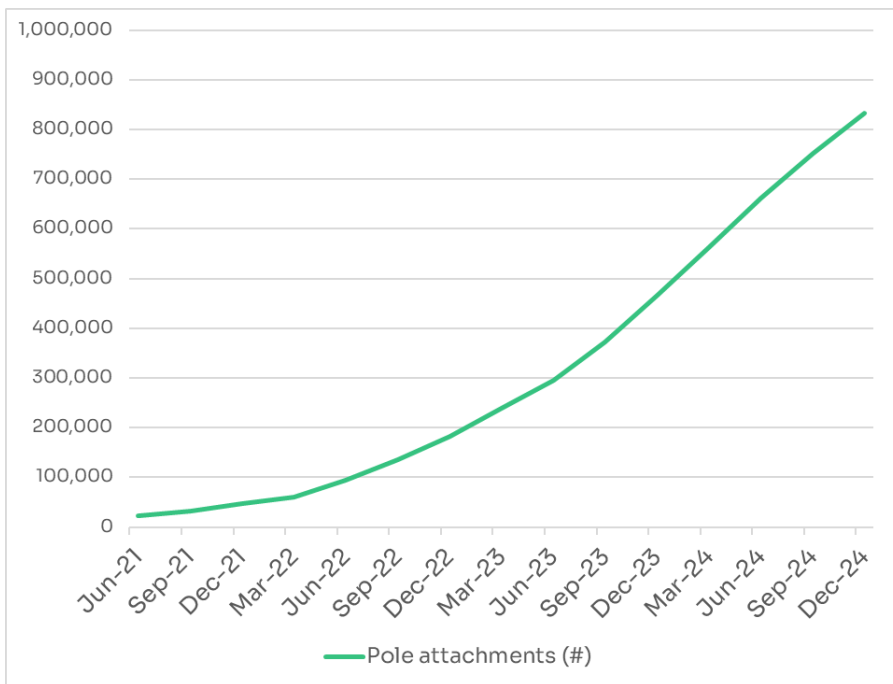


Figure 5.2: Network deployment using Openreach poles over the WFTMR period¹⁴⁵



¹⁴⁴ Source: Openreach. This data does not include planned usage of PIA or network deployments which have not been finalised. Where multiple PIA users make use of the same duct or attach cables to the same pole, this is counted multiple times in these figures. For example, if two providers each use the same kilometre of duct, this shows as two kilometres in the data; if two providers each attach two attachments to the same pole, this counts as four attachments. The total kilometres of unique duct and the number of unique poles that are used by PIA users will be lower. Note that providers might use the same duct or the same pole to serve different end users and/or compete for the same end user.

¹⁴⁵ Source: Openreach. See footnote 144 for further clarifications concerning the data presented.

- 5.12 On that basis, we consider that it is appropriate and proportionate to go beyond the general network access obligation to address the above concerns and require Openreach to continue to provide a specific form of network access.
- 5.13 When considering the form of our network access obligation, our starting point is to consider imposing a network access obligation without any restrictions on usage or geographic scope. In most instances where we impose network access obligations, such restrictions are unnecessary as the obligations are typically not expected to result in effects on products in other markets. In addition, restrictions present a risk of regulatory failure as they may limit a telecoms provider’s flexibility to use the remedy in ways not foreseen by the regulator but nevertheless consistent with the intended purpose, which may reduce its effectiveness. Therefore, in most cases, imposing an unrestricted network access obligation is both appropriate and proportionate.
- 5.14 However, to a greater extent than other forms of network access, a PIA obligation can be used as an upstream input into several downstream products; a PIA remedy without usage or geographic scope restrictions can be used in the deployment of any service in any location and some of these uses and locations will impact on downstream markets. In particular, there might be a risk that a PIA remedy may impact competition in downstream markets that are already competitive, stifle dynamic and allocative efficiency, increase the cost of competition and Openreach’s costs and resource requirements, and cause some unintended effects related to network adjustments.
- 5.15 We considered these factors in WFTMR21 and did not impose usage or geographic restrictions because we were concerned it would undermine the effectiveness of the remedy and we did not identify any adverse effects on downstream markets which would be disproportionate to our overall aim.
- 5.16 We remain of the view that usage and geographic restrictions would undermine the effectiveness of the PIA remedy.
- 5.17 Usage restrictions would involve limiting the technological flexibility and/or limiting the scope of the PIA remedy. This is likely to materially increase the risk that a telecoms provider takes the view that it is not viable to invest in using PIA. Restrictions on geographic scope may put limitations on network architecture and design that may impede efficiency, innovation and investment.¹⁴⁶
- 5.18 Further, we note that significant network deployment has occurred since the first introduction of the current PIA remedy in 2019. The 142 active PIA users¹⁴⁷ are made up of multi-service networks, leased line only providers and residential broadband providers. This diversity is in part due to PIA being available without usage or geographic restrictions. Any changes to the usage or geographic scope of the use of PIA would entail significant impacts on competition given the extensive network build using PIA which has already occurred.
- 5.19 We have also considered the potential adverse effects of our proposed remedy and remain of the view that any adverse effects are not disproportionate to our overall aim.
- 5.20 We previously highlighted the following potential adverse effects:

¹⁴⁶ Further explanation and reasoning on why usage and geographic restrictions would limit the effectiveness of PIA can be found in Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26](#), Volume 3, Paragraphs 4.15 to 4.22.

¹⁴⁷ Ofcom analysis of Openreach data.

- Impact on dynamic efficiency: We consider the potential for the PIA remedy to adversely affect the investment incentives of BT and other telecoms operators.
- Impact on Openreach’s pricing structures: We consider the potential for the PIA remedy to flatten the bandwidth price gradient which could lead to inefficient common cost recovery.
- Cost of competition: We recognise that competition could lead to some duplication of costs which could put upward pressure on industry average costs.
- Impact on competitive markets: We consider the effect of a PIA remedy on some markets which we already deem competitive.
- Externalities caused by our approach to network adjustment costs: We consider whether our approach to the recovery of network adjustment costs might give rise to adverse effects.

5.21 Since introducing the specific PIA remedy in 2019, we have not seen any evidence of any such adverse effects.

Network adjustments

Summary of proposals

5.22 We propose that the PIA obligation should continue to include a requirement on Openreach to make adjustments to its physical infrastructure network (network adjustments) in certain specific circumstances.

Rationale

Openreach should be required to make adjustments to its infrastructure where it is unusable

5.23 Telecoms providers using PIA to deploy a competing network will encounter sections of infrastructure that they cannot use, either because the existing infrastructure is faulty or because there is insufficient capacity in that section. For the reasons set out below, our view is that the PIA remedy will be ineffective unless Openreach is required to adjust the physical infrastructure network to make it available for use in certain circumstances.

5.24 Our reason for proposing to require Openreach to provide network access in the form of PIA is to promote competition by facilitating third-party investment in competing networks. We consider that the efficiencies arising out of deploying a network using PIA, instead of building a new physical infrastructure network, will facilitate investment which would not otherwise be viable. In particular, competing telecoms providers avoid the costs and time associated with duplicating the physical infrastructure network, and instead only pay a share of the costs of the existing physical infrastructure. Our objective in imposing PIA is to unlock these efficiencies to the greatest extent possible to help facilitate such investment.

5.25 When a telecoms provider encounters an unusable section of BT’s physical infrastructure it will be necessary to overcome this. One approach would be for telecoms providers to install their own ducts or poles alongside BT’s to circumvent the unusable section in BT’s infrastructure. Another approach would be for Openreach to adjust the existing physical infrastructure to remedy the unusable section, for example, by repairing the faulty infrastructure or installing additional capacity where the existing capacity is full.

- 5.26 Given the range of options available to Openreach to overcome unusable sections of infrastructure, it will sometimes be more efficient (i.e. quicker, easier and/or cheaper) for Openreach to adjust the existing physical infrastructure than for a telecoms provider to install their own infrastructure alongside BT's. For example, it may cost less for Openreach to repair faulty infrastructure than for a telecoms provider to build new, parallel infrastructure.
- 5.27 Without a requirement on Openreach to adjust the existing physical infrastructure in these cases, telecoms providers deploying competing networks would need to incur additional cost and/or delay building their own infrastructure to overcome unusable sections of BT's physical infrastructure. The deployment of competing networks will therefore entail unnecessary duplication of the physical infrastructure network, and the benefits from sharing BT's existing physical infrastructure will not be fully realised. Ultimately, this will reduce the scope for competitive network investment and in general the remedy will be less effective.
- 5.28 Moreover, requiring telecoms providers to install their own infrastructure to bypass the unusable sections would not ensure a level playing field with Openreach in those cases where it can overcome unusable sections of infrastructure at lower cost in any competing network deployment of its own (for example, an FTTP deployment). Knowing that Openreach has this competitive advantage could undermine incentives to invest in competing networks in the first place, rendering the PIA remedy ineffective as a basis for scale rollout of competing networks.
- 5.29 Therefore, we propose that the PIA access obligation should extend to requiring Openreach to make adjustments to its network where this is necessary for its physical infrastructure to be available to telecoms providers for the purpose of deploying their own networks. This will promote network competition by realising greater efficiency benefits from sharing BT's existing physical infrastructure and ensuring a level playing field with Openreach. Without such a requirement, the benefits resulting from other telecoms providers deploying gigabit-capable networks at scale are unlikely to be realised in full.
- 5.30 For the avoidance of doubt, we are clarifying that the proposed requirement to make network adjustments would apply irrespective of whether a telecoms provider is using the infrastructure for the first time (e.g. installing its first sub-duct), or a subsequent time (e.g. installing a second sub-duct to increase capacity in its network). For example, a telecoms provider attempting to install a second sub-duct may find that the duct has collapsed since installing the first sub-duct. The obligation to make the physical infrastructure usable would still apply in these circumstances.¹⁴⁸

The requirement to make network adjustments is limited

- 5.31 We have considered the approach we should take to specifying the extent of the obligation on Openreach to make adjustments to its network. In our view, specifying the precise

¹⁴⁸ To ensure PIA users are able to gain access to Openreach's physical infrastructure effectively during, and subsequent to, the process of fibre deployment, PIA network adjustments, including the funds made available under these regulations, should not be time limited. This is because adjustments to lead-in duct, or adjustments to relieve capacity pinch-points in spine duct which connects to lead-in duct may only be discovered when a customer requests service, and not during the initial build phase. The network adjustment fund is also available to fund subsequent network adjustments for additional spine duct that fall within the allowable cross-sectional space budget of the duct in which it is being installed (and for which incremental spine rental charges are not payable).

extent of this obligation in the SMP Condition would carry a risk of regulatory failure given that what is necessary is likely to depend on the specific circumstances of any case. Given the risk of regulatory failure, we do not believe that it would be appropriate to set prescriptive rules about which types of adjustments should be included in the obligation. We therefore propose to supplement the general and specific network access requirements with the same guidance as we previously issued on where this obligation would apply.

- 5.32 We set out our proposed guidance at Annex 11, in which we identify what criteria should be applied to determine whether a particular network adjustment falls within the scope of the PIA obligation. The three criteria are:
- **Is the requested adjustment necessary?** This criterion considers whether an alternative option exists which would render the requested adjustment unnecessary, provided this alternative allows for a reasonably equivalent outcome for the telecoms provider compared to making an adjustment.
 - **Is the requested adjustment feasible?** This criterion considers whether there are barriers that prevent Openreach from being able to make the required adjustment.
 - **Does the requested adjustment improve efficiency?** This criterion considers whether the requested adjustment promotes efficiency and is therefore consistent with the rationale for requiring Openreach to provide PIA (i.e. to unlock the efficiencies from sharing existing infrastructure).
- 5.33 The application of these criteria and guidance will determine whether a network adjustment request is valid and, therefore, which network adjustment requests Openreach will have to accept and/or how it should recover its costs as set out in Volume 4.
- 5.34 We consider that the package of measures we are proposing, including the three criteria and the guidance we provide in Annex 11 on their application, will ensure that Openreach has sufficient scope to implement any appropriate financial and budgetary controls and authority over any costs incurred (per job and in total).
- 5.35 We note that PIA users are able to undertake network adjustments themselves and, since the adoption of the current PIA remedy in 2019, significant progress has been made by industry to improve the way these ‘self-provide orders’ are undertaken and processed.

Specific requirement to provide PIA ancillary services

Summary of proposals

- 5.36 In support of the network access obligation, we propose to maintain the requirement on Openreach to provide PIA ancillary services as may be reasonably necessary for the use of PIA.

Rationale

- 5.37 We continue to believe that it is appropriate and proportionate to require Openreach to provide PIA ancillary services. A requirement to offer access to ancillary services has the

purpose of assisting in promoting competition in downstream markets. We consider that such ancillary services are necessary to support the provision and use of PIA.¹⁴⁹

- 5.38 We propose that our specific access remedy should require Openreach to provide these ancillary services, including as a minimum: power, accommodation services (including PIA Co-Location and PIA Co-Mingling)¹⁵⁰, site access, Cablelink¹⁵¹ and PIA Database Access,¹⁵² and any other services used to support or enable this specific PIA service.
- 5.39 We are also proposing to regulate Openreach’s charges for PIA ancillaries. This is discussed in detail in Volume 4 Section 4.

Provisional conclusion: network access obligations in relation to PIA

- 5.40 For the reasons set out above, we consider that our proposed PIA requirement (which includes network adjustments and other ancillary services) is proportionate.
- 5.41 In order to implement these measures, we propose to set SMP Conditions 1 and 2 published in Volume 7. As set out in Section 4, Section 87(3) of the Act authorises Ofcom to impose network access requirements and we have taken into account the factors set out in section 87(4).¹⁵³

Specific requirements for the publication of a Reference Offer (RO)

Summary of proposals

- 5.42 We propose to maintain the specific requirements for the publication of a Reference Offer in relation to PIA. As part of our proposed general remedies, we also propose that Openreach is required to publish an “Internal Reference Offer” (IRO) detailing any differences, including in regard to processes and IT systems, between Openreach’s own use of its physical infrastructure for the deployment and operation of full-fibre networks, compared to the equivalent processes and systems for PIA.
- 5.43 As set out in Section 3, requirements for publication of a RO are particularly important in establishing transparency. Our proposals seek to equip both alternative network operators, who deploy fibre networks in order to compete with Openreach, and PIA users with information about the provision of PIA as a basis for supplying downstream services. This

¹⁴⁹ For example, having access to sites where a telecoms provider locates its electronic equipment for the purposes of deploying a network using unrestricted PIA.

¹⁵⁰ These involve the provision of space and the ability to house equipment in a BT exchange or equivalent.

¹⁵¹ Cablelink is a necessary PIA ancillary service because PIA provides a telecoms provider with access to a co-location space within an exchange where they can put their equipment, but if they want to connect between co-location spaces within the same exchange or connect to a third party network just outside the exchange, then Cablelink is necessary.

¹⁵² PIA Database Access involves access to data that supports planning the deployment of a network over Openreach’s physical infrastructure. In support of this obligation, we consider that network records should be provided in a digital format where available.

¹⁵³ Our commentary on the section 87(4) factors set out in Section 3 also applies, where relevant, to the specific network access remedies.

obligation is also important for establishing a legal framework for Openreach's customers to agree appropriate Service Level Commitments and Service Level Guarantees (SLAs and SLGs) in support of the provision and use of PIA.

Rationale

- 5.44 A requirement to publish a Reference Offer (and an Internal Reference Offer, where there is non-equivalence between the processes and systems used for BT and those used for PIA users) has two main purposes:
- to assist transparency for the monitoring of potential anti-competitive behaviour; and
 - to give visibility to the terms and conditions on which telecoms providers will purchase wholesale services.
- 5.45 We believe that these purposes apply to PIA and therefore propose to maintain the requirement for a specific PIA RO in the physical infrastructure market. We consider that this proposed requirement is appropriate and proportionate in relation to BT's market power in the physical infrastructure market.
- 5.46 We propose to retain the requirement that the PIA RO must set out (as a minimum):
- conditions for telecoms providers to gain access to physical infrastructure including if appropriate training, certification and authorisation requirements for personnel to access and work in/on physical infrastructure.
 - conditions for the provision of forecasts by telecoms providers in respect of their future requirements for PIA.¹⁵⁴
 - the location of Physical Infrastructure or the method by which telecoms providers may obtain information about the location of physical infrastructure.
 - procedures for the provision of information to telecoms providers about spare capacity, including arrangements for visual surveys of physical infrastructure to determine spare capacity.
 - conditions for the inspection of the physical infrastructure at which access is available or at which access has been refused on grounds of lack of capacity.
 - conditions for reserving capacity.

¹⁵⁴ We propose requiring the PIA Reference Offer to include conditions for the provision of forecasts by telecoms providers in respect of their future requirements for PIA. We continue to consider that in principle, a requirement for telecoms providers to submit forecasts of their PIA usage will be important in assisting Openreach to plan its resources to respond to requests for adjustments to its network and meet its SLA targets where this PIA usage requires use of Openreach's resources. However, previously we have said that we considered PIA to be a relatively immature product and therefore it was appropriate to contractually link forecasting and compensation arrangements (Wholesale Local Access Market Review: Statement – Volume 3 Paragraph 6.35). We now observe that some telecoms providers' use of PIA has greatly increased and matured, although volumes are still volatile. As these volumes stabilise and become more predictable, we would expect the link between forecasting and compensation arrangements to be removed. The purpose of providing forecasts is to assist Openreach to plan its resources. In the situation where a telecoms provider is not extensively relying on Openreach's engineer resource to make adjustments to infrastructure but is mostly making adjustments themselves (called self-provision), their use of PIA will likely have a minimal impact on Openreach's resource plan. Therefore, we would expect that the required level of forecasting detail should be lower, or potentially not required at all.

- the methodology for calculating availability of spare capacity in physical infrastructure.
- arrangements for relieving congested physical infrastructure, including the repair of existing faulty infrastructure and the construction of new physical infrastructure.
- the information that a telecoms provider is required to provide to BT where that telecoms provider is requesting the repair of existing faulty infrastructure and/or the construction of new physical infrastructure necessary for SLAs and SLGs.
- conditions on which telecoms providers may elect to undertake repair or build works on behalf of BT.
- conditions for the installation and recovery of cables and associated equipment.
- technical specifications for PIA, including:
 - technical specifications for permitted cables and associated equipment;
 - cable installation, attachment and recovery methods;
 - technical specifications relevant to the repair of existing faulty physical infrastructure; and,
 - technical specifications relevant to undertaking build works.
- the arrangements for maintenance of cables and associated equipment installed by telecoms providers and of the physical infrastructure, including the provision for the temporary occupation of additional infrastructure capacity for the installation of replacement cables.
- Service Level Commitments and Service Level Guarantees in relation to the timescales for BT to respond to a request by a telecoms provider for PIA including where relevant to relieve congested physical infrastructure other than a congested pole, where such a response confirms that the order has been accepted and includes how BT proposes to relieve that congestion.
- Service Level Commitments and Service Level Guarantees in relation to the timescales for completion by BT of any works necessary to relieve congested physical infrastructure (including the repair of existing faulty infrastructure and the construction of new physical infrastructure) other than a congested pole.
- Service Level Commitments and Service Level Guarantees in relation to the timescales for BT to respond to a request by a telecoms provider to undertake works itself to relieve congested physical infrastructure.
- Service Level Commitments and Service Level Guarantees in relation to the timescales for BT to respond to a request by a telecoms provider to relieve a congested pole where such a response confirms that the order has been accepted and how BT proposes to relieve that congestion.
- Service Level Commitments and Service Level Guarantees in relation to the timescales for completion by BT of any works necessary to relieve a congested pole.

5.47 We consider that these requirements comprise the minimum information necessary to achieve the purposes set out above in relation to PIA.

5.48 Our reasons for proposing to impose each of the above requirements in the physical infrastructure market are to assist in areas that we understand are critical to, and valued by, telecoms providers who want to use PIA, as well as being required to ensure the PIA

Reference Offer is effective – namely, issues regarding planning and surveying, maintenance and repair, connecting end customers and network deployment.

- 5.49 For the reasons set out above, we consider that our proposed requirement for the publication of a Reference Offer in relation to PIA is proportionate. To give effect to the above proposals, we propose to set SMP condition 7 in Volume 7, Legal Instruments. As set out in Section 4, sections 87(6)(c) to (e) authorise the setting of SMP services conditions in relation to the Reference Offer.

PIA Implementation and compliance

Our approach to PIA implementation

- 5.50 As set out in Section 4, we continue to monitor compliance with all aspects of our existing requirements in the physical infrastructure market as part of our ongoing PIA monitoring and compliance function. Ensuring that PIA works effectively for alternative network operators remains a priority. We closely monitor monthly industry working groups, working closely with the Office of the Telecommunications Adjudicator (“OTA2”) with regards to compliance, including compliance with our current NUD requirements.
- 5.51 At these working groups, PIA users have raised and discussed seven to ten SoRs per year since the current PIA remedy was adopted in 2019, with active participation in product development trials across the same period. Since the WFTMR in 2021, Ofcom has also chaired seven roundtable meetings of CEOs in the PIA community and Openreach, every six months. The Openreach Monitoring Unit (“OMU”) also plays a crucial role in monitoring and enforcing the NUD requirements, including publishing the annual Openreach Monitoring Report.
- 5.52 We propose to continue this PIA monitoring and compliance work in the 2026-31 review period. We will continue to work with the OTA2 and PIA users in order to evaluate their experience of PIA. We will make use of our information gathering powers where appropriate in order to evaluate PIA process, products or systems that may not be equivalent (with no justification for any difference). Further, we will take forward investigations appropriately, following complaints from other telecoms providers.

Stakeholder submissions

- 5.53 Stakeholders have made a number of submissions relating to PIA implementation. We have considered all the points made by stakeholders and set out some commentary on five specific areas below, namely:
- PIA developments and our NUD requirement
 - Contract lengths for use of Openreach’s physical infrastructure
 - SoR timelines
 - Network build to new housing developments
 - Market consolidation and PIA
- 5.54 This is intended to provide some clarity as to how our PIA implementation team is considering these stakeholder submissions (in particular the points highlighted above). We

note that many points in the submissions made by stakeholders to us relate to PIA pricing. These have been considered and are dealt with in Volume 4.

PIA developments and NUD

- 5.55 As set out in Section 4, we expect Openreach, in line with the current NUD requirement (which we propose to maintain for the 2026-31 period), to ensure that any developments to systems, services or processes that impact the use of physical infrastructure must not put PIA users at a disadvantage, particularly in terms of extra cost, time or uncertainty, compared to the processes Openreach follows internally.
- 5.56 In order to ensure that changes to systems, services or processes that impact the use of physical infrastructure do not lead to a material, competitive disadvantage for PIA users, Openreach should consider how any new or upgraded services, systems or processes impacts the level playing field. Similarly, when Openreach is considering a request from third parties for changes to systems, services or processes, it must consider how its response impacts the level playing field.
- 5.57 As set out in Section 4, the current requirement for an Internal Reference Offer (“IRO”) (which we are proposing to maintain for the 2026-31 period), provides transparency about the differences between Openreach’s use of physical infrastructure in comparison to third parties’ use via PIA. The proposed IRO requirement does not require Openreach to set out a justification of those differences or explain the decision-making process that resulted in any differences. However, we expect Openreach, on request, to be able to demonstrate how it has considered these impacts and demonstrate that it is not putting PIA users at a material competitive disadvantage as a result of any physical infrastructure developments. Openreach should be able to set out why any developments that introduce or maintain non-equivalent systems, services or processes are necessary, justified and comply with the existing (and proposed) NUD requirement.
- 5.58 Should we have any concerns that a lack of transparency from Openreach to industry is leading to a potential negative impact on the level playing field (in the form of a material competitive disadvantage) we may consider issuing a direction (under the current SMP Condition 4.3) to require Openreach to make such reports demonstrating NUD compliance as we instruct. We note that we propose to maintain this direction-making power for the 2026-31 period.

Contract lengths

- 5.59 In the last review, we set our expectations that Openreach would establish contract lengths appropriate for the network access obligations. However, nothing in our current or proposed regulation prevents Openreach from offering different contract lengths i.e. longer than five years for PIA. We note that Openreach’s offered contract lengths (along with all aspects of providing specific access to its physical infrastructure) must comply with the current NUD requirements (and proposed equivalent requirements set out in Section 4). We also note that Openreach is required (both currently and under our proposals) to offer PIA on fair and reasonable terms.
- 5.60 We understand that Openreach is considering offering a minimum contract length of longer than five years. We consider that this would be beneficial in cases where potential end-users of altnets place weight on the minimum contract length as an indicator of long-term security of supply. We note that we would not expect Openreach to set different PIA rental charges where this is offered.

SoR timelines

- 5.61 As set out in Section 4, Openreach is currently required to publish and operate a process for requests for new forms of network access known as the SoR process and we are proposing to maintain this requirement for the 2026-31 period. The aim of the SoR process is to enable telecoms providers to request new forms of network access as technology and business strategies develop over time.¹⁵⁵ We expect all parties to act in good faith to ensure that the process of product development is reasonably timely, and Openreach to provide all reasonably necessary additions and changes to the product to ensure that it works for both Openreach and its customers.
- 5.62 However, we are aware that in some instances PIA users are dissatisfied with Openreach's implementation of SoRs. Stakeholders suggest that the SoR process may still lead to a risk of delays (in the consideration of requests) and a risk of insufficient transparency as to these delays. There is evidence of some SoRs taking a long time, including where this involves new engineering techniques for the use of Openreach's physical infrastructure. While we recognise engineering standards may develop over time, the SoR process should enable parties to discuss and develop new engineering principles in a timely way, to avoid unnecessary delays to product development. Developments are also required to be shared transparently with all PIA users in a timely manner. We will continue to monitor closely Openreach's compliance with the SoR requirement.

Network build to new housing developments

- 5.63 New housing developments pose an opportunity for competing fibre network providers to supply fibre connections to these new homes. Given the importance of new housing developments to the UK Government, and the potential for an increase in the rate of new housing being built, it is important that the PIA remedy works well in this context.
- 5.64 Our current and proposed requirements relate to the provision of access to Openreach's existing physical infrastructure. This means that, unless and until Openreach chooses to build new physical infrastructure to/at the new development, other network operators would not be able to use the PIA product to supply downstream services to these new housing developments.
- 5.65 PIA users can only make use of new infrastructure at a new housing development once it is 'live' on the Openreach PIA system which doesn't happen immediately once the new infrastructure build has completed. Stakeholders have raised concerns about the timelines involved in making use of new infrastructure.
- 5.66 We will continue to monitor this area with a particular regard to whether access to new infrastructure via PIA is being granted in line with the existing NUD requirement. Telecoms providers should be able to access the new infrastructure (and information about the new infrastructure) on the same timelines as Openreach or BT downstream divisions. If there is a delay to the new infrastructure going 'live' on the PIA system versus when Openreach or BT downstream is able to see and/or access the new infrastructure, this may constitute undue discrimination.

Market consolidation and PIA

¹⁵⁵ The SoR process managed by Openreach has a wider purpose associated with network access and service maintenance, unrelated to requests for new forms of network access under SMP Condition 3.

- 5.67 As we have set out in Volume 2, it is likely that further industry consolidation takes place through mergers and acquisitions of FTTP networks over this review period (2026-31). PIA processes and contractual requirements will be part of this process. We consider it important that PIA processes and contractual requirements work smoothly and efficiently in these circumstances and do not act as a barrier to consolidation by unduly adding complexity or delay to the process.

Consultation question(s)

Question 3.5: Do you agree with our proposed specific remedies in the PIA market?
Please set out your reasons and supporting evidence for your response.

6. Specific remedies: Wholesale local access market

Introduction

- 6.1 In this section we set out our proposals to retain specific remedies in the WLA market in Area 2 and Area 3. These proposals are designed to address the competition concerns identified in our provisional SMP market assessment (Volume 2) and in line with our approach to remedies (Section 1).
- 6.2 The proposed specific access remedies would require Openreach to provide network access to services in relevant WLA markets, and any necessary ancillary services. These remedies are broadly in line with those imposed in the 2021 WFTMR.

Summary of proposals

- 6.3 This section sets out our proposals on MPF, VULA and SLU in the WLA markets. Our proposals in relation to charge controls on these services are set out in Volume 4, Section 1.

Table 6.1: Summary of specific access remedies

Market	Specific access remedies
WLA	<p>Metallic Path Facility (MPF):</p> <p>Retain the obligation on Openreach to provide network access in the form of MPF, including relevant ancillary services.</p>
	<p>Virtual Unbundled Local Access (VULA):</p> <p>Retain an obligation on Openreach to provide network access in the form of VULA, including relevant ancillary services. We also propose an obligation on Openreach to supply a VULA [80/20] service.</p> <p>Retain a limit of one month on minimum contract periods for all VULA services, including FTTC, G.fast and FTTP.</p>
	<p>Sub-loop Unbundling (SLU):</p> <p>Retain an obligation on Openreach to provide network access in the form of SLU.</p>
	<p>Charge controls:</p> <p>Relevant proposals on charge controls for these products are discussed in Volume 4.</p>

- 6.4 To support these proposed network access remedies, we propose that Openreach should include certain specific information in its Reference Offer on some of these specific access remedies.

- 6.5 We describe below the forms of remedy which we are proposing to impose. We also set out how we intend to apply the specific remedies in view of our approach to supporting copper retirement and a proposed minimum contract period for VULA services.

Requirement to provide Local Loop Unbundling (LLU) in the form of MPF

Background

- 6.6 LLU is a process by which Openreach offers access to its copper-based local access network to other telecoms providers. LLU enables other telecoms providers to deploy their own equipment in order to provide retail services (voice and/or standard broadband).
- 6.7 With LLU a telecoms provider can either use the entire local access connection, known as Metallic Path Facility (MPF), or they can share the local access connection, known as Shared Metallic Path Facility (SMPF).
- 6.8 Since its introduction in 2000, MPF has been imposed as a remedy in successive market reviews. However, in the 2018 WLA Statement we deregulated SMPF because we found that the vast majority of non-Openreach lines are provided using MPF and so the role of SMPF in supporting LLU based entry was no-longer important to downstream competition.¹⁵⁶

Our proposals

- 6.9 We propose to retain the obligation on Openreach to provide network access in the form of MPF, including relevant ancillary services. We also propose that MPF is subject to the following charge controls, as set out in Volume 4:
- a) Area 2 – charge control with prices indexed in line with inflation (CPI-0%); and
 - b) Area 3 – charge control with prices indexed in line with inflation (CPI-0%).

Rationale

- 6.10 For the reasons set out below, we consider that our proposals are appropriate and proportionate in relation to BT's market power in the WLA markets.

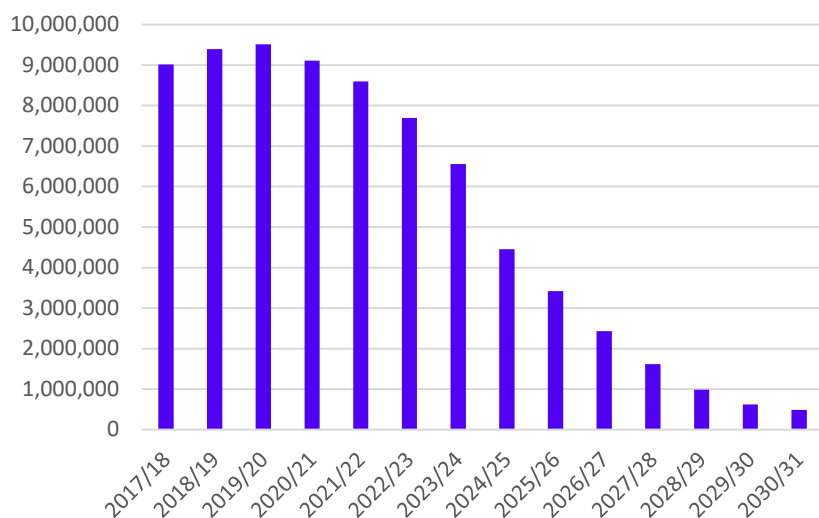
Network access to MPF

- 6.11 MPF has played an important role in promoting and sustaining competition in the provision of retail voice and broadband services, with MPF actual volumes for 2023/24 at 6.6m.¹⁵⁷
- 6.12 We have set out the MPF rentals purchased by non-BT telecoms providers and the historical movements in the volume of LLU services in Figure 6.1 and Figure 6.2 below.

¹⁵⁶ Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26](#).

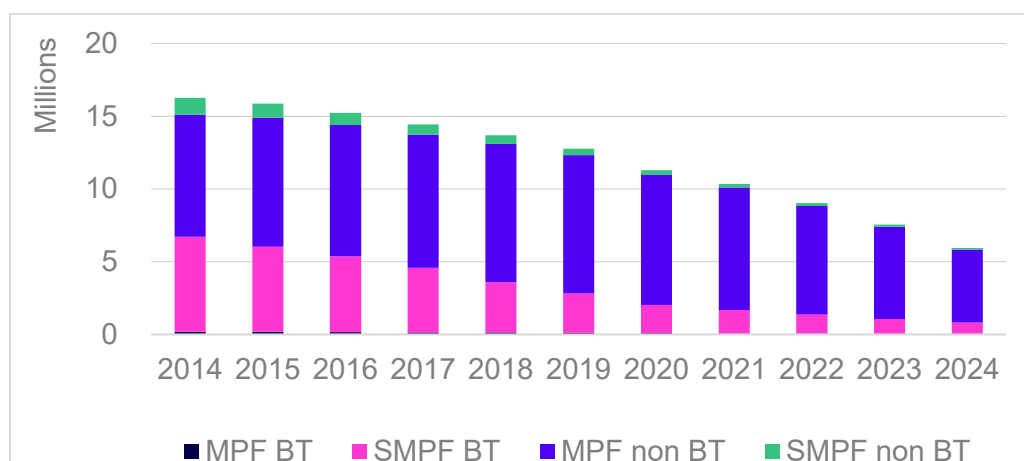
¹⁵⁷ Published year-average 2023/24 MPF volumes can be found on pages 35 and 43 of BT's [Regulatory Financial Statements 2024](#).

Figure 6.1: MPF rentals purchased by non-BT telecoms providers



Source: 2017/18 to 2023/24 are actuals from BT’s published Regulatory Financial Statements; 2024/25 to 2030/31 are Ofcom forecasts from the 2025 WLA Volumes Module.

Figure 6.2: Historical movements of LLU services



Source: Openreach reports to Ofcom. 299 Ofcom Supplement. December 2014 to December 2024. The data shown is year-end.

6.13 We expect the ongoing rollout of FTTP infrastructure to continue to incentivise migration away from copper-based services to FTTP services. However, where there is no FTTP, third-party telecoms providers are likely to continue to rely on MPF for the provision of standard broadband services or as a support to superfast broadband using FTTC services.

6.14 This is captured in our volume forecast – we expect external MPF lines to decrease to around 0.5m by 2030/31 (including those cases where MPF is used in conjunction with FTTC services).¹⁵⁸

6.15 In the absence of regulation, Openreach would have the ability and incentive to put BT’s competitors at a disadvantage by not offering MPF services, or by doing so only on unfavourable or discriminatory terms and/or quality of service. This would result in

¹⁵⁸ Ofcom 2025 WLA Volumes Module.

consumer harm in the form of service degradation, restricted choice of provider and/or higher prices.

- 6.16 This risk is heightened since BT itself does not make significant use of MPF to support its retail customer base. Instead, BT’s broadband services are predominantly based on its SMPF or FTTC services, supported by a copper line in the form of wholesale line rental (WLR).
- 6.17 Although the general network access remedy we impose in Section 4 is aimed at addressing these competition concerns, it does not provide telecoms providers with appropriate certainty to the basis on which they have access. Although volumes are falling, significant numbers of consumers will continue to be reliant on MPF during the next market review period. We therefore consider it appropriate and proportionate to go beyond the general network access obligation to address the above concerns and ensure telecoms providers and consumers are sufficiently protected.
- 6.18 Therefore, we propose to retain the specific access obligation on Openreach in relation to MPF. We are satisfied that the form of specific access obligation on MPF we are proposing to impose is the minimum necessary.
- 6.19 In addition to this specific access service, a number of ancillary services are necessary to enable and support the provision of MPF, including as a minimum space and power, site access, tie cables, and any other supporting services used for installation, maintenance, modification, and ceasing of this specific access service. We therefore propose that our access remedies should require Openreach to provide these ancillary services.

Disapplication of the network access obligation in relation to supporting copper retirement

- 6.20 In Section 2 we outline our proposed approach to supporting the copper retirement process, i.e. the framework to manage the regulatory transition from copper-based services to FTTP services in the WLA market. We propose to maintain the approach we set out in the 2021 WFTMR to the phased removal of regulation of copper-based services.
- 6.21 To implement our approach to supporting copper retirement, we propose to retain the current limits on the general network access obligation as it applies to Openreach’s copper network. In effect, this disapplies the specific requirement to meet new requests for MPF network access in exchange areas where ultrafast broadband is available to 75% of premises, for the premises where FTTP is available. This means that, if this requirement is met, and subject to its contractual obligations with the telecoms provider, Openreach would be able to refuse the provision of a new MPF service at those premises where FTTP is available (this allows the “stop sell” of copper services – see Section 2).

Reference Offer

- 6.22 For the purposes of transparency, we propose to retain the existing specific Reference Offer requirements for MPF services. These would require Openreach to include in the Reference Offer details of accommodation arrangements¹⁵⁹ (e.g. the provision of space and power) and Service Level Agreements (SLAs) and Service Level Guarantees (SLGs), among other things.

¹⁵⁹ For the purposes of this Consultation, accommodation services include co-location and co-mingling.

- 6.23 We propose to retain the existing specific requirement for Openreach to make an SLG payment for each day that it contractually fails to provide or repair an MPF service. These payments should continue until the situation is resolved, i.e. without a limit on the duration of the delay. These measures will address our concern that Openreach has the ability and incentive to focus on new MPF installation or repair requests at the expense of those cases that are already late. We consider that those customers that continue to use MPF are likely to experience significant detriment associated with delayed repairs and installations due to the importance of fixed voice and broadband services.

Charge controls

- 6.24 In Volume 4 we set out our proposed approach to pricing of wholesale services in the WLA markets. We also set out in detail our proposal relating to the design of each charge control and our justification for it, including for MPF.

Disapplication of the charge controls in relation to supporting copper retirement

- 6.25 In view of our proposed approach to supporting copper retirement and in line with the approach set out in the 2021 WFTMR, we propose to retain the disapplication of the charge control obligations in relation to MPF.
- 6.26 In particular, the disapplication will come into effect for those premises where FTTP is available, in exchange areas where Openreach makes ultrafast services available at 100% of the premises in the exchange area (excluding any premises that Ofcom directs), and after a minimum of two years have passed since ultrafast broadband was deployed to 75% of premises. In addition, we also propose that in these cases, the general requirement for fair and reasonable prices does not apply. This means that, if the proposed requirements are met, and subject to its contractual obligations with the telecoms provider, Openreach would be able to increase the wholesale charges for its MPF services at premises where FTTP is available.
- 6.27 In addition, in these cases we also propose to continue to disapply the general requirement for fair and reasonable prices to any copper based VULA services. However, we would expect any wholesale price increases on copper services to take into account the implications for vulnerable consumers who may have not yet migrated to full-fibre products. For more information about how we expect Openreach to protect vulnerable consumers in the context of copper retirement, see Section 2.
- 6.28 For the reasons set out in Section 2, we consider that these measures are appropriate and proportionate.

Our proposed approach

- 6.29 In order to implement these proposals, we propose to include the requirements outlined above in draft SMP Conditions 1, 2 and 7 published at Volume 7. As set out in Section 3, Section 87(3) of the Act authorises Ofcom to impose network access requirements; and we have taken into account the factors set out in section 87(4);¹⁶⁰ and Sections 87(6)(c) to (e) authorise the setting of SMP services conditions in relation to the Reference Offer.

¹⁶⁰ Our commentary on the section 87(4) factors set out in Section 4 also applies, where relevant, to the specific network access remedies.

Requirements to provide VULA

Background

- 6.30 Virtual Unbundled Local Access (VULA) is a virtual connection over a shared high-speed access network. Such a high-speed network could be a hybrid fibre/copper network (e.g. FTTC or G.fast) or a full-fibre network (FTTP). Openreach currently offers a number of services to fulfil its requirement to provide VULA. These include:
- a) **FTTC:** Generic Ethernet access over Fibre-to-the-Cabinet uses a fibre connection between the service exchange and the cabinet, and a copper connection between the cabinet and the premises to provide a superfast broadband connection. To deliver the service, it is necessary to purchase both the FTTC access product and the copper bearer (typically, MPF or WLR).
 - b) **SOGEA:** Single Order Generic Ethernet Access over FTTC is a standalone product variant that allows customers to buy a superfast broadband line without the need to buy the copper bearer separately.
 - c) **G.fast:** Generic Ethernet Access over Fibre-to-the-Distribution-point uses a fibre connection between the serving exchange and the distribution point, with a copper connection between the distribution point and the premises.¹⁶¹ It provides higher broadband speeds than FTTC. Over short copper connections, G.fast is capable of delivering ultrafast speeds. As with FTTC, it is necessary to purchase both the G.fast access product and the copper bearer.
 - d) **SOG.fast:** Single Order G.fast is a standalone product variant that allows customers to buy a G.fast line without the need to buy the copper bearer separately.
 - e) **FTTP:** Generic Ethernet Access over Fibre-to-the-Premises uses fibre connections all the way to the customer premises to deliver a gigabit-capable broadband connection.

Our proposals

- 6.31 We propose to retain an obligation on Openreach to provide network access in the form of VULA, including relevant ancillary services. We also propose to discontinue the obligation on Openreach to supply a VULA 40/10 service and to replace it with an obligation on Openreach to supply a VULA 80/20 service instead, as we propose to classify this service as the 'anchor' product (see Volume 4 for more details on this proposal).
- 6.32 We propose to retain the requirement for some VULA services to be subject to charge controls, see Volume 4 for more details.

Rationale

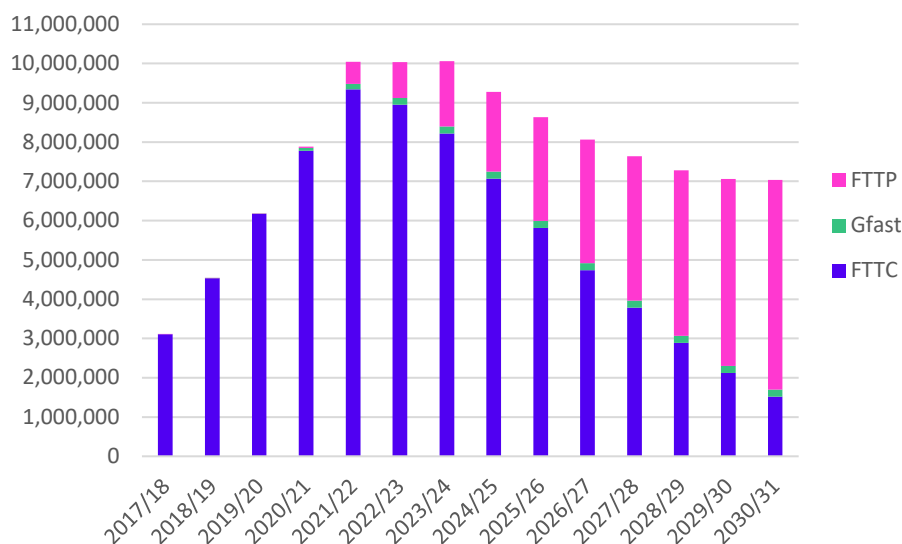
- 6.33 For the reasons set out below, we consider that our proposals are appropriate and proportionate in relation to BT's market power in the WLA markets.

Network access to VULA

¹⁶¹ Distribution point normally refers to a pole, underground chamber or street cabinet placed close to the customers premises. G.fast may also be placed in the same more centralised street cabinet used for FTTC.

6.34 As we continue to see an increase in full-fibre coverage and the retirement of Openreach’s copper network, FTTP services, and therefore VULA, will continue to be important for telecoms providers. Access to VULA is key to sustaining downstream competition in the provision of broadband. VULA volumes purchased by non-BT telecoms providers in 2023/24 were 10.1 million.¹⁶² We expect that VULA will continue to be important throughout the market review period, even though we forecast that VULA volumes will decrease to 7.1 million in 2030/31.¹⁶³

Figure 6.3: VULA rentals purchased by non-BT telecoms providers



Source: Ofcom. 2025 WLA Volumes Module; 2017/18 to 2023/24 volumes are based on published volumes in BT’s Regulatory Financial Statements (RFS) (where non-BT volumes are published in Section 7, or Section 6 for the 2019 RFS) whilst volumes for 2024/25 onwards are Ofcom forecasts.

6.35 In the absence of regulation, Openreach would have the ability and incentive to put BT’s competitors at a disadvantage by not offering VULA services, or by doing so only on unfavourable or discriminatory terms and/or quality of service. This would result in consumer harm in the form of service degradation, restricted choice of provider and/or higher prices.

6.36 Although the general network access remedy we propose to impose in Section 4 is aimed at addressing these competition concerns, it does not provide telecoms providers with appropriate certainty as to the basis on which they have access. Given the high number of consumers that are reliant on VULA services for the provision of broadband, we consider it appropriate and proportionate to go beyond the general network access obligation to address the above concerns and ensure telecoms providers and consumers are sufficiently protected. We therefore propose to retain the obligation for Openreach to supply VULA. We are satisfied that the form of specific access obligation on VULA we are proposing to impose is the minimum necessary.

¹⁶² Published year-average 2023/24 MPF volumes can be found on pages 35 and 43 of BT’s [Regulatory Financial Statements 2024](#).

¹⁶³ Ofcom forecasts show the average number of rentals in each financial year (averaged over each year), which is consistent with how rentals are calculated in BT’s RFS.

- 6.37 Where Openreach is required to provide MPF and FTTC/G.fast is available, telecoms providers should be able to combine these services for the purposes of VULA. Therefore, we propose to retain the requirement for Openreach to provide either FTTC or G.fast in such cases. This does not prevent Openreach offering SOGEA and SOG.fast. However, if a telecoms provider requests new access to a non-single order product (either FTTC or G.fast), Openreach would have to meet that request through providing one of these variants at its discretion.
- 6.38 We continue to consider that there are five high-level characteristics that which VULA services need to adhere to:
- **Local access:** interconnection by the VULA user should occur locally, i.e. at the first feasible aggregation point. In practice this is likely to be in the serving exchange where the first Ethernet switch is located (fibre exchange).¹⁶⁴
 - **Service agnostic access:** VULA, like LLU, should be a generic access service. That is, it should provide service agnostic connectivity, replicating one of the key features of LLU. This means the service should not be confined to supporting particular downstream services.
 - **Uncontended access:** the connection, or capacity, between the customer's premises and the serving exchange where interconnection takes place should be dedicated to the customer, i.e. the connection should be uncontended.¹⁶⁵
 - **Control of access:** telecoms providers should be given flexibility to allow them to offer differentiated services to customers. In order to provide different types of services, this freedom of control could potentially involve varying quality of service parameters.
 - **Control of customer premises equipment (CPE):** like the control of access characteristic described above, competing telecoms providers should have the ability to control customer premises equipment, giving them the ability to differentiate how they deliver services to their customers.
- 6.39 Considering the limitations of non-physical layer access, these characteristics allow reasonable control and flexibility such as to enable telecoms providers to provide differentiated services in competition with Openreach over its fibre local access network. Therefore, we propose that the above VULA characteristics remain appropriate without modification or additions. As with previous WLA market reviews, we do not propose to include the characteristics in the SMP condition itself.
- 6.40 In addition to this specific access service, a number of ancillary services are necessary to enable and support the provision of VULA, including as a minimum, space and power, site access, Cablelink, and any other supporting services used for installation, maintenance, and ceasing of this specific access service. We propose to retain access remedies that require Openreach to provide these ancillary services.

Network access to VULA [80/20]

¹⁶⁴ Note that the serving exchanges used for fibre access (FTTC and FTTP) are not necessarily the same as the local serving exchanges used for copper access. This is because fibre does not have the same distance limitations as copper and therefore a higher number of customers can be connected over a wider geographic area than is possible from a local serving exchange.

¹⁶⁵ An uncontended service is one in which the bandwidth to each user is dedicated. In other words, the bandwidth is not shared with other users.

- 6.41 As discussed in Volume 4, we are proposing to regulate Openreach’s VULA charges on the basis of a [80/20] anchor. We propose that where Openreach is required to provide VULA, it must provide a [80/20] variant. Specifically:
- a) Where Openreach is required to provide FTTC, it must provide a [80/20] version.
 - b) Where Openreach is not required to provide FTTC, it must provide a VULA [80/20] over whatever successor service is available, that is either FTTP, G.fast or SOG.fast.
 - c) Where fibre-based VULA¹⁶⁶ [80/20] is not available (and Openreach has deployed an appropriate network), Openreach is required to provide either an FTTC [80/20] or G.fast [80/20] service.

Disapplication of the network access obligation in relation to supporting copper retirement

- 6.42 To implement our proposed approach to supporting copper retirement, we propose to retain the current limits on the general network access obligation in relation to copper-based network access. In effect, this disapplies the specific requirement to meet new requests for network access to copper-based VULA¹⁶⁷ in exchange areas where ultrafast broadband is available to 75% of premises, for premises where FTTP is available. This means that, if this requirement is met, and subject to its contractual obligations with the telecoms provider, Openreach would be able to refuse the provision of a new copper-based VULA service (this allows the “stop sell” of copper services as described in Section 2). Therefore, once the disapplication applies, Openreach are only required to sell VULA services over FTTP at premises where these services are available.

Reference Offer

- 6.43 We propose to retain, for the purposes of transparency, the existing specific Reference Offer requirements for VULA services. These would require Openreach to, among other things, include in the Reference Offer details of accommodation arrangements (the provision of space and power) and SLAs and SLGs.
- 6.44 We also propose to retain the requirement for Openreach to pay SLGs proactively. Openreach should make an SLG payment for each day that it contractually fails to provide or repair a VULA service. These payments should continue until the situation is resolved, i.e. without a limit on the duration. These measures address our concern that Openreach has the ability and incentive to focus on new VULA installation or repair requests at the expense of those cases that are already late. We consider that the customer detriment associated with delayed repairs and installations is particularly pertinent for VULA because of the importance of fixed telecoms to consumers and because VULA underpins the supply of superfast and ultrafast broadband using the Openreach network.

Charge controls

¹⁶⁶ Fibre-based VULA refers to Virtual Unbundled Local Access provided using FTTP.

¹⁶⁷ The disapplication relates to copper-based Network Access which is defined as the wholesale provision of network access by the Dominant Provider over its electronic communications network where the physical connection between the local access node and the Network Termination Point comprises copper wires either in whole or in part. This includes Virtual Unbundled Local Access provided using FTTC, SOGEA, G.fast or SOG.fast.

- 6.45 In Volume 4 we set out our proposed approach to pricing of wholesale services in the WLA market. We also set out in detail our proposals in relation to the design of each charge control and our justification for it, including for VULA services.

Disapplication of the price controls in relation to supporting copper retirement

- 6.46 In view of our proposed approach to supporting copper retirement and in line with the approach as set out in the 2021 WFTMR, we propose to disapply the charge control obligations in relation to copper-based VULA [80/20].
- 6.47 In particular, the disapplication will come into effect for those premises where FTTP is available, in exchange areas where Openreach makes ultrafast services available at 100% of the premises in the exchange area (excluding any premises that Ofcom directs), and after a minimum of two years have passed since ultrafast broadband was deployed to 75% of premises. This means that, if the proposed requirements are met, and subject to its contractual obligations with the telecoms provider, Openreach would be able to increase the wholesale charges for its copper-based VULA [80/20] services at premises where FTTP is available.
- 6.48 In addition, in these cases we also propose to continue to disapply the general requirement for fair and reasonable prices to any copper based VULA services. However, we would expect any wholesale price increases on copper services to take into account the implications for vulnerable consumers who may have not yet migrated to full-fibre products. For more information about how we expect Openreach to protect vulnerable consumers in the context of copper retirement, see Section 2.
- 6.49 For the reasons set out in Section 2, we consider that these measures are appropriate and proportionate.

Our proposed approach

- 6.50 In order to implement these proposals, we propose to include the requirements outlined above in draft SMP Conditions 1, 2 and 7 published at Volume 7. As set out in Section 10, sections 87(3), 87(6)(c) to (e) of the Act provide a basis for these SMP conditions. In Volume 4 Sections 1 and 6, we set out our proposals relating to the implementation of the charge controls mentioned above.

Minimum contract period for VULA

Background

- 6.51 Openreach's VULA services are subject to minimum contract periods. Cancelling a service before the end of a minimum contract period causes a telecoms provider to incur a held-to-term charge from Openreach.

Our proposals

- 6.52 We propose to retain a limit of one month on minimum contract periods for all VULA services, including FTTC, G.fast and FTTP.

Rationale

- 6.53 For the reasons set out below, we consider that our proposals are appropriate and proportionate in relation to BT’s market power in the WLA markets.
- 6.54 Preventing Openreach from setting lengthy minimum contract periods will promote wholesale competition. At a time when we are seeking to promote network competition, measures that reduce barriers to switching are desirable because they avoid the risk that Openreach locks out new competitors from gaining customers through contract prohibitions.
- 6.55 Openreach should apply its contractual provisions in relation to held-to-term charges in an equivalent manner for customers upgrading from Openreach legacy services to Openreach FTTP and for customers leaving the Openreach network. This also supports network competition by not unduly incentivising customers to remain on Openreach’s network.
- 6.56 Preventing Openreach from setting lengthy minimum contract periods is also likely to promote retail competition. This is because internet service providers (ISPs) have the ability and incentive to pass the costs which arise from held-to-term charges on to consumers. This in turn might reduce consumers’ incentives to switch between telecoms providers.
- 6.57 In terms of the implementation of this requirement, draft SMP Condition 1 requires BT to provide VULA on such terms, conditions and charges as Ofcom may direct, and to comply with any direction Ofcom may make under that Condition. For the reasons set out above, we are proposing to make a Direction (see Volume 7) limiting the length of the minimum contract period following VULA migrations and connections to no longer than one month for all VULA services.

Requirement to provide SLU

Background

- 6.58 Sub-loop unbundling (SLU) is a service offered by Openreach that allows telecoms providers to deploy their own equipment at a network distribution point (usually the location of the cabinet) and to use Openreach’s lines from the cabinet to the customer. Telecoms providers can either rent the entire sub-loop (the connection between the cabinet and the customer) or share it with Openreach.

Our proposals

- 6.59 We propose to retain an obligation on Openreach to provide network access in the form of SLU. We do not propose to impose a charge control on SLU services.

Rationale

- 6.60 For the reasons set out below, we consider that our proposals are appropriate and proportionate in relation to BT’s market power in the WLA markets.

Network access to SLU

- 6.61 Historically, the use of SLU has been relatively low. We have collected data for this market review.¹⁶⁸ This data shows the following:
- As of August 2024, there were [X] SLU connections.
 - Between April 2021 and December 2021 there were [X] SLU orders.
 - Between January 2022 and December 2022 there were [X] SLU orders.
 - Between January 2023 and September 2023 there were [X] SLU orders.
- 6.62 This data shows that SLU volumes are being used successfully by a small number of telecoms providers that are providing services in those areas where Openreach has not rolled out superfast broadband and has not upgraded its local access connections to fibre.
- 6.63 Given that BT does not use SLU, in the absence of a specific obligation, there is a risk that Openreach would choose to withdraw its SLU services. Therefore, we are proposing to retain the obligation for Openreach to offer a SLU service to all telecoms providers who reasonably request such services.
- 6.64 We also propose to retain our policy on vectoring¹⁶⁹ as set out in the 2018 WLA Statement.¹⁷⁰ In summary, we propose that:
- where Openreach has activated vectoring, it would be reasonable for Openreach to deny a request for SLU, if Openreach could demonstrate that it had taken all reasonable steps to co-ordinate SLU with the vectoring; and
 - where a telecoms provider is already buying SLU at a cabinet where Openreach wishes to deploy vectoring, it would be unlikely to be reasonable for Openreach to withdraw SLU.
- 6.65 In addition to this specific access service, we propose to retain the requirement for Openreach to provide such ancillary services as may be reasonably necessary for the use of SLU (including backhaul from the cabinet).

Disapplication of the network access obligation in relation to supporting copper retirement

- 6.66 We propose to limit the general network access obligation as it applies to Openreach’s copper network. In effect, this would also disapply the specific requirement to meet new requests for SLU network access in exchange areas where ultrafast broadband is available to 75% of premises, for the premises where FTTP is available. This means that, if the proposed requirements are met, and subject to its contractual obligations with the telecoms provider, Openreach would be able to refuse the provision of a new SLU service at premises where FTTP is available (this allows the “stop sell” of copper services – see Section 2).

No price controls

- 6.67 While we consider it appropriate and proportionate to retain the obligation for Openreach to offer a SLU service to all telecoms providers who reasonably request such services, given

¹⁶⁸ Openreach response dated 23 August 2024 to s135 notice dated 29 July 2024, questions G1-G2.

¹⁶⁹ Vectoring uses noise cancellation technology to mitigate the effect of the electromagnetic interference that occurs on copper access connections, also known as cross-talk. Cross-talk can have a significant detrimental effect on VDSL speeds.

¹⁷⁰ Ofcom. 2018. [Wholesale Local Access Statement](#). Paragraph 7.58.

the limited usage of SLU and the availability of alternative infrastructure and services, we do not propose that SLU services are subject to a specific form of price control. As discussed in Volume 4, we propose that SLU services would be subject to a requirement for charges to be fair and reasonable in both Areas 2 and Area 3.

Disapplication of the fair and reasonable prices obligation in relation to supporting copper retirement

- 6.68 As with MPF and VULA, we propose to retain the disapplication of the general requirement for fair and reasonable SLU prices.
- 6.69 In particular, the disapplication will come into effect for those premises where FTTP is available, in exchange areas where Openreach makes ultrafast services available at 100% of the premises in the exchange area (excluding any premises that Ofcom direct) and after a minimum of two years have passed since ultrafast broadband was deployed to 75% of premises.
- 6.70 For the reasons set out in Section 2, we consider that these measures are appropriate and proportionate.

Our proposed approach

- 6.71 In order to implement these proposals, we propose to set draft SMP Conditions 1 and 2 in Volume 7. As set out above, Section 87(3) of the Act provides a basis for these draft SMP conditions and we have taken into account the factors set out in section 87(4).¹⁷¹

Low bandwidth fibre products for narrowband services

- 6.72 In our March 2021 Statement, we concluded that *ex ante* regulation was no longer appropriate for the WFAEL and ISDN markets. We noted that given Openreach's commitments in relation to WLR and its low bandwidth product to support existing voice-only and similar low bandwidth applications, no transitional regulation was required.¹⁷²
- 6.73 At the time of our March 2021 Statement, Openreach had announced it would withdraw WLR by December 2025. This has since been changed to January 2027.¹⁷³ This withdrawal means that voice customers currently served by Openreach's WLR products (including ISDN) will need to migrate to an IP-based service on or before that date. The PSTN switch-off will also impact specialist downstream services such as telecare devices, alarms, monitoring control systems used by the water, energy and transport industries and payment card services.

¹⁷¹ For more details on the rationale as to how we set out these factors, see Volume 3, Section 4.

¹⁷² Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26](#). Volume 3, paragraph 5.95.

¹⁷³ Openreach. [Wholesale Line Rental \(WLR\) Withdrawal](#). Accessed on 21 January 2025.

Consultation question(s)

Question 3.6: Do you agree with our proposed specific remedies in the WLA markets?
Please set out your reasons and supporting evidence for your response.

7. Specific remedies: Leased line access market

Introduction

- 7.1 In this section, we set out our proposals to impose certain specific remedies in the leased line access (LLA) markets where we have provisionally found BT to have SMP. These markets are LLA Area 2, LLA Area 3 and the High Network Reach (HNR) Area.
- 7.2 Our remedies are designed to address the competition concerns we have provisionally identified in our SMP market assessment (Volume 2) and are in line with our approach to remedies (Section 1).

Summary of proposals

- 7.3 This section sets out our proposals on active leased lines in LLA Area 2, LLA Area 3 and HNR Area and dark fibre access in LLA Area 3. Our proposals in relation to charge controls on these services are set out in Volume 4.
- 7.4 We propose:
- Retain the requirement for Openreach to offer active leased lines (Ethernet and WDM at all bandwidths) in LLA Area 2, LLA Area 3 and the HNR Area.
 - Retain the requirement for Openreach to publish a Reference Offer for Ethernet services, and introduce a requirement for Openreach to publish a Reference Offer for WDM services.
 - Retain the requirement for Openreach to offer dark fibre access (DFA) at cost in LLA Area 3, and maintain our position that Openreach should not be required to offer DFA in LLA Area 2 or the HNR Area.
 - Maintain our position that we will not interpret a request for leased lines or DFA for the purpose of FTTP aggregation to be a reasonable request for network access.
 - Relevant proposals on charge controls in LLA Area 2, LLA Area 3 and HNR Area are discussed in Volume 4.
- 7.5 In addition to the remedies discussed in this section, we are proposing to impose certain restrictions on Openreach's commercial flexibility (discussed in Section 9), and Quality of Service remedies (discussed in Volume 5).

Requirement to provide leased lines at all bandwidths

Summary of proposals

- 7.6 We propose to continue to require Openreach to provide network access in the form of Ethernet¹⁷⁴ and WDM leased lines at all bandwidths in LLA Area 2, LLA Area 3 and the HNR Area. We also propose to continue to require Openreach to offer the relevant ancillary services to support the provision of leased lines in those markets.
- 7.7 We propose to require Openreach to publish a Reference Offer for both Ethernet and WDM services.
- 7.8 We also propose that leased lines at all bandwidths in LLA Area 2 and LLA Area 3 will continue to be subject to a charge control, further details of which are set out in Volume 4.
- 7.9 We do not propose specific price regulation (in the form of charge controls) in the HNR Area, but instead propose that charges in that market should be subject to a fair and reasonable requirement.

Background

- 7.10 Openreach currently provides two key forms of leased line access services:
- a) Ethernet services, such as Openreach’s Ethernet Access Direct and Ethernet Backhaul Direct; and
 - b) Wavelength division multiplex (WDM) services, such as Openreach’s Optical Spectrum Access (OSA) and OSA Filter Connect.
- 7.11 We understand that Openreach is planning to launch a pilot of a new variant of Ethernet, called EAD2.0, in September 2025, and to fully launch it in March 2026.¹⁷⁵ While the product remains under development, based on Openreach’s current plans we consider that EAD2.0 is largely a development of the existing EAD product as the fundamentals of the product (delivering a point-to-point Ethernet service) will remain the same, although we recognise there are some technical differences.¹⁷⁶ Given this, unless otherwise stated we propose that the proposed obligations set out in this section will apply to EAD2.0, as they do to the existing EAD product.
- 7.12 In the WFTMR21, we required Openreach to offer active leased lines at all bandwidths in Area 2, Area 3 and the HNR Area. We also required Openreach to publish a Reference Offer for Ethernet services, but did not impose a requirement to do so for WDM services, as we considered these products were not sufficiently mature at that time.

Rationale

Network access to LLA services

¹⁷⁴ We consider leased line equivalent services delivered over XGS-PON to fall within the definition of “Ethernet Services”, that is “services presented with the standard networking Ethernet protocol defined under that name in IEEE 802.3 and published by the Institute of electrical and Electronic Engineers”.

¹⁷⁵ Openreach response dated 21 February 2025 to s135 notice dated 10 February 2025, question 13.

¹⁷⁶ In particular, for EAD, the customer connects to the leased line electronics provided by Openreach sited at the end-user premises. For EAD2.0, the customer provides their own electronics and fibre to connect to the leased line Passive Demarcation Device (PDD).

- 7.13 In the LLA markets, competing telecoms providers extensively buy leased lines from Openreach to compete in the provision of downstream business connectivity services, particularly outside competitive areas. Currently, around 158,000 leased lines are purchased from Openreach by third-party telecoms providers (i.e., non-BT providers) across the current SMP LLA markets combined (Area 2, Area 3 and HNR as defined in 2021), and used to provide downstream services.¹⁷⁷ Although reducing, we project volumes in these areas of the UK to remain significant by the end of the review period (reducing by around 11% to around 140,000 by 2030/31).¹⁷⁸
- 7.14 Given our provisional SMP findings in LLA Area 2, LLA Area 3 and the HNR Area, absent regulation, BT would have the incentive and ability to refuse access to its leased line access network or not provide access on terms that would secure efficient investment and innovation, both in the wholesale LLA markets and the related downstream services. This would result in consumer harm in the form of service degradation, restricted choice of provider and/or higher prices.¹⁷⁹
- 7.15 Although the general network access remedy we impose in Section 4 is aimed at addressing these competition concerns, it does not provide telecoms providers with as much certainty as to the basis on which they have access. Given the importance of leased lines to support downstream services, we consider it appropriate and proportionate to go beyond the general network access obligation to address the above concerns and ensure telecoms providers and consumers are sufficiently protected.
- 7.16 In addition to the specific access services, a number of ancillary services are necessary to enable and support the provision of leased line access services, including as a minimum space and power, site access, Cablelink, interconnect, Time-Related Charges (TRCs), Excess Construction Charges (ECCs) and any other supporting services used for installation, maintenance, modification, and ceasing of this specific access service. We propose to continue to require Openreach to provide these ancillary services, including as these services develop or get replaced over time.
- 7.17 We set out our proposed charge controls for active leased lines, and the rationale for these, in Volume 4. Specifically, we propose:
- a) In LLA Area 2, to maintain pricing continuity (CPI-0%).
 - b) In LLA Area 3, to set a cost-based charge control on circuits of 1 Gbit/s and below, and maintain pricing continuity (a CPI-0% cap) for very high bandwidth (>1 Gbit/s) circuits.

Reference Offer

- 7.18 As noted in Section 4, a Reference Offer (RO) helps to assist transparency for the monitoring of potential anti-competitive behaviour, and gives visibility as to the terms and conditions on which other providers purchase wholesale services. This in turn helps to ensure stability (in regard to investment and promoting market entry) in the relevant fixed telecoms markets, allowing for faster negotiations, avoiding possible disputes and giving

¹⁷⁷ 2023/24 volumes are sourced from BT's published 2024 Regulatory Financial Statements (RFS) (schedules 8.1.1, 8.2.1 and 8.3.1).

¹⁷⁸ 2030/31 volumes are sourced from Ofcom volumes forecasts and incorporate proposed changes in the classifications of LLA postcode sectors by geographic market as set out in Schedule 3 of this Consultation. Further explanation of our approach to LLA volumes forecasting is provided in Annex 14.

¹⁷⁹ See Volume 2.

confidence to those purchasing wholesale services that they are being provided on non-discriminatory terms.

- 7.19 We therefore propose to retain the RO requirement for Ethernet services. This would require Openreach to include in the Reference Offer SLAs and SLGs for the completion of the provision of service and fault repair times.
- 7.20 We also propose to introduce a requirement on Openreach to publish a Reference Offer for WDM services for the same reasons. We did not impose this requirement in the WFTMR21 as we considered that these services needed more time to mature.
- 7.21 As of 2023/24, there are nearly 14,000 external WDM circuits in use (both OSA and OSEA)¹⁸⁰ across the current SMP LLA markets combined (Area 2, Area 3 and HNR), representing around 9% of all external LLA circuits in those markets.¹⁸¹ We forecast take-up to be similar at the end of this review period and to represent around 8% of all external LLA circuits in those areas of the UK.¹⁸²
- 7.22 We therefore consider that Openreach’s WDM services have matured to the extent that it is appropriate and proportionate to propose to impose a requirement to publish a Reference Offer.
- 7.23 As the EAD2.0 product is due to be piloted in September 2025, and launched fully in March 2026,¹⁸³ we plan to consider whether the RO will be necessary immediately when the product is launched or whether the obligation should be disapplied for a fixed period following this.

Our proposed approach

- 7.24 For the reasons set out above, we consider that the measures we are proposing to impose are appropriate and proportionate in relation to BT’s market power in the relevant LLA markets.
- 7.25 In order to implement these proposals, we have included the requirements outlined above in draft SMP Conditions 1,2 and 7 published at Volume 7. As set out above, section 87(3) of the Act authorises Ofcom to impose network access requirements; and we have taken into account the factors set out in section 87(4).¹⁸⁴ Sections 87(6)(c) to (e) authorise the setting of SMP services conditions in relation to the Reference Offer.

Classification of circuits that cross boundaries between LLA markets

- 7.26 Where circuits serve sites located in different geographic markets, the circuit should be classified as being in the least competitive market, where the Central London Area (CLA –

¹⁸⁰ OSEA (Optical Spectrum Extended Access): Openreach WDM services supporting circuits over a longer distance than OSA.

¹⁸¹ 2023/24 volumes are sourced from BT’s published 2024 RFS (schedules 8.1.1, 8.2.1 and 8.3.1).

¹⁸² 2030/31 volumes are sourced from Ofcom volumes forecasts and incorporate proposed changes in the classifications of LLA postcode sectors by geographic market as set out in Schedule 3 of this Consultation. Further explanation of our approach to LLA volumes forecasting is provided in Annex 14.

¹⁸³ Openreach response dated 21 February 2025 to s135 notice dated 10 February 2025, question 13.

¹⁸⁴ Our commentary on the section 87(4) factors set out in Section 4 also applies, where relevant, to the specific network access remedies.

which we defined and deregulated in the WFTMR21) is the most competitive, followed by the HNR Area, then LLA Area 2, and finally LLA Area 3.

- 7.27 We also treat the Hull Area like the CLA for the purpose of this classification. However, this is not because (as for the CLA) we have deregulated the Hull Area. Rather, we review the Hull Area separately from the rest of the UK and have previously found another provider, KCOM, to have SMP there.¹⁸⁵
- 7.28 We therefore propose that circuits continue to be classified as set out in the table below. This is the same approach as we took in the WTMR21.

Table 7.1: Classification of circuits that cross boundaries between LLA markets

Classification of circuit	Location of circuit ends
CLA	Both ends are in the CLA
Hull Area	Both ends are in the Hull Area
HNR Area	One end is in the HNR Area and the other in the CLA or the Hull Area Both ends are in the HNR Area
Area 2	One end is in Area 2 and the other in the CLA, the Hull Area or the HNR Area Both ends are in Area 2
Area 3	One or both ends are in Area 3

Requirement to provide dark fibre access

- 7.29 Dark fibre access (DFA) is a form of passive network access. It allows telecoms providers to access the fibre element of leased lines from a supplier, and attach equipment of their own choosing at either end to 'light' the fibre and use it as the basis for offering a range of leased line products.
- 7.30 We consider that DFA has a number of potential benefits over active leased line services in promoting access-based competition.¹⁸⁶ While the DFA product relies on Openreach's network, it sits further upstream than active leased lines and therefore exposes more of the value chain to competition. This means that it can provide more flexibility to users than active leased lines, which in turn delivers several additional benefits, including that:
- Users can choose their own electronic equipment, enabling them to deliver services that better suit their needs and the needs of their customers;
 - Users can make decisions on bandwidth upgrades based on the underlying incremental costs of providing the equipment required; and
 - Users can eliminate inefficient active equipment duplication.

¹⁸⁵ Ofcom, 2021. [Promoting competition in fibre networks – Hull Area Wholesale Fixed Telecoms Market Review 2021-26](#)

¹⁸⁶ In the WFTMR21, we explained these benefits of DFA in more detail. Ofcom, March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26](#).

Paragraphs A9.3-A9.21.

- 7.31 However, regulated DFA could have an impact on the development of network competition. Therefore, we have considered whether DFA is an appropriate and proportionate remedy in each of the LLA markets we have provisionally defined, in light of our specific objectives in each market. This reflects our view that network competition will not develop uniformly across the UK, so our approach in downstream markets differentiates between places where there is, or there is likely to be potential for, material and sustainable competition to Openreach in the commercial deployment of competing networks (LLA Area 2 and the HNR Area), and places where there is not, and there is unlikely to be potential for, such competition (LLA Area 3).
- 7.32 Reflecting our objectives outlined in Section 1, we are only proposing to require BT to provide DFA in LLA Area 3, consistent with our approach in WFTMR21. We consider that requiring Openreach to provide DFA in LLA Area 2 or the HNR Area risks undermining the development of stronger network competition and/or would be disproportionate. We elaborate on this below.
- 7.33 Below we set out our proposals for LLA Area 2, LLA Area 3 and the HNR Area in turn.

LLA Area 2

Summary of proposals

- 7.34 We propose to not require Openreach to offer DFA in LLA Area 2. A regulated DFA product is likely to increase incentives for customers to use Openreach products rather than those offered by competing network operators, and could therefore undermine the development of stronger network competition across LLA Area 2.

Background

- 7.35 We did not require Openreach to offer DFA in LLA Area 2 in the WFTMR21. We considered that doing so would undermine incentives for network operators to invest in competing networks, and therefore the opportunity for further network competition to emerge and become established. We expected network competition to emerge, which would ultimately protect consumers, although we recognised that this may take time.
- 7.36 We stated that DFA is an improved form of network access. We also noted that building a fibre network involves a significant amount of upfront investment, and there are economies of scope (and scale) in building a network to deliver both broadband and leased lines. We set out that using a fibre network to generate as many different revenue streams as possible would help to de-risk and improve the commercial business case for investment, and that a regulated Openreach DFA product would undermine the ability of competing network operators to do this.

Rationale

- 7.37 Our objective in LLA Area 2 is to promote network competition and investment in networks that offer LLA services by Openreach and other communications providers. In our view, network competition is the best way to protect consumers in the long term. Below, we outline our reasoning for why we consider a DFA remedy in LLA Area 2 to risk undermining this objective across the 2026-31 review period.
- 7.38 First, as presented in the Volume 2, we consider that there is, or there is the potential for, material and sustainable competition in LLA Area 2. We are concerned that requiring Openreach to provide a more attractive product like DFA on regulated terms could reduce the extent to which ISPs currently reliant on Openreach's wholesale services consider using

– and therefore take-up – those offered by competing network operators (as well as active leased lines, we are also aware that a number of competing LLA networks already offer dark fibre services, including VMO2, CityFibre and LL-only operators such as Colt/Lumen).¹⁸⁷ This could make it even harder for competing network operators to overcome the barriers to entry and expansion in LLA, and therefore undermine the potential development of stronger network competition.¹⁸⁸

- 7.39 Secondly, as noted above, in the WFTMR21 we identified economies of scope between the provision of LLA and WLA services. While many altnets that have entered the WLA market have chosen not to provide leased lines to date, others have built networks that can offer services in both the WLA and LLA markets, notably CityFibre and nexfibre.¹⁸⁹ We are concerned that requiring Openreach to offer DFA could make it more difficult for these operators to become stronger competitors in the WLA market as well. Take-up of leased lines (active and dark fibre) is a potential source of revenue for these operators, which contributes to their business cases for fibre network deployment, including further network infill and expansion.
- 7.40 Our concerns about the impact of DFA in LLA Area 2 on the development of network competition are further heightened since expanding the availability of this product to LLA Area 2 is likely to increase its attractiveness.¹⁹⁰

Our proposed approach

- 7.41 We consider that introducing a requirement on Openreach to offer DFA would be inconsistent with our objectives in LLA Area 2 to promote network competition and investment in networks that offer LLA services by other communications providers. We therefore propose to maintain our current position of not requiring Openreach to offer this product in this market.

LLA Area 3

Summary of proposals

- 7.42 In LLA Area 3, we propose to retain the requirement on Openreach to offer DFA. In Volume 4, we set out our detailed DFA charge control proposals.

Background

- 7.43 We introduced a requirement in the WFTMR21 on Openreach to offer DFA, charge-controlled at cost, in Area 3. DFA was fully launched as an Openreach product in June 2022. The aim of DFA was to address BT's SMP by promoting competition as far upstream as possible, in line with our overall approach to remedies. We retained a charge control on active leased lines (set at CPI-0%) in order to safeguard consumers while the market transitioned to DFA.

¹⁸⁷ Virgin media Business. [Dark Fibre](#). Accessed on 3 March 2025; CityFibre. [Dark Fibre](#). Accessed on 3 March 2025; Colt. [Dark Fibre](#). Accessed on 3 March 2025.

¹⁸⁸ We explain in Volume 4 the ways in which LLA price regulation affects the development of stronger network competition. Similar logic applies in relation to DFA.

¹⁸⁹ See Volume 2, Section 5 for more detail.

¹⁹⁰ As explained in Volume 4, one barrier to DFA take-up is that this remedy is currently only available in Area 3.

- 7.44 We considered there was unlikely to be the potential for material and sustainable network competition in Area 3, and there was therefore only a small risk (unlike in Area 2) that a regulated DFA product could undermine network competition.

Rationale

- 7.45 Below we set out the rationale for our proposal that Openreach should continue to be required to provide DFA in LLA Area 3, in addition to the proposed requirement to offer active leased lines in this market.

Without a specific requirement to offer it, we are concerned that Openreach would withdraw DFA

- 7.46 We set out our provisional conclusion in Volume 2 that BT has SMP in the provision of leased line access in LLA Area 3, and that, in this market, there is unlikely to be the potential for material and sustainable competition to BT in the commercial deployment of competing networks. Given this, our proposed objective in LLA Area 3 is to promote competition based on access to Openreach’s network and protect consumers.
- 7.47 Although the general network access remedy discussed in Section 4 is aimed at addressing our competition concerns, it does not provide telecoms providers with as much regulatory certainty as to the basis on which they have access. We are of the provisional view that, in the absence of a specific access obligation in relation to DFA, Openreach has the incentive and ability to refuse to supply this product.
- 7.48 There are two main reasons underpinning this provisional view. Firstly, before DFA was introduced in Area 3, telecoms providers had been requesting a DFA product from Openreach for some years without success.¹⁹¹ The product was only introduced because we imposed a regulatory requirement on Openreach in 2021. Secondly, Openreach currently does not offer DFA in Area 2, where there is no regulatory requirement for it to do so, despite there being demand for it. This suggests it has little commercial incentive to offer DFA in LLA Area 2, and would not have an incentive to do so in LLA Area 3 either.

DFA has benefits for users and we expect it to be an increasingly important substitute for LLA products for certain customers

- 7.49 To date, DFA take-up has been low compared to overall LLA volumes in Area 3. As of 2023/24, there were 494 DFA rental circuits in use.¹⁹² However, DFA is still a relatively new product, and as discussed in Volume 4, we expect demand for DFA to grow. Absent regulation, we also consider that Openreach is likely to cease to supply new DFA connections, which would deny future customers access to this product. We also consider that the risk that Openreach might withdraw DFA from existing users is likely to cause disruption and uncertainty to those users and, potentially, end-customers.
- 7.50 Based on the evidence we have gathered, we continue to believe that DFA has potentially significant benefits for users and that there is demand for DFA as a substitute to active leased lines. This is particularly the case for users who require higher bandwidth services, or expect to have increasing demand for higher bandwidths, including mobile backhaul.¹⁹³
- 7.51 As discussed above, while the DFA product relies on Openreach’s network, it sits further upstream than active leased lines and therefore exposes more of the value chain to

¹⁹¹ Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26](#), Volume 3, Paragraph 6.25.

¹⁹² Page 60 of BT’s published 2024 RFS.

¹⁹³ See Volume 4 for more details on demand for DFA by users who require very high bandwidth connections.

competition. This means that it can provide more flexibility to users than active leased lines, which in turn delivers several additional benefits.

- 7.52 For example, a major user [§<] highlighted the benefits of having control over its equipment and being able to upgrade it outside of Openreach’s typical product lifecycle].¹⁹⁴ [§<] also highlighted the benefits of DFA for mobile backhaul.¹⁹⁵ Similarly, another DFA user ([§<]) appreciated the greater control and flexibility that DFA provides compared to leased lines, as well as the lower costs, particularly when compared to higher bandwidth leased lines.¹⁹⁶ Our evidence on the use of DFA is discussed in more detail in Volume 4.
- 7.53 We consider that these benefits that DFA has over active LLA circuits, at least for some customers, are demonstrated by the fact that, since its launch, some customers have chosen to purchase DFA rather than active leased lines. Customers also forecast purchasing more volumes in the future, particularly as and when their existing circuits need to be upgraded to accommodate higher bandwidths.¹⁹⁷

While there are barriers to using DFA, we consider these will be reduced in this review period

- 7.54 Despite the potential benefits from DFA, some stakeholders have raised potential barriers to use including the costs of productising DFA (i.e. creating products that use DFA as an input that can then be sold to customers), costs and delays when migrating existing Openreach access circuits to DFA, some additional costs of using DFA, and concerns about its longer term availability. We discuss these further in Volume 4. However, we consider that there are reasons to believe that these barriers will be reduced in the 2026-31 review period.
- 7.55 Demand for higher bandwidths is forecast to increase, and we consider that DFA is particularly attractive for telecoms providers who need these higher bandwidths, and/or expect their bandwidth needs to increase in the short to medium term.
- 7.56 Also, as explained in Volume 4, we are proposing a number of changes in this consultation that will make DFA more attractive.
- a) Our proposed transitional remedies should help to address potential users’ concerns about the longer-term availability of the DFA remedy and in turn, support increased take-up.
 - b) Our proposed DFA charge controls should reduce the real price of using DFA over the course of this market review.
 - c) Our proposed market boundaries for LLA Area 3 will mean that DFA is available in more parts of the UK than currently, which will improve its attractiveness.

Our proposed approach

- 7.57 We propose that Openreach must continue to provide DFA in LLA Area 3, to address our competition concerns in that market. We set out our proposals in relation to the design of the DFA remedy in more detail in the next section.
- 7.58 We consider that the proposed requirement is proportionate.

¹⁹⁴ [§<] response dated [§<] to s135 notice dated [§<], question [§<].

¹⁹⁵ [§<] response dated [§<] to s135 notice dated [§<], question [§<].

¹⁹⁶ [§<] response dated [§<] to s135 notice dated [§<], question [§<].

¹⁹⁷ See Volume 4, Paragraphs 2.75 and 2.84.

- 7.59 Openreach is already offering and supplying DFA in LLA Area 3. The initial costs of developing this product have already been incurred. The costs to Openreach of continuing to supply it can be recovered through the DFA charge control.
- 7.60 In LLA Area 3, the risk of DFA undermining the deployment of competing networks, or undermining existing networks investment, is small, because we consider there is unlikely to be potential for material and sustainable competition to Openreach.
- 7.61 We do not consider that a different type of obligation or a more limited network access requirement (such as one limited just to active LLA products) would be sufficient to address the competition concerns we have identified.
- 7.62 To give effect to the above proposals, we have included the requirements outlined above in draft SMP Conditions 1 and 2 at Volume 7 requiring Openreach to provide DFA in the LLA Area 3 market. As set out in Section 4, Section 87(3) of the Act provides a basis to set these SMP conditions and we have taken into account the factors set out in section 87(4) of the Act.¹⁹⁸

HNR Area

- 7.63 We propose to not require Openreach to offer DFA in the HNR Area. Our provisional market analysis has found the HNR to be an area where, due to the presence of at least two current material and sustainable competitors, there is sufficiently well-established competition to BT in the commercial deployment of competing networks.
- 7.64 Given competitive conditions in the HNR Area, we consider a DFA remedy (in addition to the requirement on Openreach to supply active leased lines) to be disproportionate to address the competition concerns we have identified and achieve our objectives. In particular, we consider that it is not appropriate to introduce a new regulated product like DFA in addition to actives when we are seeking to promote network competition, and customers already have access to at least two rival networks. In this context, we also consider that our proposals for the supply of active leased lines are sufficient to protect consumers and competition based on access to Openreach's network in the short term while network competition develops.
- 7.65 We therefore propose to maintain our current position of not requiring Openreach to offer DFA in this market.

Design of DFA remedy

Summary of proposals

- 7.66 We propose to continue to specify the design of the DFA remedy to allow for the continued use of the product in LLA Area 3 across the review period. To ensure stability for DFA users and Openreach, we propose that the design of the remedy is broadly similar to the current review period. The key change to the design of the DFA remedy will be the requirement for DFA to ensure comparability with the new EAD2.0 product when launched.

¹⁹⁸ Our commentary on the section 87(4) factors set out in Section 4 also applies, where relevant, to the specific network access remedies.

Table 7.2: Summary of proposed design elements for the DFA remedy

Design aspect	Approach
Circuit configurations	Openreach is required to provide dark fibre terminating segments of the following types: access segments; access segments including a main link between exchanges; and end-to-end access segments without a main link.
Parity with active wholesale products	DFA to be comparable to the passive optical elements of the corresponding active wholesale access products (EAD and EAD Local Access), and, when EAD2.0 is launched, to that product.
Arrangements for provision of new infrastructure	Openreach is required to lay new access and main link fibre segments subject to reasonable limits set out in the WFTMR21.
Single and dual fibre circuits	Openreach is required to provide single and dual fibre circuits.
Processes for provisioning, repair & service migration	The provisioning, repair and service migration processes, developed by Openreach in collaboration with industry for the DFA remedy imposed in the WFTMR21 (and initially considered in the 2016 BCMR) remain suitable for this remedy.
Ancillary services (excluding ECCs)	Accommodation, interconnection, Cablelink, TRCs and patch panels to be provided where reasonably necessary to use DFA.
ECCs (Excess Construction Charges)	ECCs apply to customer specific extensions to Openreach's network which are necessary to connect to an end-user site.

Rationale

Circuit configurations

7.67 To ensure that purchasers of dark fibre are not at a competitive disadvantage to purchasers of active wholesale services, it is important that telecoms providers can obtain DFA circuits in similar configurations to Openreach's current range of active products (i.e. EAD and EAD LA products). We therefore propose to retain an obligation comparable to that imposed on Openreach for active access wholesale services, requiring Openreach to provide dark fibre terminating segments in the following configurations (also described in Annex 6):

- a) access segments;
- b) access segments including a main link between exchanges;¹⁹⁹ and
- c) end-to-end access segments without a main link.²⁰⁰

7.68 The obligation to provide DFA depends on the postcode sector of the end-user site. Where an end-user site is located in LLA Area 3, Openreach is required to provide a dark fibre circuit which terminates at that site, even if the other end of the circuit terminates in another geographic market.

¹⁹⁹ Subject to the condition that at least one of the exchanges is eligible for DFX. This is explained in Section 8.

²⁰⁰ This is intended to mirror the Ethernet Wholesale End-to-End segment requirement proposed in the LLA market to connect two end-user sites.

Fit with the DFX remedy

- 7.69 As explained in Section 8, we are proposing to extend the requirement for Openreach to offer dark fibre for inter-exchange connectivity (DFX) to all BT Only and BT+1 exchanges. This increases the scope of the DFX remedy compared to today (where it is only required to be offered from BT Only exchanges with no competing networks within 100m of the exchange). However, as BT+2 exchanges will continue not to be regulated (as we propose not to find SMP there), there will still be some exchanges from which DFX will not be available.
- 7.70 We note the possibility that telecoms providers might attempt to use the DFA remedy to circumvent restrictions in the DFX remedy. Specifically, where a route between two exchanges does not qualify for the DFX remedy, a telecoms provider could in theory circumvent this by purchasing a dark fibre equivalent of an EAD access circuit (comprising a local access component from exchange to end-user site, and a “main link” component from exchange to exchange) under the DFA remedy.
- 7.71 Allowing DFA to be used in this way is not the intention of the remedy. We therefore propose that Openreach will continue to only be required to provide dark fibre between two exchanges as part of the DFA remedy if there is a requirement to provide dark fibre between those two exchanges as part of the DFX remedy. ^{201 202}
- 7.72 We note that the instances in which Openreach would not be required to provide dark fibre between two exchanges within LLA Area 3, as part of a DFA circuit, are very limited. Out of the 4265 exchanges in LLA Area 3, there are only 67 BT+2 exchanges.

Parity with active wholesale products

- 7.73 We consider parity with active wholesale products is important because it ensures that telecoms providers can replicate the types of connectivity they currently offer over active leased lines.
- 7.74 When DFA was first launched, the technical, operational (provisioning and repair) and commercial aspects of Openreach’s current offer of EAD and EAD LA circuits were used as a benchmark for the arrangements applicable to DFA.
- 7.75 Openreach’s EAD products are currently Openreach’s primary product for providing connectivity in the LLA markets. However, as noted above, Openreach is planning to pilot a new Ethernet product, called EAD2.0, in September 2025. ²⁰³ We consider that EAD2.0 is largely a development of the existing EAD product as the fundamentals of the product (delivering a point-to-point Ethernet service will remain the same), although we recognise there are some technical differences. ²⁰⁴
- 7.76 As a principle, we consider that it is important to ensure that developments in the active wholesale products are mirrored in the DFA product. In particular, it is important that there is parity between the fibre delivery infrastructure for any Ethernet product (i.e. either EAD

²⁰¹ Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26](#), Paragraphs 6.61 – 6.67.

²⁰² By exception, as set out in the subsection on “ancillary services” below, under the DFA remedy, where there is no available space and power in the local exchange, we propose that Openreach is required to provide dark fibre to another exchange where there is space and power, even if the resulting dark fibre between the two exchanges is outside the scope of the DFX remedy.

²⁰³ We understand that, for the foreseeable future, Openreach will offer both EAD and EAD 2.0 to customers.

²⁰⁴ Openreach response dated 21 February 2025 to s135 notice dated 10 February 2025, question 13.

or EAD2.0) and for DFA. This is because these developments are likely to be valued by purchasers and ultimately end-users. Therefore, without parity between them, purchasers of DFA could be at a competitive disadvantage to purchasers of active wholesale services.

- 7.77 In practice, this means that, if there is anything that EAD2.0 can offer but EAD cannot (e.g. with respect to routing or testing methods), then this should also be made available to DFA purchasers. While we acknowledge that this means that Openreach incurs additional costs (as DFA order journeys may need to be updated), we consider this is proportionate to ensure that DFA users are not at a disadvantage compared to active leased line users, which would undermine the effectiveness of the remedy.

Arrangements for provision of new infrastructure

- 7.78 As explained above, we propose to impose a specific network access requirement on Openreach to provide DFA in the LLA Area 3 market. Our power to impose such an obligation extends to requiring Openreach to make adjustments to its existing network to make dark fibre available, provided these are based on the problem identified, proportionate and justified in light of the requirements set out in Section 4 of the Act.
- 7.79 In light of the requirement that the obligation be proportionate, and the fact that what is necessary is likely to depend on the specific circumstances of any case, we continue to believe it is not appropriate to set prescriptive rules in the SMP condition covering every circumstance. In our view, this would carry risk of regulatory failure. We provided guidance on this topic in the WFTMR21, and consider that this guidance remains appropriate.²⁰⁵

Single and dual fibre circuits

- 7.80 To ensure that purchasers of DFA are not at a competitive disadvantage to purchasers of active wholesale services, we consider that telecoms providers should be able to obtain DFA circuits in similar configurations to Openreach's current range of active services. On this basis, we propose to continue to require Openreach to provide single or dual fibre circuits.

Processes for provisioning, repair and service migration

- 7.81 We do not impose detailed obligations about the provisioning, repair and service migration process that Openreach has to follow. These processes have been developed by Openreach in collaboration with telecoms providers and are now in place.

Ancillary services

- 7.82 In addition to this specific access obligation, a number of ancillary services are necessary to enable and support the provision of DFA, including as a minimum: space and power, site access, interconnect, Cablelink, ECCs, TRCs, patch panels, and any other supporting services used for installation, maintenance, modification, and ceasing of this specific access service, including initial testing, right when tested (RWT) and cessation. We propose that our access obligations should require Openreach to provide these ancillary services.
- 7.83 In relation to cessation charges, we continue to consider it necessary for Openreach to provide a separate cessation activity and associated charge which is applied to customers who cease use of DFA prior to the end of a contract. The proposed approach to these charges is set out in more detail in Volume 4.

²⁰⁵ The guidance is set out in WFTMR21. Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26](#), Volume 3, Section 6, Paragraphs 6.75 – 6.85.

- 7.84 In relation to ECCs, we propose that, as for active leased lines, ECCs will apply to a DFA circuit. For clarity, the ECC threshold would apply in largely the same way as for active leased lines. This means charges for excess construction are only charged once the proposed ECC threshold of £3,680 is reached, with the forecast costs of ECC activity below the £3,680 threshold being included in (and spread across) each DFA connection charge (see Volume 4).²⁰⁶

Cases where there is no space and power in the local exchange

- 7.85 As with active leased lines, if a telecoms provider wishes to place a local access node in a local exchange in order to connect a DFA circuit to the rest of its network and no such space and power are available there, that telecoms provider can order DFA with a main link component to another exchange where space and power are available.
- 7.86 To ensure that in such circumstances telecoms providers are not restricted by the scope of the DFA remedy,²⁰⁷ we propose that Openreach is required to provide dark fibre between exchanges where there is no space and power in the local exchange. This is regardless of how the remote exchange is defined by Ofcom (i.e. BT Only, BT+1 or BT+2).
- 7.87 We note that our regulation is different for DFX where we have proposed to require Openreach to provide an ancillary facility enabling external network termination. We discuss this in Section 8.

DFA Reference Offer, QoS and pricing requirements

Reference Offer for the DFA remedy

- 7.88 We propose to retain the requirement on Openreach to publish a Reference Offer (RO) for DFA in LLA Area 3, taking into account the proposed general remedies discussed in Section 4.
- 7.89 The DFA RO should set out an explanation of any differences between the provision of DFA services and the same associated services that apply to the relevant active reference product.
- 7.90 This is intended to offer transparency within the RO and help achieve parity between DFA and wholesale active services. Such transparency in the RO will also assist the monitoring of anti-competitive behaviour and provide visibility to the terms and conditions on which other providers will purchase DFA services.
- 7.91 We therefore propose to set draft SMP Condition 7 at Volume 7 requiring BT to provide a reference offer for dark fibre access in the LLA Area 3 market. As set out in Section 10, sections 87(6)(c) to (e) of the Act authorise the setting of SMP services conditions in relation to the Reference Offer.

²⁰⁶ The difference between DFA and active leased lines is that there is no balancing charge applied for DFA ECCs, because the forecast costs of ECC activity below the £3,680 threshold are factored into our proposed DFA connection charges. Further detail is provided in Volume 4.

²⁰⁷ See discussion under the subheading “Fit with the DFX remedy” above.

Quality of Service for the DFA remedy

7.92 We propose to retain the existing QoS standards on DFA. Our detailed proposals on QoS for DFA are set out in Volume 5.

Pricing of the DFA remedy

7.93 We propose to retain a cost-based charge control on DFA.

7.94 We consider that some updates are needed to the DFA charge control to ensure it remains genuinely cost-based. Specifically, we are proposing to apply a starting charge adjustment (SCA) which will reduce the estimated gap between prices and unit costs by 75% at the start of the control period, followed by a glidepath charge control that aligns prices with estimated unit costs by 2030/31. We discuss the proposed charge control further in Volume 4.

Transitional arrangements for reclassified postcode sectors

Summary of proposals

7.95 We propose to require Openreach to continue to provide existing DFA circuits in postcode sectors that have been reclassified from LLA Area 3 to other regulated LLA markets (where BT continues to have SMP)²⁰⁸ for a period of five years. In practice, this means that Openreach must continue to provide those existing circuits, if the purchaser requests, until end of March 2031.

Background

7.96 Our market analysis has provisionally found that 432 postcode sectors which were previously classified as Area 3 are now classified as LLA Area 2 or the HNR Area.²⁰⁹ As we are not proposing to impose DFA in any market other than LLA Area 3, we consider it appropriate to put in place arrangements for existing DFA circuits in reclassified postcode sectors. Transitional arrangements for these circuits are important because they ensure regulatory stability and a smooth transition to alternative services.²¹⁰

7.97 We did not put in place transitional arrangements for such circuits in the WFTMR21, as DFA had not previously been imposed as a remedy in any geographic market.

Rationale

Short transitional periods can be disruptive for users

7.98 In general, there should be alternative suppliers available to DFA users in reclassified postcode sectors, as the reason for reclassifying them is that competitive conditions in those postcode sectors have changed. However, we are still proposing to find that BT has

²⁰⁸ I.e. LLA Area 2 or the HNR Area.

²⁰⁹ See Schedule 5.

²¹⁰ We note that section 46(8A) of the Act does not apply in these circumstances as we are proposing that BT continues to have SMP in the reclassified postcode sectors.

SMP in these postcode sectors. We acknowledge that dark fibre may not be immediately available from another (non-Openreach) network following removal of the regulated product, or may be challenging for users to migrate to.

- 7.99 We also understand that migration from the Openreach DFA product may require access to the end-user’s premise to switch out equipment. This could affect resilience of the circuit which end-users are likely to be keen to avoid and, in some cases, could increase the likelihood of customer churn. Given the length of some contracts DFA users may have with their customers (potentially up to 10-20 years for some public sector customers), DFA users may be particularly reticent to do this given any change mid-contract could increase the risk of customers switching away from them.²¹¹
- 7.100 Further, where alternatives are not yet available, or are unsuitable, the user’s only option may be to switch to an Openreach leased line, which would usually be significantly more expensive than DFA and give the user less control over the circuit provided.

We acknowledge that longer transitional periods may increase reliance on Openreach’s network, but consider the impact is very small

- 7.101 As noted above, where a postcode sector is reclassified from LLA Area 3 to another regulated market, this is because we expect that there is, or there is the potential for, material and sustainable competition to Openreach in the provision of leased lines, in that postcode sector.
- 7.102 We set out in Section 1 that our objective in LLA Area 2 is to promote network competition. As explained above, giving customers the opportunity to use alternatives to Openreach supports this objective. We recognise that longer transitional arrangements could reduce incentives for customers to purchase services from other networks where available.
- 7.103 However, we consider that this is unlikely to have a material impact on the development of network competition given the number of postcode sectors reclassified from LLA Area 3 to other regulated, more competitive, markets is small (provisionally 432 postcode sectors), and given that we expect the number of circuits affected to be small.

Regulatory certainty is important for supporting take-up of the DFA remedy

- 7.104 Regulatory certainty is a key consideration here, due to its impact on the take-up of DFA, and therefore the effectiveness of the remedy. Specifically, potential users may purchase fewer DFA circuits (or at the extreme, none at all) if they are concerned that some of their circuits could be removed at short notice after the end of the review period as a result of postcode sectors in which they are consuming DFA being reclassified into a different market (albeit one where BT continues to have SMP). This could result in them incurring unexpected costs (including the potential for stranded assets) and experiencing significant disruption.
- 7.105 One leased line provider (X) who does not use DFA told us that one of its reasons for not doing so is a concern that DFA could be removed at relatively short notice, as happened with DFX from some exchanges in 2021.²¹² Another DFA user (X) said that it is cautious regarding use of DFA due to the risk it may be removed, particularly when considering use within long-term customer contracts.²¹³

²¹¹ [X] response dated [X] to s135 notice dated [X], question [X].

²¹² [X] response dated [X] to s135 notice dated [X], question [X].

²¹³ [X] response dated [X] to s135 notice dated [X], question [X].

- 7.106 We therefore consider it important to ensure that, as far as possible, regulatory uncertainty about transitional arrangement does not disincentivise users and potential users from purchasing DFA.

Our proposed approach

- 7.107 We consider that a transitional period of five years for DFA circuits which are reclassified from LLA Area 3 to other regulated markets is appropriate. This approach will provide improved regulatory certainty, which in turn should support increased take-up and ultimately the effectiveness of the remedy. It will also mean that the impact on users is small, as they will have a sufficient period of time in which to source alternatives and switch to them. We consider that any adverse impact on network competition of our proposed approach would be minimal.
- 7.108 We consider our approach to be proportionate as it seeks to ensure that potential users of DFA are not disincentivised from using the proposed remedy (due to the potential reclassification of some circuits in future). We consider that the proposed transitional period represents the minimum required to ensure regulatory certainty and the effectiveness of our proposed remedy as Openreach will only be required to supply DFA circuits that are already in use as at the end of the current 2021-26 market review period and the additional cost to Openreach of continuing to supply these circuits is very low.
- 7.109 This approach applies to circuits purchased between April 2021 and March 2026. We cannot set out our approach to transitional arrangements at reclassified postcode sectors for connections purchased within the 2026-31 review period, as this will be a matter for our next market review. However, this proposal may provide potential DFA users with greater regulatory certainty and, now that we are aware of this concern, it will be a factor to consider in future decisions.
- 7.110 To give effect to the above proposal, we have included the requirements outlined above in draft SMP Condition 2 at Volume 7 requiring Openreach to provide transitional arrangements for DFA circuits where the postcode sector has been reclassified from LLA Area 3 to LLA Area 2 or HNR. As set out in Section 10, Section 87(3) of the Act provides a basis to set these SMP conditions and we have taken into account the factors set out in section 87(4) of the Act.
- 7.111 Our proposals in relation to the charge controls which will apply in these reclassified postcode sectors are set out Volume 4 and the relevant draft SMP conditions are in Volume 7.

Leased lines and DFA for FTTP aggregation

Background

- 7.112 Our remedies only require Openreach to provide LLA and DFA products between a BT exchange and an end-user site, or between two end-user sites.²¹⁴
- 7.113 Active leased lines (and dark fibre) can also be used to aggregate FTTP traffic from multiple premises for the purposes of deploying a fibre access network i.e. to provide connectivity from an intermediate aggregation or flexibility point (such as an FTTP cabinet) to an access

²¹⁴ Draft SMP condition 2.

aggregation node (such as a BT exchange). We refer to circuits used for this purpose as ‘aggregation circuits’.

- 7.114 In the WFTMR21, we explained that Openreach was not required to provide leased lines or DFA circuits for FTTP aggregation as telecoms providers already deploying their own fibre access networks are able to use PIA for these connections.²¹⁵ This reflected our strategy to promote network competition where it is viable.
- 7.115 However, Openreach has chosen to offer aggregation circuits commercially. Openreach sets pricing for these circuits by applying a rental surcharge on top of the existing regulated rental price for the leased line circuits. Pricing is based on the circuit bandwidth, with 10 Gbit/s circuits priced at a significantly higher premium compared to leased lines for other purposes (+116%) and versus 1 Gbit/s circuits (+26%).²¹⁶
- 7.116 Since 2021, several altnets have continued to use these commercial products to build their FTTP networks and argue that access to these circuits should be regulated. They are concerned that Openreach could increase the price of these circuits and are also concerned about the cost of upgrading 1 Gbit/s circuits to 10 Gbit/s circuits as their customers’ demand for bandwidth increases.²¹⁷

Our proposed approach

- 7.117 We remain of the view that Openreach should not be required to provide aggregation circuits, for the reasons set out below.
- 7.118 The relevant question is whether such a requirement is necessary to remedy BT’s SMP in the WLA market, rather than the LLA market.²¹⁸ This is because altnets are using these aggregation circuits to build FTTP access networks to compete with Openreach in the provision of WLA.
- 7.119 When imposing remedies, as set out in Section 1, our objective is to promote network competition as far up the value chain as possible, and we exercise our discretion in favour of an approach that achieves this objective. We require Openreach to provide PIA so that telecoms providers can deploy their own fibre access networks where this is viable. Where this is not viable, our downstream remedies enable telecoms providers to purchase wholesale products from Openreach to compete in the retail broadband market.
- 7.120 Some altnets have explained that using PIA is not economically viable in cases where FTTP is only being deployed to specific sites or small geographical areas, rather than to most premises within an area, given long build distances and limited number of premises over which to spread the cost.²¹⁹

²¹⁵ Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26](#). Volume 3, Paragraph 5.110.

²¹⁶ Openreach. [Price list, Ethernet Access Direct \(EAD\) including EAD Enable](#). Accessed on 7 March 2025. The products included are EAD 1000 and EAD 10000. We note that prices from 1 April 2025 have been updated for EAD 1000 and are consistent with the pricing trends we have identified.

²¹⁷ INCA, July 2024. Inter-exchange connectivity, Leased lines and Ancillary Services Market Review (non-confidential).

²¹⁸ In any event, our reasoning here applies to how we interpret the network access obligations in both the WLA and LLA markets.

²¹⁹ [redacted] response dated [redacted] to s135 notice dated [redacted], question [redacted]. [redacted] response dated [redacted] to s135 notice dated [redacted], question [redacted].

- 7.121 We acknowledge this may be the case, but we consider that requiring Openreach to provide aggregation circuits would not be consistent with our objective of promoting investment in competing fibre access networks. This is because such a requirement would allow altnets to build only certain elements of access networks and rely on Openreach's fibre for other parts of the access network (connecting from an intermediate aggregation or flexibility point to an access aggregation node) rather than build their own access network using PIA.
- 7.122 Such a requirement could also undermine existing or planned build by altnets that are deploying their own access network using PIA (or self-build). This is because there is a risk that altnets could use the regulated aggregation circuits to 'cherry pick' attractive premises within an area, depending on how any regulated aggregation circuits are priced.²²⁰
- 7.123 We recognise that there may be instances where regulated aggregation circuits could enable competitive provision in the WLA market (albeit reliant on Openreach fibre in the access network) that would not otherwise arise (e.g. where the business case for network build is otherwise marginal because relatively higher PIA costs can only be spread across a relatively small number of users).
- 7.124 However, these instances appear relatively limited. This is borne out by data from Openreach on which providers are purchasing aggregation circuits. We have not observed demand for FTTP aggregation from a wide range of telecoms providers. Several service providers are using Openreach leased lines for FTTP aggregation, however, demand for FTTP aggregation has primarily been used by a single provider [X] for targeted build sites. This provider is responsible for almost all (X) of the demand for these circuits in LLA Area 2, and just under half (X) in LLA Area 3.²²¹
- 7.125 Even if we wished to promote such competition, it is not possible to target just these areas and avoid the concerns above. As explained above, in these cases, our downstream remedies allow telecoms providers to purchase wholesale products from Openreach to compete in the retail broadband market.
- 7.126 Given the above, we propose to continue to interpret the network access obligations in the WLA and LLA markets as not requiring Openreach to provide active leased line circuits or DFA circuits where they would be used to aggregate FTTP to multiple premises for the purposes of deploying a fibre access network.

Consultation question(s)

Question 3.7: Do you agree with our proposed specific remedies in the LLA markets? Please set out your reasons and supporting evidence for your response.

²²⁰ We note that altnets assume that regulated aggregation circuits should be priced in the same way as LLA and DFA services between a BT exchange and an end-user site, or between two end-user sites.

²²¹ Openreach response dated 11 June 2024 to s135 notice dated 14 May 2024, questions B4 and B8.

8. Specific remedies: Inter-exchange connectivity market

Introduction

- 8.1 In this section we set out our proposals to retain the specific access remedies in the IEC market at BT Only and BT+1 exchanges. The specific remedies require Openreach to provide network access to services in the IEC markets, and any necessary ancillary services.
- 8.2 We also set out our proposals to require Openreach to provide dark fibre for inter-exchange (DFX). We propose expanding the scope of this remedy to cover all BT Only and BT+1 exchanges.
- 8.3 Our remedies are designed to address the competition concerns we have provisionally identified in our SMP market assessment (Volume 2) and are in line with our approach to remedies (Section 1).

Summary of proposals

- 8.4 This section sets out our proposals on DFX and active IEC services for BT Only and BT+1 exchanges. Our proposals in relation to charge controls on these services are set out in Volume 4.
- 8.5 We propose to:
- Retain the requirement on Openreach to offer active IEC services at all regulated BT exchanges.
 - Retain the CPI-0% charge control on active IEC services at all regulated BT exchanges.
 - Retain a requirement on Openreach to offer DFX, and extend it to all regulated exchanges.
 - Retain the same design elements of DFX as well as QoS and Reference Offer requirements as we set in WFTMR21.
 - Retain the cost-based charge control on DFX with some amendments.
 - Retain our approach to transitional arrangements for active IEC services, and propose new transitional arrangements for DFX where exchanges are deregulated.
- 8.6 In Section 3, we explain how our IEC regulations apply and how we propose to adapt our IEC regulation in the context of exchange exit.

Requirement to provide leased lines for inter-exchange connectivity

Summary of proposals

- 8.7 We propose to continue to require Openreach to provide leased lines for IEC at all bandwidths from BT Only and BT+1 exchanges (referred to as 'active IEC services' below).

We also propose to continue to require Openreach to offer the relevant ancillary services to support the provision of leased lines for IEC in those markets.

- 8.8 As set out in Volume 2, Section 6, our market analysis has provisionally found no provider to have SMP at BT+2 exchanges. We therefore do not propose any remedies for these exchanges.
- 8.9 We also propose that active IEC services in BT Only and BT+1 exchanges should continue to be subject to a charge control. Details of these proposals are set out in more detail in Volume 4.

Background

- 8.10 Leased lines used for inter-exchange connectivity provide a service to carry aggregated traffic between points of aggregation (BT exchanges) located in different geographic areas. As with leased lines in the LLA markets, Openreach currently provides two key forms of inter-exchange connectivity:
- a) Ethernet services; and
 - b) WDM services.
- 8.11 In the WFTMR21, we required Openreach to offer active IEC services from all BT Only and BT+1 exchanges. We imposed a charge control on all active IEC services that prevented prices from rising above 2021 levels in real terms.

Rationale

Network access to active IEC services

- 8.12 Competing telecoms providers need to use Openreach's services to carry aggregated traffic between BT exchanges to reach their own networks. In particular, Openreach's circuits in the WLA and LLA markets have handover points at BT exchanges. Therefore, access to IEC is an important enabler of competition downstream of these markets that is based on access to Openreach's network. Some alternative network operators are also reliant on connectivity between BT exchanges where they have built their own fixed access network in a BT exchange area and need to backhaul this access traffic to their own core and/or backhaul network.
- 8.13 Absent regulation, Openreach would have the ability and incentive to refuse to provide access to its IEC network or not provide access on terms that would enable efficient investment and innovation, both in the relevant wholesale markets (WLA and LLA) and the related downstream retail markets. This could undermine our access remedies by leaving other telecoms providers unable to backhaul traffic from their access to their core network.²²² This could result in consumer harm in the form of service degradation, restricted choice of provider and/or higher prices.
- 8.14 Although the general network access remedy we propose to retain (in Section 4) is aimed at addressing these competition concerns, we believe it does not provide telecoms providers with as much certainty as to the basis on which they have access. Given the importance of Ethernet and WDM active IEC services for the provision of broadband and other leased lines, we consider it appropriate to go beyond the general network access obligation to

²²² Our competition concerns are set out in Volume 2.

address the above concerns and ensure telecoms providers and consumers are sufficiently protected.

- 8.15 As discussed further below, where DFX is available, we have observed significant take-up of this product and we forecast this to increase over the review period. However, a large number of active IEC circuits remain in use even where DFX is available. While we expect these circuits to increasingly switch to DFX, this will take time, and so we consider that there will be continuing demand for active IEC circuits throughout the review period.
- 8.16 Therefore, we propose to retain the specific access obligation on Openreach to provide network access to each of Ethernet and WDM leased lines at all bandwidths for the provision of IEC. Specifically, we propose to maintain this requirement from all BT Only and BT+1 exchanges.
- 8.17 In addition to the specific access services, a number of ancillary services are necessary to enable and support the provision of inter-exchange connectivity, including as a minimum space and power, site access, Cablelink, interconnect, Time-related Charges (TRCs), and any other supporting services used for installation, maintenance, modification, and ceasing of this specific access service. We propose to retain the requirement that Openreach should provide these ancillary services.
- 8.18 Openreach's exchange exit programme, while affecting only 108 exchanges in the 2026-31 market review period (making up only 2% of Openreach's exchange footprint), will have an impact on active IEC services at these exchanges.
- 8.19 We set out in Section 3 what the possible impact of exchange exit on active IEC services at the first tranche of exchanges being exited will be. We additionally propose a mechanism to allow for the withdrawal of regulation in relation to active IEC services where an exchange has been fully exited – that is following written notice from Openreach that all telecoms providers have ceased to use network access at that exchange and have terminated their licences for space and power.
- 8.20 We set out our proposed charge controls for active IEC services, and the rationale for these, in Volume 4. Specifically, we propose to maintain pricing continuity for active IEC services (CPI-0%).

Reference Offer

- 8.21 As noted in Sections 4 and 7, a Reference Offer (RO) helps to assist transparency for the monitoring of potential anti-competitive behaviour, and gives visibility as to the terms and conditions on which other providers purchase wholesale services. This in turn helps to ensure stability (in regard to investment and promoting market entry) in the relevant fixed telecoms markets, allowing for faster negotiations, avoiding possible disputes and giving confidence to those purchasing wholesale services that they are being provided on non-discriminatory terms.
- 8.22 We therefore propose to retain the existing specific RO requirements for Ethernet services where these are used for IEC. These would require Openreach to continue to include in the RO SLAs and SLGs for the completion of the provision of service and fault repair times.
- 8.23 We did not require Openreach to publish a RO for WDM services in the WFTMR21. We considered that these products needed more time to mature before it would be appropriate to do so. In our view, these services have now matured to the extent that it is appropriate and proportionate to propose to impose a requirement to publish a RO. Our analysis of BT's published RFS shows that WDM circuits represented 76% of Openreach's

external active IEC circuits (by circuit rental volumes) across BT Only exchanges and BT+1 exchanges combined in 2023/24.²²³

Our proposed approach

- 8.24 For the reasons set out above, we consider that the measures being proposed are appropriate and proportionate in relation to BT's market power in the IEC markets. We also consider that our proposed mechanism to allow for the withdrawal of regulation in relation to active IEC circuits where an exchange has been fully exited to be proportionate in that it removes regulation when it is no longer required.
- 8.25 In order to implement these proposals, we propose to include the requirements outlined above in draft SMP Conditions 1, 2 and 7 published at Volume 7. As set out in Section 4, sections 87(3) and 87(6)(c) to (e) of the Act provide a basis for these draft SMP conditions and we have taken into account the factors set out in section 87(4).²²⁴

Requirement to provide dark fibre for inter-exchange connectivity

Summary of proposals

- 8.26 We propose to extend the scope of the DFX remedy by requiring Openreach to provide DFX at all regulated exchanges (all BT Only and BT+1 exchanges). In Volume 4, we set out our detailed DFX charge control proposals.

Background

WFTMR21 approach

- 8.27 In the WFTMR21, we required Openreach to provide DFX at cost at BT Only exchanges where there was no rival PCO within 100m of the exchange. We did not impose DFX at BT Only exchanges that did have a rival PCO within 100m of the exchange, or at BT+1 exchanges.
- 8.28 We considered that where DFX was available, it was likely to be more attractive than active IEC services. Accordingly, DFX would likely increase incentives for telecoms providers to purchase access to BT's network rather than building competing infrastructure. We therefore only imposed DFX at exchanges where we considered that the risks of undermining network competition were low, namely at BT Only exchanges with no nearby PCO.
- 8.29 At BT Only exchanges with a nearby PCO and at BT+1 exchanges, we considered there to be sufficient prospects of future network competition. In order to reduce the risk of undermining the development of network competition at these exchanges, we decided not to require Openreach to provide DFX.²²⁵

²²³ This has been calculated using pages 71 and 79 of BT's published 2024 RFS.

²²⁴ Our commentary on the section 87(4) factors set out in Section 4 also applies, where relevant, to the specific network access remedies.

²²⁵ Our WFTMR21 approach was in line with our BCMR approach (see Ofcom, BCMR 2019, Volume 2, Paragraph 12.131).

Rationale

- 8.30 Below, we set out the rationale for our proposal that Openreach should provide DFX at all BT Only and BT+1 exchanges, in addition to the proposed requirement to offer active leased lines at these exchanges. We first set out our rationale and proposed approach for continuing to oblige Openreach to provide BT Only exchanges with a nearby PCO. We then set out our reasoning for why Openreach should be required to extend DFX to the remaining BT Only and BT+1 exchanges.
- 8.31 DFX is, like DFA, a form of passive network access. It allows telecoms providers to lease only the fibre element of leased lines for inter-exchange connectivity from a supplier, allowing them to attach equipment of their own choosing at either end to 'light' the fibre and use it as the basis for offering a range of leased line products.
- 8.32 As set out in Section 1, our general regulatory approach is to apply remedies as far upstream as possible to ensure that as much of the value chain as possible is open to competition. The DFX remedy, as a passive remedy, sits further up the value chain than active IEC services. This means that it provides users with a more flexible input to downstream services offering the same benefits as those discussed in Section 7 for DFA.²²⁶

BT Only exchanges with no nearby PCO

- 8.33 We provisionally conclude that BT has SMP at BT Only exchanges with no nearby PCO. Absent a specific requirement to offer DFX, we are concerned that Openreach would withdraw this product. This risk is demonstrated by the fact that Openreach does not offer DFX at those exchanges where there is no regulatory requirement for it to do so. We consider that this would harm consumers and competition based on access to Openreach's network.
- 8.34 As set out above, DFX has advantages over active products, in particular, offering users a more flexible input into downstream services. Our evidence collected from stakeholders supports this view. DFX users have expressed their support for the DFX remedy. Some have also argued that it should be extended to more exchanges. Our evidence on the use of, and demand for DFX is discussed in more detail in Volume 4.
- 8.35 Take-up of DFX across the current review period further demonstrates those benefits, and the attractiveness of DFX as a remedy for many stakeholders.²²⁷ Across all BT Only exchanges (including BT Only exchanges at which DFX is not currently available), in 2023/24, DFX accounted for around 29% of new Openreach IEC connections (i.e. active IEC and DFX connections), and around 12% of total Openreach IEC rentals (i.e. active IEC and DFX

²²⁶ See Paragraph 7.30 in Section 7.

²²⁷ [redacted] response dated [redacted] to s135 notice dated [redacted], question [redacted], [redacted] response dated [redacted] to s135 notice dated [redacted], question [redacted], [redacted] response dated [redacted] to s135 notice dated [redacted], question [redacted], [redacted] response dated [redacted] to s135 notice dated [redacted], question [redacted], and [redacted] response dated [redacted] to s135 notice dated [redacted], question [redacted].

rentals).²²⁸ DFX is purchased by a wide range of stakeholders, including [redacted], [redacted], [redacted], [redacted] and [redacted].²²⁹

8.36 We therefore consider that we should retain the DFX remedy at BT Only exchanges with no PCO nearby.

BT Only exchanges with a nearby PCO and BT+1 exchanges

8.37 As set out above, we did not introduce DFX at BT Only exchanges with a nearby PCO and BT+1 exchanges in the WFTMR21 because we were concerned that doing so could undermine investment by competing providers, and ultimately network competition.

8.38 Our provisional IEC market analysis (set out in Volume 2) shows that, while some competing providers have built to exchanges where DFX is not available since 2021, build has been limited. Specifically, our provisional market analysis indicates that 51 exchanges classified in the WFTMR21 as BT Only with a nearby PCO have been reclassified as BT+1 or BT+2 (out of a total of 623), while 70 exchanges classified as BT+1 have been reclassified as BT+2 (out of a total of 745).²³⁰ This suggests that the benefit of restricting the scope of DFX in order not to undermine investment by competing providers at these exchanges has been limited.

8.39 Our provisional market analysis evidence also suggests that further investment, and therefore network competition, at these exchanges in this review period is unlikely. Based on the evidence received from stakeholders, we expect any rollout to additional exchanges to be limited during the review period.²³¹ In addition, Openreach's exchange exit programme is likely to reduce incentives for PCOs to build to exchanges that Openreach will exit, including those being exited after 2030.

8.40 Given this, as explained in Section 1, our objective at these exchanges in this review period is to secure effective access to, and downstream competition based on, Openreach's network, rather than to promote network competition.

8.41 We consider that the risk of DFX undermining the deployment of competing networks at BT Only and BT+1 exchanges to be low. Given this, and the benefits of DFX over and above active IEC services (set out above), as well as Openreach's low incentive to offer DFX without being required to do so, we do not consider that continuing to restrict the scope of DFX to BT Only exchanges with no nearby PCO would be appropriate. Instead, our view is that our objective would be better met by imposing DFX at all regulated exchanges.

8.42 We recognise that imposing DFX at BT+1 exchanges may have an impact on the competitors that are present at those exchanges, including at the 48 exchanges which have seen additional build since 2021.²³² However, given BT's SMP and the fact that we do not expect

²²⁸ 2023/24 volumes have been sourced from BT's published 2024 RFS (schedule 9.1.1). The statistics mentioned in this sentence refer to DFX connection/rental volumes as a share of all Openreach connection/rental volumes, encompassing internal sales (to BT) and external sales (to other telecoms providers outside of BT Group).

²²⁹ [redacted] response dated [redacted] to s135 notice dated [redacted], question [redacted], [redacted] response dated [redacted] to s135 notice dated [redacted], question [redacted], [redacted] response dated [redacted] to s135 notice dated [redacted], question [redacted], [redacted] response dated [redacted] to s135 notice dated [redacted], question [redacted], and [redacted] response dated [redacted] to s135 notice dated [redacted], question [redacted].

²³⁰ See Volume 2 for more detail.

²³¹ See Volume 2, Section 6, Paragraph 6.31.

²³² See Volume 2 for more detail.

any significant further build or strengthening of competition, we consider that it is necessary and proportionate to impose effective remedies that address that SMP.

Impact of the exchange exit programme on the DFX remedy

- 8.43 We recognise that Openreach’s exchange exit programme could have an impact on the extent to which telecoms providers will want to use DFX. For example, we recognise that there is an impact on DFX circuits that were installed at an exiting exchange in advance of confirmed exit dates and plans. Without clarity as to how these circuits will be treated, telecoms providers may be reticent to purchase further DFX circuits due to the risk of stranded assets and the potential costs of re-configuring their networks where an exchange may be exited at some point in the future. This could in turn have an impact on the effectiveness of the DFX remedy in addressing BT’s SMP at exchanges where we propose that DFX will be available.
- 8.44 In Section 3, we set Openreach’s current proposal for the treatment of existing DFX circuits as part of the ongoing commercial negotiations. While we await the outcome of the commercial negotiations, we note that Openreach continues to have an obligation to provide IEC services. We additionally propose in Section 3 a mechanism to allow for the withdrawal of DFX regulation where an exchange has been fully exited – that is following written notice from Openreach that all telecoms providers have ceased to use network access at that exchange and have terminated their licences for space and power.
- 8.45 More generally, we explain in Section 3 that where regulated products will be affected by exchange exit, appropriate notice should be given so that providers have appropriate and equal notice to plan for changes in their network.

Our proposed approach

- 8.46 To address the competition concerns set out above, we propose to extend the requirement on Openreach to provide specific network access in the form of DFX to all BT Only and BT+1 exchanges. We set out our proposals in relation to the design of the DFX remedy in more detail in the next section.
- 8.47 For the reasons set out above, we consider that the measures being proposed are appropriate and proportionate in relation to BT’s market power in the IEC markets at which we have provisionally found BT to have SMP. We have explained above why requiring BT to provide DFX at all regulated exchanges best meets our objectives, and why active IEC circuits will still be required throughout the review period. We also consider that our proposed mechanism to allow for the withdrawal of regulation in relation to DFX where an exchange has been fully exited to be proportionate in that it removes regulation when it is no longer required.
- 8.48 In order to implement these proposals, we include the requirements outlined above in draft SMP Conditions 1 and 2 published at Volume 5. As set out in section 4, section 87(3) of the Act provides a basis for these draft SMP conditions and we have taken into account the factors set out in section 87(4).²³³

²³³ Our commentary on the section 87(4) factors set out in Section 4 also applies, where relevant, to the specific network access remedies.

Design of the DFX remedy

- 8.49 We propose to continue to specify a number of aspects of the design of the DFX remedy, taking into account that it has now been in place since 2019. The design and supporting rationale for many of the aspects of DFX are the same as for DFA, but there are some differences.

Circuit configurations

- 8.50 To ensure that purchasers of DFX are not at a competitive disadvantage to purchasers of active wholesale services, telecoms providers should be able to obtain DFX circuits in similar configurations to Openreach's current range of active services.
- 8.51 We therefore propose that Openreach is required to provide DFX where the requesting telecoms provider is present (or intends to become present) for the purpose of providing and/or aggregating wholesale access services²³⁴ at all BT Only and BT+1 exchanges. Where the requesting telecoms provider has no such presence or intention, Openreach would not be required to provide DFX.
- 8.52 In relation to DFX we also propose to use a similar mechanism to IEC active services such that the obligation to provide DFX is maintained until full exit, as defined above, has been achieved at a particular exchange.

Arrangements concerning provision of new infrastructure

- 8.53 As with DFA, we do not believe it is appropriate to set prescriptive rules in the SMP condition covering every circumstance as we consider that this would carry a risk of regulatory failure. We therefore propose to supplement the DFX requirement with the same guidance as we set out in the WFTMR21 on when the obligation would apply in cases involving the provision of new fibre infrastructure.²³⁵

Provisioning, repair and service migration processes

- 8.54 We do not propose to impose detailed obligations about the provisioning, repair and service migration process that Openreach has to follow. We consider that the existing processes, which were originally developed for the DFX remedy imposed in the 2019 BCMR, remain suitable.

Ancillary services

- 8.55 In addition to this specific access obligation, a number of ancillary services are necessary to enable and support the provision of DFX, including as a minimum space and power, site access, interconnect, Cablelink, TRCs, patch panels and any other supporting services used for installation, maintenance, modification, and ceasing of this specific service, including initial testing, right when tested (RWT) and cessation. Given this, we propose that the DFX obligation continues to require Openreach to provide these ancillary services.
- 8.56 We propose to continue to require Openreach to provide an ancillary facility enabling external network termination for a DFX circuit that terminates at an exchange in which space and power is not available, provided it is reasonable and feasible to do so. This is

²³⁴ This includes regulated wholesale access services, such as WLA and LLA services, as well as non-regulated wholesale access services, such as fixed wireless access.

²³⁵ See Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26](#). Volume 3, Section 6, Paragraphs 6.169-6.174.

necessary to enable the effective use of the DFX remedy in situations where the building of new accommodation space and power may be inefficient.

- 8.57 Finally, unlike the DFA remedy, we continue to consider that ECCs are not required for DFX. As described in Section 7, ECCs are necessary to enable the provision of an access leased line requested by a telecoms provider and are specific to an individual customer at an end-user site. This generally equates to fibre between a nearby fibre flexibility point and the customer's premises. As such, these are not applicable to inter-exchange circuits or the main link of an access circuit.

DFX Reference Offer, QoS and pricing requirements

Reference Offer for the DFX remedy

- 8.58 We propose to retain the requirement on Openreach to publish a DFX Reference Offer (RO).
- 8.59 As noted in Section 4, ROs assist transparency for the monitoring of potential anti-competitive behaviour, and give visibility to the terms and conditions on which telecoms providers will purchase wholesale services. We consider this remains important for the DFX remedy.
- 8.60 The DFX RO must take into account the proposed general requirements in Section 4.
- 8.61 In order to implement this proposal, we are proposing to set draft SMP Condition 7 published at Volume 7. As set out in Section 4, sections 87(6)(c) to (e) authorise the setting of SMP services conditions in relation to the Reference Offer.

Quality of Service for the DFX remedy

- 8.62 We propose to retain the QoS standards on DFX. Our detailed proposals on QoS for DFX are set out in Volume 5.

Pricing of the DFX remedy

- 8.63 We propose to retain a cost-based charge control on DFX. We are making some updates to the level of the charge control based on updated evidence of the unit cost stack associated with providing benchmark EAD services. We propose to use a combination of starting charge adjustments (SCAs) and glidepaths to bring DFX charges into alignment with forecast unit costs by 2030/31.
- 8.64 We discuss the proposed charge control further in Volume 4.

Classification of circuits that cross boundaries between IEC markets

- 8.65 In the IEC market, as per the WFTMR21, we propose that circuits that cross boundaries between IEC markets should be classified as set out in Table 8.1 below.

Table 8.1: Classification of circuits that cross boundaries between IEC markets²³⁶

Classification of circuit	Location of circuit ends
BT+2	Both ends are in BT+2
BT+1	Both ends are in BT +1
	One end is in BT +1 and the other in BT+2
BT Only	One or both ends are in BT Only

8.66 Therefore, where circuits serve sites located in different geographic markets, the circuit should be classified as being in the least competitive market, where BT+2 is the most competitive, followed by BT+1 and finally BT Only.

Transitional arrangements for reclassified exchanges

Summary of proposals

- 8.67 We propose requiring Openreach to continue to provide existing DFX circuits (i.e. circuits that are ordered or already live up until 31 March 2026) from exchanges which are reclassified from BT Only DFX exchanges (i.e. those with no PCO within 100 metres) in the WFTMR21 to BT+2 exchanges in the 2026-2031 review, for a transitional period.²³⁷ We are asking for evidence to help us determine the appropriate length of this transition period.
- 8.68 We also propose to require Openreach to continue to provide existing active IEC circuits from any exchanges that have been similarly reclassified for a period of one year.²³⁸ This means that Openreach must continue to provide these existing circuits until end of March 2027.

Background

- 8.69 In the WFTMR21, we required Openreach to continue to supply existing DFX circuits at reclassified exchanges for a period of one year following publication of the statement. Openreach was not required to offer new DFX circuits at deregulated exchanges from that point. We took the same approach for active IEC circuits.
- 8.70 Given our proposals outlined earlier in this section to extend DFX to all BT Only and BT+1 exchanges, where exchanges are reclassified, it will only be BT+2 exchanges where Openreach will not be required to provide the DFX product.
- 8.71 Our market analysis has provisionally found that two exchanges that were previously classified in 2021 as BT Only DFX exchanges (i.e. BT Only with no PCO within 100 metres) would now be classified as BT+2. As BT+2 exchanges are not regulated, we consider that we

²³⁶ Where we refer here to a circuit end being located in a 'BT+2' exchange, we include both exchanges that we propose to designate as BT+2 in this review, and exchanges that we have previously deregulated and which we are not revisiting in this review.

²³⁷ Our DFX charge controls proposed in Volume 4 would continue to apply during any transitional period.

²³⁸ Our active IEC charge controls proposed in Volume 4 would continue to apply during any transitional period.

should put in place transitional arrangements for existing DFX circuits at exchanges which have been reclassified as BT+2, to avoid service interruption. Transitional arrangements for these circuits are important because they are necessary to ensure stability and a sustainable transition to alternative services.

- 8.72 Although this only affects a small number of exchanges in this review period, we would expect the approach we take to transitional arrangements for DFX at deregulated exchanges in this review period to be the starting point for considering transitional arrangements in future review periods.²³⁹

Rationale

DFX circuits

- 8.73 As explained above, the number of circuits that this affects is likely to be very small, as only two exchanges have been reclassified from BT Only with DFX to BT+2 in our provisional market analysis. We also note that, as the only exchanges where DFX will not be available moving forward are BT+2 exchanges, there should be alternatives available to DFX users from at least two other operators.
- 8.74 However, some DFX users have informed us that the period of one year that was set in the WFTMR21 was not long enough to migrate to alternative services and that in some cases, suitable alternatives did not exist. This caused disruption and higher costs, and in some cases involved them having to reconfigure their networks. One DFX user [redacted] said that having to use Openreach active products rather than DFX when exchanges were reclassified was inefficient and expensive.²⁴⁰ Another user [redacted] told us that following the reclassification of exchanges after the WFTMR21 and the withdrawal of DFX lines, it faced disruption to both its business operations and that of its customers.²⁴¹ [redacted] told us that the WFTMR21 approach to transitional arrangements, where existing circuits were only provided for a year caused regulatory risk across the business.²⁴²
- 8.75 Given this feedback from stakeholders, we recognise that there is concern around the WFTMR21 transitional arrangements for DFX of one year.
- 8.76 Given the evidence and submissions we have received from stakeholders, our provisional view is that a longer transitional arrangement is likely to be necessary, for example 2-3 years. However, we have not received sufficient evidence from users to determine specifically how long a transitional period is necessary. Therefore, we welcome evidence from users detailing the relevant technical requirements they have and detail of the time required to enable this to ensure a sustainable transition from DFX in unregulated exchanges.

Active IEC circuits

- 8.77 Our provisional market analysis has found that 75 exchanges that were previously classified as BT Only or BT+1, are now classified as BT+2. This means that Openreach will no longer be required to provide active IEC circuits at these deregulated exchanges. We recognise that in deregulated exchanges, Openreach continues to offer EAD active IEC circuits. Given the

²³⁹ We cannot prejudge what actions we will take in the future, as any decisions in future reviews will be made in light of the circumstances and legal framework applicable at that time.

²⁴⁰ [redacted] response dated [redacted] to s135 notice dated [redacted], question [redacted].

²⁴¹ [redacted] response dated [redacted] to s135 notice dated [redacted], question [redacted].

²⁴² [redacted] response dated [redacted] to s135 notice dated [redacted], question [redacted].

continued offering of this product, we believe that customers may only need to make limited changes as a result of deregulation. We have not received any comments from stakeholders raising any issues with the transitional arrangements for active IEC circuits. Therefore, we believe that the one year transition period that we set in WFTMR21 is sufficient, and we propose to retain this time period.

Our proposed approach

- 8.78 For DFX circuits which are reclassified from BT Only DFX exchanges to BT+2 exchanges in this review period we believe transitional arrangements are necessary to provide a sustainable transition. We welcome feedback and evidence from providers on the time period required to enable a sustainable transition in these circumstances.
- 8.79 We consider that a transitional period of one year for active IEC circuits which are reclassified from BT Only or BT+1 exchanges to BT+2 exchanges in this review period is necessary to ensure a sustainable transition for providers previously benefiting from the obligations imposed as a result of the previous SMP determinations.
- 8.80 In order to implement these proposals, we propose to include the requirements outlined above in draft SMP Conditions 2.8 and 2.9 published at Volume 7.²⁴³ For the reasons set out above we consider that our proposals are consistent with section 46(8A) of the Act.
- 8.81 We set out our proposals for transitional arrangements in relation to the charge controls for DFX and active IEC circuits in reclassified BT+2 exchanges in Volume 4.

Consultation question(s)

Question 3.8: Do you agree with our proposed specific remedies in the IEC markets?
Please set out your reasons and supporting evidence for your response.

²⁴³ Our proposed charge controls that will apply at reclassified BT+2 exchanges for a transitional period are set out in Volume 4, Section 3 and in SMP Condition 12 in Volume 7.

9. Regulation of geographic discounts and other commercial terms

Introduction

9.1 As discussed in Volume 2, Openreach faces the threat of an erosion of its market share and stronger future competition in areas where new networks are present, and therefore has incentives to undermine new entrants in ways that harm competition in the long term. We are concerned Openreach could do this using geographically targeted discounts. We are also concerned about the potential for other commercial terms that Openreach may offer telecoms providers to undermine network competition.²⁴⁴ This section sets out our competition concerns in relation to geographic discounts and other commercial terms, and our proposals to address these.

Summary of proposals

9.2 This section sets out our proposals on geographic discounts and other commercial terms. In brief, we are proposing:

- To apply a non-discrimination condition to geographic discounts on rental charges and/or connection charges for all products in WLA Area 2, for Ethernet and WDM services in LLA Area 2, and for retail inducements offered by Openreach to encourage consumers to purchase its VULA products in WLA Area 2.
- To maintain our current notification regime for commercial terms where the price or other contractual terms are conditional on the volume and/or range of services purchased, but with a longer notification period of 120 days. We have also provided updated guidance on the types of commercial offers that we might consider to be problematic.

Structure of this section

9.3 Below we first discuss geographic discounts. We then discuss other commercial terms that are conditional on the volume and/or range of services purchased, followed by other commercial terms that are not conditional in this way. Finally, we consider stakeholder concerns about Openreach's practice of discussing and amending its FTTP prices.

²⁴⁴ In this section, our competition concerns and proposed remedies generally apply to both WLA and LLA. Therefore, we have generally used the term 'telecoms provider', which includes ISPs and LL-only operators, to refer to Openreach's customers. Where our concerns are narrower, we have made this clear by using more specific terminology e.g. ISPs.

Geographic discounts

Summary of proposals

- 9.4 In the WFTMR21, we decided to restrict Openreach’s ability to discriminate through geographically targeted price reductions by imposing a specific provision in our no undue discrimination condition. Specifically, this condition makes it clear that Openreach is prohibited from unduly discriminating by charging different prices in different geographic areas for rental services, except where we otherwise consent. We refer to this in the remainder of this discussion as the “geographic discrimination prohibition”. It applies to both WLA and LLA.
- 9.5 In recognition that in some cases there could be benefits from geographic pricing, our 2021 regulation provides for Openreach to request Ofcom to consent to pricing or other offers which would otherwise be prohibited.
- 9.6 The condition we imposed in 2021 was intended to support altnets in rolling out new networks. We said that we would assess the need for it at each market review and expect to remove it when network competition is more established.
- 9.7 For the 2026-31 review period, we propose to retain the geographic discrimination prohibition, with some adjustments. Specifically, in relation to WLA services, we propose that it will apply to both rental and connection charges, and to retail inducements offered by Openreach to encourage consumers to purchase its VULA products, and will apply in WLA Area 2. In relation to LLA services, we propose that it will apply to both rental and connection charges for Ethernet and WDM services in LLA Area 2.
- 9.8 We are proposing to maintain the same consent process whereby Openreach could apply to us to consent to geographic pricing or retail inducements that would otherwise be prohibited.

Competition concerns

WLA

- 9.9 We remain of the view that Openreach could use geographically targeted price reductions or retail inducements – which involves charging different prices or providing different inducements for the same wholesale access – in order to undermine altnets’ ability to become established competitors to Openreach. Altnets face considerable challenges in becoming established and overcoming the incumbency advantages of Openreach. For example, Openreach’s vertical integration with BT’s retail businesses and its pre-existing relationships with ISPs puts it at an advantage relative to altnets.
- 9.10 In the WFTMR21, we explained that geographic discounts might reduce Openreach’s returns in certain areas. However, we were concerned that such a strategy may benefit Openreach in the longer term if its actions deter new network build, reduce competition and afford it a higher market share and the ability to charge higher prices over the longer term.²⁴⁵

²⁴⁵ Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26, Volume 3](#). Paragraph 7.11.

- 9.11 We recognise that rollout by alternative networks has progressed since 2021. However, as explained in Volume 2, network competition is not yet established. We consider that Openreach maintains the incentive and ability to use geographic discounts to undermine altnets' ability to compete and therefore the development of network competition in the longer term. As explained in Section 1 of this Volume, if altnets increase take-up on their networks this is likely to result in them becoming stronger competitors. Therefore, take-up is important to the development of network competition in the long run. Geographic discounts could deter the use of altnets, as well as incremental build, which could in turn weaken the competitive constraint they pose to Openreach in the future. As a result, limiting the circumstances in which Openreach can apply geographic discounts is likely to promote network competition in the longer term.
- 9.12 These competition concerns primarily relate to new network build by altnets, rather than established operators within their existing footprint, such as VMO2.²⁴⁶ Where VMO2 is building new network footprint, we would consider this as new network build (i.e. it falls under our competition concern).

LLA

- 9.13 Our competition concerns with LLA geographic discounts are similar to WLA. We are concerned that Openreach could use geographic discounts on leased lines to undermine altnets' and LL-only operators' ability to strengthen their position as competitors to Openreach.
- 9.14 We consider that our existing geographic pricing rules are promoting competition in line with our objectives. However, it takes time for altnets to overcome the barriers to entry and expansion we have identified (see Volume 2, Section 5). During the review period, there is also an opportunity to support further build by LL-only operators. Supporting evidence is set out in Volume 4, Section 2.
- 9.15 Therefore, we consider it is important to maintain the geographic discrimination prohibition for LLA services.
- 9.16 We note that we would be less concerned about geographic discounts used by Openreach where they are less likely to harm the development of network competition.

Rationale for ex ante regulation

- 9.17 In line with our reasoning in the WFTMR21, we consider it important to impose ex ante regulation to address the competition concerns outlined above, rather than to rely on competition law.
- 9.18 In carrying out our functions, Ofcom must have regard to (among other things) the desirability of promoting competition in relevant markets. Appropriate ex ante intervention at the upstream level can promote effective competition in downstream markets. It can also facilitate the emergence of effective competition at the upstream level itself. Our concerns go beyond Openreach setting potentially anti-competitive prices within the meaning of competition law, and extend to the broader impact that commercial terms may have on the strengthening of competition in the longer term.

²⁴⁶ "New" network build includes recent build e.g. since we made our strategic shift to promoting network competition. It is not limited to build completed in the 2026-31 review period.

- 9.19 We also note that competition law addresses anti-competitive behaviour after it has happened, and cases can take years to reach resolution. As a result, rival networks may be unable to secure deals or drive take-up while a competition case is ongoing (e.g. because it is unclear whether commercial terms introduced by Openreach will ultimately be deemed unlawful). Timeliness is a particular concern here, as otherwise altnets may miss out on the window of opportunity to drive WLA take-up and become stronger competitors to Openreach, which arises from the migration of customers from legacy broadband products to products supplied by gigabit-capable networks.²⁴⁷ In addition, timeliness is a concern for the LLA market, as otherwise rival networks may miss out on the opportunities arising from the expansion of their networks, and the alternative approaches to offering LLA services that we have seen emerging in the market.
- 9.20 We have also considered whether our other SMP remedies are sufficient to address our concerns. Our charge controls apply a cap on certain charges, but they do not stop Openreach from introducing geographic discounts that may be a concern. We explain in Paragraphs 4.102 – 4.104, Volume 3, Section 4 why we consider it appropriate and proportionate to set a no undue discrimination obligation in the WLA and LLA markets, and this could be used to regulate geographic discounts. However, we consider it important to provide additional clarity to Openreach and other networks in advance about the types of geographic pricing conduct that may be deemed to be unduly discriminatory under that condition. This aids transparency, promotes regulatory certainty and provides other networks with confidence as to how the no undue discrimination obligation would be interpreted.

Scope of geographic discrimination prohibition

WLA

Geographic scope

- 9.21 We have considered where the geographic discrimination prohibition should apply.
- 9.22 The competition concerns we have identified above are about the use of geographically targeted price reductions or retail inducements to undermine altnets' ability to become established competitors to Openreach. We are therefore particularly concerned about this occurring in areas where there is the potential for material and sustainable network competition to develop, and so we propose to apply the geographic discrimination prohibition to WLA Area 2. We consider that this is in line with our objectives for WLA Area 2, where we are seeking to promote investment and competition in gigabit-capable networks by Openreach and other communications providers.
- 9.23 We consider that material and sustainable network competition is unlikely to develop in WLA Area 3. Therefore, we do not consider that it is necessary to extend this to WLA Area 3.

Products and charges that the geographic discrimination prohibition would apply to

- 9.24 We propose that the geographic discrimination prohibition will apply to:
- a) all VULA products (FTTC, G.fast and FTTP), and MPF when used in combination with VULA; and

²⁴⁷ When we use the term legacy broadband in this Section we mean copper-based broadband. Please see the Glossary in Annex 22 for the full definition of copper-based broadband.

- b) rental charges, connection charges and retail inducements offered by Openreach to encourage consumers to purchase its VULA products.

9.25 In terms of the rationale for products covered:

- a) We are proposing that the non-discrimination condition would continue to apply to all VULA products (FTTC, G.fast and FTTP) as we consider Openreach could use geographic discounts on any of these products in order to undermine altnets' ability to become stronger competitors, and deter the use of altnet FTTP.²⁴⁸
- b) We are proposing that the restriction will also continue to apply to MPF when used in combination with VULA. This is because the benefit of this provision could be undermined if Openreach were able to target price reductions on MPF where it is used alongside VULA.

9.26 In terms of the rationale for charges covered:

- a) Given their significance and monthly recurrence, we propose that rental charges should continue to be within scope of the rules.
- b) Unlike in the WFTMR21, we propose to include connection charges.²⁴⁹ We consider that connection charge discounts could act as a substitute for lower rental charges, given they would reduce the total cost of using Openreach VULA. In addition, our experience since 2021 shows the importance of connection charges to ISPs and consumers. In particular:
 - i) Stakeholders have told us that connection charges are an important component of altnets' and ISPs' cashflow;²⁵⁰
 - ii) When Openreach has reduced its FTTP prices, it has cut both connection and rental charges, rather than just rental charges.²⁵¹ This suggests that Openreach sees connection charges as being significant to ISPs and consumers and relevant to their purchase decisions. Further, [redacted].²⁵²
 - iii) In the WFTMR21, we expected that over the longer term, connection charges for FTTP 40/10 would be £0 for premises with an active Openreach connection, once Openreach meets the first copper retirement threshold. We thus considered that altnets would need to respond to this zero connection charge, regardless of any regulation of geographic discounts. However, in practice, Openreach continues to set connection charges above £0 as explained in Volume 4, Section 5. In addition, we are proposing to amend our approach to the cap on FTTP connection charges, meaning that this part of rationale we set out in 2021 no longer applies.

9.27 We propose to interpret the rules as also applying to other pricing measures which might have the same effect as geographically differentiated rental or connection charges. For example, we consider that Openreach applying a migration credit of any form in effect

²⁴⁸ We consider that Openreach could be incentivised to offer geographically targeted discounts on FTTC products in areas where it has not yet deployed FTTP, to make altnet FTTP less attractive relative to Openreach FTTC.

²⁴⁹ We consider connection charges to include migration charges that are incurred by ISPs as a result of premises being migrated between ISPs while remaining on the same Openreach product.

²⁵⁰ INCA. August 2024. Submission for TAR26: Strengthening infrastructure competition by addressing barriers to expansion. Page 17; CityFibre. May 2020. [Response to WFTMR Consultation](#), Paragraphs 7.79-7.81.

²⁵¹ This was the case with both the Equinox 1 and Equinox 2 offers.

²⁵² [redacted] response dated [redacted] to s135 notice dated [redacted], question [redacted].

reduces rental and/or connection charges.²⁵³ As such, we consider that applying a migration credit on a geographic basis is equivalent to charging different prices in different geographic areas.

- 9.28 We also propose to amend the current SMP condition so that it also applies to retail inducements offered by Openreach on a geographic basis to encourage consumers to purchase its VULA products.²⁵⁴ Examples of retail inducements that would be covered by our proposed condition include offers by Openreach to consumers in some locations of ‘free’ products if they purchase Openreach FTTP, such as consumer retail vouchers or a subscription to a streaming service. This is because such retail inducements could have the same effect as geographically targeted wholesale price cuts by Openreach, although we note that their potential impact may depend on the scope, duration and attractiveness of the inducement in question.
- 9.29 Under Openreach’s Equinox 2 offer, FTTP connection charges differ between Area 2 and Area 3, as defined in the WFTMR21. Our proposed changes to the WLA market boundaries will result in connection charges varying within the newly defined Area 2 from 1 April 2026. These geographic variations in price would in principle be caught by the geographic discrimination prohibition. Openreach could apply to us for consent in writing in order to avoid disruption to the market, and we would expect to consult on any proposed consent in accordance with section 49A of the Act.

LLA

Geographic scope

- 9.30 We have considered where the geographic discrimination prohibition should apply.
- 9.31 The competition concerns we have identified above – that Openreach could use geographically targeted price reductions to undermine rival networks’ ability to become established competitors – are particularly concerning in areas where there is the potential for material and sustainable network competition to develop. Therefore, we propose to apply the geographic discrimination prohibition to LLA Area 2. We consider that this is in line with our objectives for LLA Area 2, where we are seeking to promote investment and competition in networks that offer LLA services by Openreach and other communications providers.
- 9.32 The competition concerns set out above should generally not apply in LLA Area 3 where we do not expect alternative LLA operators to have a significant presence. In the HNR Area, we recognise there is already greater network competition (see Volume 2, Section 5). Therefore, we are not proposing to extend the geographic discrimination prohibition to the HNR Area.

Products and charges that the non-discrimination prohibition would apply to

- 9.33 We propose that the geographic discrimination prohibition will apply to:

²⁵³ For example, a migration credit could take the form of a payment or rebate from Openreach to the retail ISP that is paid when a customer takes an Openreach FTTP service for the first time.

²⁵⁴ Openreach has already trialled such a scheme in summer 2024. It ran a two-month trial offering £50 One4All gift cards to end customers who ordered FTTP with an ISP of their choice, on the Openreach network. The customer portal briefing is [here](#).

- a) all Ethernet and WDM services;²⁵⁵ and
- b) rental charges and connection charges.

9.34 In terms of the rationale for the products covered, we are proposing that the non-discrimination condition would continue to apply to all Ethernet and WDM products as we consider Openreach could use discriminatory geographic discounts on any of these types of leased line products to undermine altnets and LL-only operators.²⁵⁶

9.35 In terms of the rationale for the charges covered:

- a) As outlined in Paragraph 9.26(a) for WLA, we propose that rental charges should continue to be within scope of the rules given their significance and monthly recurrence.
- b) In addition, in line with our rationale at Paragraph 9.26(b) to include WLA connection charges within the scope of the rules, we propose to include LLA connection charges in the scope of the rules on geographic charges. This is because we consider that discounts on connection charges, which form a significant portion of the total price, could be used to undermine competition in leased lines in a similar way to rental charges.²⁵⁷ The rationale for including other pricing measures such as migration credits, outlined at Paragraph 9.27, applies to LLA services as well as WLA services.

Granting consent for geographic pricing schemes

General guidance on the assessment of the geographic discrimination prohibition

9.36 In recognition that in some cases there could be benefits from geographic pricing, our regulation provides for Openreach to request consent to use different geographic prices that would otherwise be prohibited. While this places some additional burden on Openreach, we consider that this is justified in the context of our overarching strategy to promote network competition, and the competition concerns we have identified.

9.37 It is difficult for us to provide guidance on the circumstances in which we might consent to a scheme which covers every eventuality, given the wide range of possible pricing initiatives that Openreach could propose. Nevertheless, we have provided some indications of what we consider to be undue discrimination to aid clarity.²⁵⁸

9.38 Where a discount scheme involves geographic price differentiation within WLA Area 2 or LLA Area 2, we are likely to consider that it amounts to undue discrimination in breach of the prohibition unless Openreach can demonstrate that there is an objective justification for the differential pricing. In assessing differential geographic pricing we would therefore consider:

- a) any objective justification provided by Openreach for the differential pricing; and

²⁵⁵ We consider Ethernet leased line services delivered over XGS-PON and EAD2.0 fall within the definition of “Ethernet”.

²⁵⁶ We are not proposing to replicate the existing carve-out for prices that pre-date the current SMP condition 4.6. This carve-out applied to Openreach’s geographic discounts that were live at the time of the WFTMR21 Statement. See [here](#) for the consent decision for these offers.

²⁵⁷ See Openreach’s Ethernet services price list which shows that LLA connection charges are significant. (Openreach, [Ethernet services price list](#), accessed on 4 March 2025).

²⁵⁸ See also Section 4 where we discuss the general prohibition on undue discrimination and set out how we propose to interpret this.

- b) whether it is consistent with our overarching policy objectives (including our strategy to promote network competition).
- 9.39 We would expect Openreach to explain the purpose of the scheme and why it will not undermine network competition. We would be happy to discuss with Openreach any specific initiatives that it is considering.
- 9.40 We consider it less likely that price differences reflecting geographic variations in cost would be unduly discriminatory, particularly where:
- a) They are not targeted based on variations in competitive conditions (current or prospective);
 - b) Openreach can provide clear evidence of the differences in cost of provision; and
 - c) Openreach applies any cost reflective pricing to all areas in an open and transparent manner. In particular, all areas with similar geographic costs are offered the same geographic price. We would be unlikely to consent to a proposal which allowed Openreach to pick and choose the areas where cost differences are reflected in prices.
- 9.41 We continue to adopt the view that we have previously taken that new-to-network offers are not captured by the scope of the rules on geographic prices.²⁵⁹
- 9.42 We will consider any scheme proposed by Openreach on a case-by-case basis reflecting the context and circumstances – we will not necessarily consent to a new scheme because Openreach has done something similar before. This guidance does not fetter our discretion in individual cases, and it does not impact the wider application of competition law to Openreach.

WLA specific guidance

- 9.43 As is currently the case under the SMP conditions, we propose that the geographic discrimination prohibition will cease to apply to FTTC services in exchange areas where we have removed the charge control obligations on FTTC as part of our copper retirement rules.²⁶⁰

Consent process for geographic pricing

- 9.44 We propose to follow the same process that was set out in the WFTMR21. The steps we plan to follow are outlined below:
- a) Openreach can discuss the proposed consent request with us on an informal basis. This is not a requirement but may be helpful i.e. so we can share any initial concerns with Openreach, and it could allow us to conduct initial analysis ahead of formal notification which could aid overall expediency of the process.
 - b) Openreach formally notify us in writing that it is requesting consent for specific geographic pricing. We would expect the notification to include:
 - i) the services and areas the geographic pricing would apply to; and
 - ii) the prices, terms and conditions that would apply.
 - c) We would expect Openreach to explain the purpose of the scheme and why they consider it will not undermine network competition.

²⁵⁹ New-to-network offers are discounts for ISPs where a premise has no existing Openreach products and services. Ofcom. September 2021. [Statement: Openreach proposed FTTP offer starting 1 October 2021](#) Paragraphs 3.115-3.118.

²⁶⁰ I.e. Where Openreach has published a Second Threshold Notice in relation to the exchange area.

- d) We would expect to communicate to stakeholders that Openreach has formally applied for a consent and the geographic pricing requested.
- e) We may gather further information from Openreach and other stakeholders (as appropriate). We anticipate using our statutory information gathering powers. We will decide what information to gather on a case-by-case basis depending on the details of the proposed pricing and likely impact on the market.
- f) We will assess the information and evidence to reach a provisional view, considering our assessment criteria and guidance set out in this section. Having done so, we will consider the appropriate next steps in each case.
- g) We would expect to consult for one month.²⁶¹ Our consultation would set out our assessment and provisional view on whether consent should be granted or not.
- h) At the end of the consultation period we would consider stakeholder responses and aim to issue a final decision as soon as possible (clearly this would depend on the nature and extent of responses).

9.45 If we have decided to consent to the geographic pricing, we would then expect Openreach to issue an Access Change Notice.

Other commercial terms

Summary of proposals

- 9.46 We remain of the view that Openreach could use other commercial terms to undermine the development of network competition in the longer term.²⁶² We are particularly concerned about terms such as loyalty discounts or pricing contingent on large volume commitments. For this reason, we propose to retain a notification regime for commercial terms where the price or other contractual conditions are conditional on the volume and/or range of services purchased. We also propose to extend the notification period from 90 days to 120 days. Where necessary we will intervene to prevent such terms, including through our direction making powers under SMP conditions.²⁶³
- 9.47 We also propose to update our guidance on some types of terms that we may be concerned about. For example, we explain the concern that Openreach may use commercial terms to significantly accelerate migration of ISPs' base of legacy broadband customers to its FTTP network before wholesale altnets are able to compete in a similar way. We are concerned that this could undermine the development of network competition in the longer term.

Background

Our approach in WFTMR21

- 9.48 In the WFTMR21 we set out our concern that Openreach could use commercial terms that undermine new network build. We identified terms which could induce loyalty (e.g. Openreach offering lower prices in return for large volume commitments) as a particular concern because this could deter access seekers from switching demand to new alternative networks.

²⁶¹ We would consider our statutory obligation to consult under s.49A CA03.

²⁶² 'Other' in this context refers to terms other than geographic discounts.

²⁶³ Other types of pricing/commercial terms that may undermine network competition may also be considered as notified by Openreach under the Access Change Notice.

- 9.49 We said that we would consider such terms as they are notified by Openreach and, where necessary, use our powers under SMP conditions to intervene to prevent commercial terms which we considered problematic. To enable us to consider such terms, we required Openreach to provide 90 days' notification of commercial terms where the price or other contractual terms are conditional on the volume and/or range of services purchased. We said that this would allow time for Ofcom to investigate proposed terms on a case-by-case basis, and where necessary intervene to prevent such terms.

Openreach pricing offers

- 9.50 On 1 July 2021, Openreach notified new pricing arrangements for its FTTP services that applied from 1 October 2021 (the 'Equinox 1 Offer'). Following our assessment of that offer and stakeholders' views, we published a statement on 30 September 2021 setting out our view that the Equinox 1 Offer did not raise competition concerns requiring ex ante intervention. Therefore, we decided to take no action in relation to the offer at that time.
- 9.51 Our decision to take no action in relation to the Equinox 1 Offer was appealed to the Competition Appeal Tribunal (the 'Equinox 1 Appeal'). In July 2022, the Tribunal dismissed the appeal.²⁶⁴
- 9.52 In the first half of 2022, Openreach also began parallel discussions with ISPs to improve terms of access. These discussions included a potential offer with 'percentage of base' targets to migrate an ISP's existing legacy broadband customer base to Openreach FTTP. As envisaged in the WFTMR21, in April 2022 Openreach discussed its proposals for this offer with Ofcom on an informal basis.²⁶⁵ We subsequently shared some initial views/concerns with Openreach.
- 9.53 The Equinox 2 offer was notified to Ofcom on 14 December 2022, with the offer intended to come into force on 1 April 2023 (the 'Equinox 2 Offer'). This proposal did not include 'percentage of base' targets.
- 9.54 Following our assessment of this offer and stakeholders' views, we published a statement on 24 May 2023, setting out our view that the Equinox 2 Offer did not raise competition concerns requiring ex ante intervention. Alongside our assessment of the terms of the Equinox 2 Offer, we also considered stakeholder concerns about the level of pricing under that offer and Openreach's practice of discussing and developing discounts with ISPs. However, we did not at that time identify any concerns that would lead us to investigate further.
- 9.55 Since the Equinox 1 Offer was introduced, we have continued to monitor the fixed telecoms market and the impact of the Equinox 1 and 2 Offers on ISPs.

Competition concerns

- 9.56 We remain concerned that Openreach could use other commercial terms to undermine the development of network competition.
- 9.57 We recognise that rollout by altnets and LL-only operators has progressed since 2021. However, similar to our competition concerns in relation to geographic discounts as set out in Paragraphs 9.9-9.16 above, we consider that Openreach maintains the incentive and

²⁶⁴ [CityFibre Limited v Ofcom \[2022\] CAT 33](#) Published 15 July 2022

²⁶⁵ March 2021 Statement. Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26](#). Paragraph A11.8.

ability to use other commercial terms to undermine the development of network competition in the longer term.

- 9.58 In this context, terms such as Openreach offering lower prices in return for large volume commitments are a particular concern because this could deter access seekers from switching demand to altnets and/or LL-only operators. Openreach is the only operator with a national footprint. Telecoms providers wishing to offer services on a national scale have no choice but to purchase WLA and/or LLA from Openreach in certain areas. Openreach could design commercial terms which mean access seekers face a significantly higher average charge for services purchased from Openreach if they don't purchase all their services from Openreach. For example, Openreach could make discounts on telecoms providers' purchases conditional on buying significant volumes and/or range of services, which mean in effect telecom providers cannot use rival networks for any meaningful volumes without losing those discounts. This could exclude rival networks even if telecom providers found them preferable, depriving them of demand and undermining the development of network competition in the long run.²⁶⁶

Rationale for ex-ante regulation

- 9.59 We continue to consider it important to impose ex-ante regulation to address our competition concerns, rather than rely on competition law. We consider that the rationale set out above (Paragraphs 9.17-9.19) in relation to the need for ex-ante regulation to address our geographic pricing concern also applies here.
- 9.60 We have also considered whether our other SMP remedies are sufficient to address our concerns. Our other proposals for ex-ante remedies do not address the competition concerns we have outlined above. Our charge controls (discussed in Volume 4) apply a cap on charges. These do not prevent Openreach from introducing other commercial terms that may raise the competition concerns outlined above.
- 9.61 The general requirements for network access to be on fair and reasonable terms, conditions and charges, and not to be unduly discriminatory, may apply to certain offers that Openreach may make. However, they may not be sufficient on their own to address all the potential concerns that arise. We thus regard it as important to retain a notification requirement for certain commercial offers, as part of a suite of ex ante regulations we are proposing, so that we may intervene before problematic terms come into effect.

Form of ex-ante regulation

- 9.62 Given the competition concerns set out above, we are proposing to retain a notification regime for commercial terms where the price or other contractual conditions are conditional on the volume and/or range of services purchased. We refer to these below as "conditional terms". This would allow Ofcom time to investigate these terms on a case-by-case basis before they are implemented and, if appropriate, intervene before they come into force.

²⁶⁶ Competitors would need not only to offer a better deal than Openreach for those volumes that switch to them, but they would also need to compensate the telecoms provider for having to pay a higher price for those volumes that they cannot switch away from Openreach.

- 9.63 We propose to continue to provide clarity through guidance on the types of conditional terms that would be acceptable or unacceptable and have updated our guidance, set out later in this section.
- 9.64 We consider that this approach is more appropriate and proportionate than an outright prohibition on specific commercial terms, for the following reasons:
- a) A case-by-case assessment is appropriate since the impact of a particular Openreach proposal will depend on the facts, including the specifics of that proposal and the wider market context. Also, the impact may change over the review period as altnets become stronger competitors.
 - b) A case-by-case assessment lessens the risk that Openreach is deterred from introducing schemes that benefit consumers while posing little or no risk to competition.²⁶⁷
- 9.65 We are also proposing to extend the notification period from 90 days to 120 days. We consider that the notification period should be extended based on our experience of the time required to carry out an appropriate assessment.²⁶⁸ We recognise that a longer notification period may delay the introduction of new offers by Openreach. However, we consider any downsides of extending the notification period by 30 days are outweighed by the potential benefits from safeguarding network competition.
- 9.66 As is currently the case, we propose that this condition would apply to the supply by Openreach of all WLA and LLA products. As set out above, we would be concerned if Openreach were to undermine the development of network competition in the longer term in either of these markets.
- 9.67 We propose the condition applies in WLA Area 2, WLA Area 3, LLA Area 2, LLA Area 3 and the HNR Area. In the case of WLA Area 2, LLA Area 2 and the HNR Area this is because competitors have a significant presence in these areas and it is important that this competition is not undermined. We recognise that there is unlikely to be the potential for material and sustainable competition in WLA Area 3 and LLA Area 3. However, we are concerned that Openreach could use pricing structures where the price paid in one geographic area where it has SMP depends on whether customers purchase from Openreach in another area. For example, a discount on leased line services in LLA Area 3 that is conditional on maintaining broadband volumes with Openreach in WLA Area 2. Such structures might only apply to the terms in LLA Area 3 (say), but would affect incentives to use altnets in WLA Area 2.

Guidance on conditional terms

- 9.68 While any decision on what terms might be acceptable or unacceptable would depend on the specific circumstances, in this section we set out our proposed guidance on the types of conditional terms that we might consider to be problematic.
- 9.69 We start by providing examples of terms that could deter telecoms providers from switching volumes to rival networks, which are a particular concern. We then discuss the

²⁶⁷ Under the current regime, we scrutinised Openreach's discount schemes (Equinox 1 and 2 Offers) and found that they did not raise competition concerns requiring ex ante intervention.

²⁶⁸ Producing the 2021 Equinox 1 Statement took 92 days (counting from 1 July 2021 when the offer was notified to 30 September 2021 when this statement was published). Producing the 2023 Equinox 2 Statement took 162 days (counting from 14 December 2022 when the offer was notified to 24 May 2023 when the statement was published).

concern that Openreach uses conditional terms to significantly accelerate migration of ISPs' legacy broadband customers to its FTTP network before wholesale altnets can compete. We are concerned that this could have a material impact on the development of network competition in the longer term.

- 9.70 We recognise that Openreach may wish to use conditional terms to compete with VMO2. However, in doing so it is important that the development of network competition in the longer term is not undermined. We consider that our proposals, as set out below, will allow us to strike an appropriate balance between these considerations.

Arrangements which deter telecoms providers from switching volumes to rival networks

- 9.71 We consider that arrangements which deter telecoms providers from switching volumes to rival networks are likely to undermine the development of network competition.
- 9.72 We have twice applied the analytical framework set out in the WFTMR21 to assess whether Openreach pricing offers could deter ISPs from switching to altnets. The experience gained assessing the Equinox 1 and 2 Offers and the judgment of the Tribunal in the Equinox 1 Appeal inform our proposed analytical framework for considering terms which could deter telecoms providers from switching volumes to rival networks.
- 9.73 A range of different pricing terms could potentially result in incentives which deter telecoms providers from switching to rival networks. Pricing schemes could be overtly loyalty inducing, in that they directly penalise telecoms providers for moving volumes to rival networks. Other schemes may operate with the indirect effect that obtaining discounts is in practice contingent on whether telecoms providers purchase from rival networks. Examples of the types of arrangements that are overtly loyalty inducing could include:
- a) Exclusivity discounts i.e. discounts conditional on the telecoms provider purchasing all or most of its requirements from Openreach.
 - b) Retroactive rebates i.e. where a rebate is applied to all units purchased from Openreach over a reference period once a certain threshold is reached.
 - c) Structures where the price paid in one geographic area where BT has SMP depends on whether the telecoms provider purchases all or most its requirements from Openreach in another area. For example, a geographic discount on leased line services in LLA Area 3 that is contingent on maintaining volumes with Openreach in LLA Area 2.
- 9.74 Consistent with the current approach, we propose that our assessment of notified commercial terms would begin by considering whether the arrangement creates a potential barrier to using rival networks. If we conclude that Openreach's proposed commercial terms do create a potential barrier to using rival networks, our starting point would be that the creation of any barrier to using rival network operators would only be justified where:
- a) the impact on network competition is unlikely to be material²⁶⁹; and
 - b) the arrangements will generate clear and demonstrable benefits, such as:
 - i) the arrangements are essential to Openreach's business case for fibre roll-out; or

²⁶⁹ In the WFTMR21 we specifically referred to nascent network competitors and altnets (e.g. Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26](#) Volume 3, Paragraph 7.154.). However, our regulation and this guidance also apply to the LLA market which includes LL-only operators. Therefore, we have amended the wording in our guidance to more clearly reflect that our regulation also applies to these competitors.

- ii) the arrangements are necessary to offer more efficient prices that would deliver benefits for consumers.
- 9.75 Consistent with the approach applied to the Equinox 1 and 2 Offers, we propose that when applying this framework to a set of notified commercial terms our analysis would consider up to three questions:
- a) **Question 1:** Do the notified commercial terms potentially create a barrier to using rival networks?
 - b) **Question 2:** Are the notified commercial terms likely or unlikely to have a material impact on network competition?
 - c) **Question 3:** Are the notified commercial terms likely to generate clear and demonstrable benefits?
- 9.76 When answering Question 1, we would consider the extent to which a notified offer might create a barrier for telecoms providers' use of rival networks. In line with the Tribunal's judgment in the Equinox 1 Appeal, this requires the identification of a concern which is not just a theoretical possibility, but instead needs to be plausible given the evidence available and based on reasonable underlying assumptions. In making our assessment we would consider the likelihood of events happening (or not happening). As noted by the Tribunal, there could be a range of different degrees of plausibility which might arise in particular scenarios. We would consider whether scenarios are real enough to justify intervention, bearing in mind our wider duties and responsibilities.
- 9.77 To be clear, our expectation is that if we considered that the notified commercial terms do potentially create a barrier to using rival networks, we would need to be satisfied that both conditions a) and b) at Paragraph 9.74 above are satisfied. Even if we considered that the potential impact on nascent network competition would be unlikely to be material, we would still expect Openreach to demonstrate that the terms are likely to deliver clear benefits for consumers. Commercial terms would not be justified if there is likely to be a material impact on nascent network competitors, even if there are benefits to consumers.
- 9.78 We would further expect Openreach to explain (i) its assessment of the likely impact of the commercial terms on rival networks; and (ii) the rationale and/or anticipated benefits of the arrangements. This would help us to make an informed decision when evaluating whether to use our ex ante powers. The benefits should be clear and demonstrable, and Openreach should explain the extent to which these would accrue to consumers. For example:
- a) Why the arrangements are essential to supporting fibre rollout. We would consider the impact on both Openreach and other network operators (consistent with our policy objective). With respect to Openreach's rollout, we would need to see evidence that the conditions of the offer were necessary over and above our regulation to support copper retirement²⁷⁰; and/or
 - b) Why the arrangements are necessary to offer more efficient prices that would deliver benefits for consumers. For example, setting low incremental wholesale charges to customers for higher quality products. We would evaluate these benefits recognising that more efficient pricing structures of this type often can be achieved in a variety of ways that need not require large volume commitments on the part of wholesale customers.

²⁷⁰ See Section 2.

- 9.79 If we decide to use our ex ante powers to prevent Openreach from bringing its proposed commercial terms into force, then we will clearly set out our reasons for doing so, including the anticipated harm from the terms. In addition, we will set out how the intervention meets our legal tests.

Openreach commercial terms that significantly accelerate migration to FTTP

- 9.80 We have identified an additional concern that Openreach could use commercial terms to encourage ISPs to significantly accelerate the migration of their existing customer bases on legacy broadband services to Openreach's FTTP network, before ISPs are able to migrate their bases to an altnet instead. We explain the nature of this concern below.
- 9.81 ISP-led migration of their existing customer bases represents an important opportunity for altnets that wholesale to increase take-up. This, in turn, may strengthen network competition in the future (we discuss the importance of take-up in Section 1).²⁷¹ While many customers have migrated to FTTP services where they are available, a significant share will still be taking Openreach's legacy broadband services at the start of the 2026-31 review period.²⁷² Openreach has a strong incentive to encourage ISPs to rapidly migrate these customers. Besides generally supporting its FTTP business case and the retirement of its copper network, [redacted].²⁷³ While altnets can compete for customers that have already migrated to FTTP, the barriers to migrating customers from legacy broadband services to FTTP are lower.
- 9.82 We are supportive of Openreach competing to make its network attractive to ISPs and their end customers, for example through lower prices or better quality of service – indeed, this is consistent with our objectives to promote network competition. However, we are concerned about Openreach offering commercial terms that specifically require ISPs to migrate their existing legacy customers quickly to benefit from more attractive terms, which could in certain circumstances undermine the development of network competition in the longer term.²⁷⁴
- 9.83 This is because ISPs may not yet be in a position to migrate their legacy customers to an altnet that is available (for example, where a wholesale agreement is imminent, or an ISP has recently signed a wholesale agreement but has not yet completed the integration necessary for it to place substantial order volumes). In this situation, the ISP may be tempted to take advantage of Openreach's offer and to migrate a substantial portion of its legacy customer base to Openreach's FTTP network. This could exclude altnets, even if ISPs will prefer them to Openreach once the ISP is in a position to place orders with them,

²⁷¹ ISP led migration includes proactive migration of end customers or other ways that ISPs can encourage their end customers to switch to FTTP.

²⁷² As explained above, when we use the term legacy broadband in this Section we mean copper-based broadband (see the Glossary in Annex 22 for the full definition). We estimate that Openreach currently has around 14 million legacy broadband customers and we forecast that this will fall to around 12 million by the start of the review period. During the review period (April 2026 to March 2031), we forecast that around 8 million consumers will migrate from Openreach's legacy broadband services. Source: Ofcom forecasts calculated in the 2025 WLA Volumes Module.

²⁷³ [redacted]. [redacted] response dated [redacted] to s135 notice dated [redacted], question [redacted]

²⁷⁴ For example, making a lower price conditional on ISPs hitting targets related to the migration of their existing customer base by certain points in time. This differs from a straight discount on FTTP prices which is not dependent on the timing or pace of migration.

undermining their ability to increase take-up and therefore the development of sustainable network competition in the longer term.²⁷⁵

- 9.84 We consider that this concern about Openreach incentivising accelerated migration is greatest in relation to commercial terms that are conditional on the volume and/or range of services purchased from Openreach, because such conditional discounts can be designed to create strong incentives to migrate consumers quickly.²⁷⁶ Our proposed notification regime means that Openreach will already have to notify these conditional terms. This means we would be able to consider whether notified offers that significantly accelerate the migration of ISPs' legacy broadband base raise competition concerns and intervene where necessary.
- 9.85 Some conditional terms that incentivise accelerated migration could deter ISPs from switching volumes to rival networks as described at Paragraph 9.58, and so could be considered using the analytical framework set out at Paragraphs 9.71-9.79.²⁷⁷ However, our competition concern goes beyond this. Offers conditional on the range and/or volume of services purchased that incentivise accelerated migration may not deter ISPs from switching volumes to altnets but could still raise concerns for the reasons set out above. For example, if Openreach used conditional terms that encourage ISPs to migrate their existing legacy customers quickly without requiring that they are migrated to Openreach's FTTP services, but ISPs were not yet able to migrate their customers to an altnet.²⁷⁸
- 9.86 In considering conditional offers that incentivise accelerated migration, we would consider the impact on network competition of accelerating the migration of Openreach legacy broadband customers and whether the proposal is likely to generate clear and demonstrable consumer benefits. We anticipate that this will be a balancing exercise and will require Ofcom to exercise its regulatory judgment.
- 9.87 This competition concern applies where there are temporary obstacles to ISPs being able to migrate their legacy customers to an altnet.²⁷⁹ We are more likely to be concerned where

²⁷⁵ Openreach's incumbency means that it has a longstanding existing relationship with ISPs, unlike altnets. Openreach also supplies the majority of the retail market, so an ISP that chooses not to take advantage of an offer from Openreach because it wishes to use an altnet in the future may lose customers to other ISPs (including BT Consumer) that do take advantage of the offer.

²⁷⁶ For example, an unconditional price cut is likely to have a weaker impact on the pace of migration than a conditional discount.

²⁷⁷ If Openreach used conditional terms that required ISPs to migrate their existing legacy customers quickly to Openreach's FTTP services, such terms could deter the use of an altnet if this affects the price that an ISP pays for Openreach services. For example, if Openreach offered lower prices conditional on hitting targets related to the migration of the ISP's legacy customer base to Openreach's FTTP services, an ISP could be deterred from migrating customers to altnet FTTP if this jeopardised hitting the targets.

²⁷⁸ For example, if Openreach offered lower prices conditional on hitting targets related to the migration of the ISP's legacy customer base off legacy broadband services, but it did not matter which services they migrate to (e.g. Openreach FTTP, altnet FTTP, VMO2). In theory, use of an altnet does not affect the price that an ISP pays for Openreach services, but this still raises concerns if the ISP is not practically able to migrate those customers to an altnet that it would find preferable. This is a change to our guidance in the March 2021 Statement. Ofcom. March 2021. [Promoting investment and competition in fibre networks – Wholesale Fixed Telecoms Market Review 2021-26](#). Volume 3. Paragraph 7.169.

²⁷⁹ Our focus is on temporary rather than enduring barriers to altnets being able to compete because we want to ensure that we only intervene when there is a clear prospect that altnets will be able to overcome those barriers. In these cases, allowing altnets more time to be ready so they can benefit from this migration may be a proportionate intervention that is beneficial to the development of network competition in the longer term. Given that the concern is based on temporary barriers to wholesale competition, there is a possibility that this concern diminishes before the start or during the 2026-31 review period.

there are large ISPs that have credible plans to use altnets with a significant existing footprint, and there is evidence that the parties are actively working to implement those plans but they are not yet operational.²⁸⁰ When these temporary obstacles are overcome, ISPs can then respond by choosing which network to use based on their preferences (and altnets and Openreach can compete to supply them). In this scenario, these types of schemes can be beneficial by encouraging the widespread adoption of FTTP.

Other conditional terms

9.88 Conditional terms that fall within the scope of our proposed notification requirement may raise other concerns.

Arrangements that give preferential treatment targeted at larger telecoms providers

9.89 We may be concerned about arrangements which give preferential treatment to certain types of telecoms providers. Our particular concern is terms that ‘tie in’ the largest and most valuable telecoms providers – encouraging them to stay on the Openreach network and depriving rival networks of telecoms providers with the necessary volumes to become viable.

9.90 We note that our proposed non-discrimination obligations (see Section 4) would prohibit Openreach from using commercial terms that unduly discriminate between customers when supplying access services and this would include terms that favour BT’s downstream divisions.

Terms which may have a ‘signalling’ effect

9.91 We may also be concerned about terms which do not currently impose restrictions on use of rival networks but may do so in future. For example, commercial terms which allow telecoms providers to qualify for discounts providing their use of and/or the size of rival networks remains below certain limits. This could constrain the ability of rival networks to grow and achieve a sustainable size.

9.92 We also note that our proposed non-discrimination obligations (see Section 4) would prevent Openreach from targeting specific telecoms providers.

Process in relation to conditional terms

9.93 In this sub-section we outline our proposed process in relation to commercial terms where the price or other contractual conditions are conditional on the volume and/or range of services purchased.

9.94 It should be noted that the process outlined below applies only to conditional terms which fall within scope of the notification requirement we are proposing in SMP condition 8.6 in the draft legal instruments in Volume 7. If we have other concerns (or these are raised by third parties) under BT’s SMP conditions about other terms of an offer that Openreach is considering or has notified in an Access Change Notice, or other aspects of Openreach’s conduct, these will be handled, as appropriate, in accordance with Ofcom’s Regulatory

²⁸⁰ The evidence we have reviewed shows that this is currently the case. ISPs may also not be able to place orders because altnet build is underway. We are more likely to be concerned where Openreach’s offer could undermine the completion of this network build and where this build is significant to the further development of network competition.

Enforcement Guidance or our Dispute Resolution Guidelines.^{281 282} Openreach and third parties may be invited to make separate, reasoned submissions on matters which may be considered for regulatory enforcement or dispute resolution. For the avoidance of doubt, the 120 day period specified in condition 8.6 will not apply to Ofcom's consideration of such matters.

- 9.95 In line with the approach set out in the WFTMR21, the steps we plan to follow are outlined below:
- a) Openreach can discuss the proposed commercial terms with us on an informal basis. This is not a requirement but it may enable us to share any initial concerns with Openreach, and it could allow us to conduct initial analysis ahead of formal notification which could aid overall expediency of the process.
 - b) Openreach formally notify the proposed commercial terms to us. The notification must include:
 - i) the services included in the offer; and
 - ii) the prices, terms and conditions that would apply.
 - c) At the same time Openreach may notify industry through an Access Change Notice.
 - d) We will form a preliminary view on whether the proposed commercial terms raise competition concerns. Stakeholders are welcome to raise any initial concerns with us.
 - e) If we decide the proposed commercial terms may raise competition concerns, we will publicly announce a review and start initial evidence gathering. The exact form of the process will depend on the proposed terms and the nature of any potential concerns. In some cases, it may be appropriate for us to issue a general call for inputs/evidence from interested stakeholders. In other cases, we may only require specific input or evidence from Openreach and specific stakeholders. We anticipate using our statutory information gathering powers.
 - f) We will assess the information and evidence to reach a provisional view. We discuss the analytical framework and provide guidance on specific types of terms at Paragraphs 9.68-9.92 above.
 - g) The next steps depend on whether we plan to use ex ante intervention:
 - i) If we consider that there are competition concerns that would be addressed by a direction under our powers under SMP conditions, we would generally expect to consult for one month.²⁸³ At the end of the consultation period we would consider stakeholder responses and aim to issue a final decision (and where appropriate direction) shortly after the consultation period (clearly this would depend on the nature and extent of responses).
 - ii) If our analysis suggested that there were no substantive concerns requiring ex ante intervention, we would expect to announce that we were closing our review to give certainty to the market. We may also consider consulting with stakeholders before closing the review on the basis of no substantive concerns.

²⁸¹ Ofcom. [Regulatory Enforcement Guidelines](#).

²⁸² Ofcom. [Dispute Resolution Guidelines](#).

²⁸³ We would consider our statutory obligation to consult under s.49A CA03.

Terms that are not conditional

9.96 While terms that are conditional on the volume and/or range of services purchased are more likely to give rise to competition concerns, and thus require particularly early notification to Ofcom, it is possible that terms that do not fall within the scope of this notification requirement could also be problematic. It is not possible to pre-empt all possible terms. Where Openreach proposes other types of pricing or commercial terms which are not conditional on the volume and/or range of services purchased but which undermine network competition, we may consider the use of our ex ante powers to direct Openreach to modify such terms. In particular, we note our proposed non-discrimination obligation (see Section 4) and proposed requirement for the terms and conditions of network access to be fair and reasonable (see Section 4).

Openreach's practice of discussing and amending its FTTP prices

9.97 Stakeholders ([S&C] and nexfibre) have raised the concern that Openreach's practice of trailing, negotiating and updating its FTTP offers (i.e. 'drip-feeding' price changes) creates pricing instability which reduces the willingness of ISPs to use altnets which in turn acts as a barrier to altnet entry and expansion.²⁸⁴ This concern does not necessarily relate to a particular discussion or the specific terms of a proposal – it can relate to a pattern of Openreach behaviour.

9.98 Considering stakeholders' submissions, we have identified various hypothetical theories of harm to explain why such a pattern of Openreach behaviour might raise competition concerns:

- a) **Theory of harm 1:** It can create an ISP expectation that Openreach may introduce conditional discounts that are difficult to obtain if the ISP uses (or commits to use) altnet FTTP i.e. a concern about leveraging in the future.
- b) **Theory of harm 2:** It can create an ISP expectation of future reductions in Openreach's FTTP prices. ISPs might prefer not to use (or commit to use) altnet FTTP, as they anticipate that they will instead benefit from lower future Openreach FTTP prices.
- c) **Theory of harm 3:** ISPs lack the resources to consider offers from altnets while they are engaging with Openreach.

9.99 Stakeholders also raised these concerns in response to the Equinox 2 Offer. We investigated these concerns and we concluded that the evidence in that case did not support any of the three theories of harm described in Paragraph 9.98.²⁸⁵

9.100 Furthermore, we consider that our proposals in this consultation provide ISPs with sufficient transparency and confidence that Ofcom would intervene to prevent a scheme that introduced other commercial terms that would harm network competition i.e. Ofcom would prevent leveraging in the future. Therefore, we consider that theory of harm 1 is already addressed by our other proposals.

²⁸⁴ [S&C] nexfibre. June 2024. Non-confidential pre-consultation submission. UK fibre: a fork in the road, Telecoms Access Review. Paragraph 97.

²⁸⁵ 2023 Equinox 2 Statement. Ofcom. February 2023. [Statement on Openreach proposed FTTP offer \(Equinox 2\)](#). Paragraphs 5.24-5.34.

- 9.101 Theory of harm 2 relates to ISPs' expectations about Openreach's future FTTP prices. We have not seen any evidence to support this theory of harm.²⁸⁶ Furthermore, ISPs' expectations about future prices will reflect their views on how far Openreach could reduce its prices. As set out in Volume 4, Section 1, we would be concerned if Openreach set its FTTP prices at a level that undermines the opportunity for a reasonably efficient competitor to recover its costs.
- 9.102 Lastly, in relation to theory of harm 3, we have not seen any evidence to suggest that ISPs lack the resources to engage with altnets whilst they are engaging with Openreach. Several ISPs have announced wholesale agreements with altnets in recent months.²⁸⁷ Furthermore, ISPs' internal documents illustrate that they have the resources to consider and engage with multiple potential suppliers simultaneously.²⁸⁸
- 9.103 More generally, Openreach needs to be able to engage with its wholesale customers and understand their commercial needs. Discussions of this nature are generally a pro-competitive aspect of commercial life. We would be concerned if Openreach's behaviour was anti-competitive or raised credible competition issues which required *specific ex-ante* regulation. In the absence of such evidence, we consider that further *ex-ante* restrictions on Openreach's ability to discuss offers or propose new offers would not be proportionate.
- 9.104 Overall, given the evidence we reviewed in the 2023 Equinox 2 Statement and our proposed remedies, we consider that further *ex-ante* regulation is neither warranted nor proportionate. While we are not proposing to introduce further *ex-ante* regulation in this regard, if there is future evidence of potentially anti-competitive behaviour during the review period, we have powers to intervene as necessary.²⁸⁹

Provisional conclusion

- 9.105 We consider that the proposed geographic discrimination prohibition and the proposed requirement to notify terms that are conditional on the volume or range of services are both appropriate and proportionate in relation to BT's market power in each of the markets where we impose them.
- a) The geographic discrimination prohibition seeks to prevent undue discrimination that would adversely affect competition and ultimately cause detriment to consumers. We consider that our geographic discrimination prohibition represents the minimum required to address our competition concerns.
 - b) The requirement to notify terms that are conditional on the volume and/or range of services seeks to provide transparency and allows us to consider commercial terms that could potentially undermine network competition in the longer term and ultimately cause detriment to consumers. We consider that this requirement is the minimum that is necessary to address our competition concerns.

²⁸⁶ We have collated and reviewed ISPs' recent internal documents discussing current and potential wholesale agreements.

²⁸⁷ See Volume 2, Section 4.

²⁸⁸ [X] [X] response dated [X] to s135 notice dated [X], question [X]. [X] [X] response dated [X] to s135 notice dated [X], question [X]. [X] [X] response dated [X] to s135 notice dated [X], question [X].

²⁸⁹ Through our regular formal and informal engagement with Openreach, ISPs and altnets, we consider that we have sufficient transparency and oversight of Openreach's discussions and pricing proposals before they are formally notified and therefore can look to intervene promptly where there is a risk of harm to competition.

c) We recognise that the proposed extension to the notification period for such terms from 90 days to 120 days may delay Openreach introducing new schemes and responding to rivals. However, we consider that the extra 30 days relative to the current notification period is necessary and proportionate given the competition risks outlined above and in light of our experience of reviewing two offers notified under the existing process.

9.106 We propose to impose draft SMP Conditions 4.4 to 4.8 and 8.6 in Volume 7 to implement these proposals. Section 87(6)(a) of the Act authorises the setting of an SMP services condition requiring the dominant provider not to discriminate unduly against particular persons, or against a particular description of persons, in relation to matters connected with network access to the relevant network or with the availability of relevant facilities. Section 87(6)(b) of the Act authorises the setting of an SMP services condition requiring the dominant provider to publish, in such manner as we may direct, all such information as they may direct for the purpose of securing transparency in relation to such matters. In Section 4 above we also explain our proposals to impose draft SMP conditions with certain powers of direction in respect of fair and reasonable terms, conditions and charges, undue discrimination and reference offers.

Consultation question(s)

Question 3.9: Do you agree with our proposed approach to geographic discounts and other commercial terms? Please set out your reasons and supporting evidence for your response.

10. Legal tests

10.1 In Sections 4 to 9 we set out our proposals to require Openreach to provide network access and associated remedies designed to support and make effective that network access. In summary we propose to the extent set out above the following in each of the physical infrastructure, wholesale local access (WLA Area 2 and WLA Area 3), leased lines access (LL Area 2, LL Area 3 and the HNR areas) and IEC services markets (BT Only exchanges and BT+1 exchanges, and for a transitional period BT+2 exchanges):

- Requirement to provide network access on reasonable request;
- Requirement to publish and operate a process for new forms of network access;
- Requirement not to unduly discriminate;
- Requirement to provide certain forms of network access on an EOI basis;
- Requirement to publish a Reference Offer;
- Requirement to notify changes to charges, terms and conditions;
- Requirement to notify technical information;
- Requirement for quality of service; and
- Specific network access and associated requirements.

10.2 In order to give regulatory effect to our proposals we propose to set the draft SMP conditions and draft Directions set out in Volume 7.

Section 47 tests

10.3 For each draft SMP condition set out in this consultation, we consider that the conditions we are proposing satisfy the tests set out in section 47 of the Act, namely that the proposed obligation is:

- objectively justified in relation to the networks, services or facilities to which it relates;
- not such as to discriminate unduly against particular persons or against a particular description of persons;
- proportionate to what the condition or modification is intended to achieve; and
- transparent in relation to what it is intended to achieve.

Objectively justified

10.4 We consider that each of the draft SMP conditions we are proposing is objectively justifiable. The remedies that we are proposing are designed to address the competition concerns that we have identified in our market analysis (see Volume 2). As explained in Volume 2, Section 7, our provisional market analysis has found that Openreach has the ability and incentive:

- to refuse to supply access and thus restrict competition in the provision of products and services in the relevant downstream market;

- to set excessively high prices and/or to engage in price squeeze behaviour between wholesale products at different levels of the value chain and/or between wholesale and retail services;
- to provide access to its services on less favourable terms than to its own business divisions, to the detriment of its competitors in the relevant wholesale and retail markets, by both price and non-price discrimination;
- to target price reductions or adopt other commercial terms in relation to access to its network in order to undermine the development of material and sustainable competition; and
- to not continuously deliver an adequate level of service quality in relation to network access.

10.5 Therefore, in the absence of a requirement to provide network access, supported by associated obligations, Openreach could refuse or impede access, or it could provide access on less favourable terms and conditions compared to those obtained by its own downstream businesses. We are proposing to exercise our discretion in setting these obligations in favour of an approach that supports investment in fibre networks through promoting network competition in areas where this is economically viable, while protecting consumers from excessive pricing or a loss of retail competition in the short term and in areas in which network competition is unlikely to develop.

10.6 We explain in Sections 4 to 9 for each obligation we are proposing why we consider that obligation is objectively justified in the context of the markets we are reviewing.

Not such as to discriminate unduly

10.7 We consider that each of the draft SMP conditions does not discriminate unduly against BT. We are proposing that it is the only telecoms provider to hold SMP in the markets that we have identified (or can be treated as such under s.46(8A) of the Act regarding IEC BT+2 exchanges) and the draft SMP conditions seek to address that market position.

Proportionate

10.8 We consider that each of the draft SMP conditions we are consulting on is proportionate to what that condition is intended to achieve. In each case, we are proposing an obligation on BT that is effective to achieve our aim; is no more onerous than is required to achieve that aim and does not produce adverse effects which are disproportionate to our aim. We explain why we consider each proposed remedy is proportionate in the context of the markets we are reviewing in Sections 4 to 9.

Transparent

10.9 We consider that each of the draft SMP conditions we are proposing is transparent in relation to what is intended to be achieved. The text of the proposed draft SMP conditions is published in Volume 7 for consultation and the operation of those SMP conditions is aided by our explanations in this document. Our final statement will set out our analysis of responses to this consultation and the basis for any final decision that we take.

Section 46

- 10.10 In Section 8 we are proposing SMP conditions to apply to newly deregulated BT exchanges²⁹⁰ for a transitional period of 12 months in relation to active IEC services and a transitional period on which we are inviting views in relation to DFX.
- 10.11 Section 46(8A) of the Act provides that we can continue to treat a person (here BT) previously determined as having SMP in a given market, who we determine no longer has SMP in that market, as continuing to have SMP in that market for so long as we consider necessary to ensure a sustainable transition for those benefiting from the obligations imposed as a result of the previous SMP determinations.
- 10.12 For the reasons we set out in Section 8, we propose that the 12 months period for active IEC services is necessary for these purposes. In relation to DFX and as set out in Section 8, our provisional view is that a longer transitional arrangement is likely to be necessary, for example 2-3 years, and we are inviting further evidence and views from stakeholders to enable us to reach a final decision on the time period that would be necessary to ensure a sustainable transition for telecoms providers from these services to alternatives and is no longer than needed to achieve this aim. We therefore consider our proposals to be consistent with section 46(8A) of the Act.

Section 49 tests

Direction in relation to publication of retail offers to consumers

- 10.13 In Section 4 we set our proposal to make a Direction in the WLA Area 2 and Area 3 markets, requiring Openreach to publish any retail offer which it makes to consumers to encourage them to purchase its VULA products and notify such offers to Ofcom at least 28 days in advance of the offer taking effect.
- 10.14 We propose to make this Direction under draft SMP condition 8 which requires BT to publish charges, terms and conditions and act in the manner as Ofcom may from time to time direct.
- 10.15 We consider that the proposed Direction meets the criteria set out in section 49(2) of the Act. In particular, it is:
- a) objectively justifiable, in that it provides transparency about retail offers that Openreach makes to consumers and enables Ofcom to monitor that such offers comply with Openreach's obligation not to engage in undue discrimination;
 - b) not unduly discriminatory, in that the draft Direction applies only to BT, which is the only operator to have a provisional finding of SMP in the markets in which the Direction will apply;
 - c) proportionate, in that the obligations to publish and notify such offers are no more than necessary to achieve the intended objective; and
 - d) transparent, in that it is clear in its requirements and intention, as explained in this document and the draft text of the Direction is set out at Volume 7.

²⁹⁰ i.e. those exchanges we are proposing to define as BT+2 in this consultation.

Direction in relation to VULA contract lengths

- 10.16 In Section 6 we propose to make a Direction in the WLA market (Area 2 and Area 3) limiting the length of the minimum contract period following VULA migrations and connections to no longer than one month.
- 10.17 We consider that this proposed Direction meets the tests set out in the Act. As set out in Section 4, we are proposing to make provision for Ofcom to direct the terms of access as part of the SMP condition requiring BT to provide network access on fair and reasonable terms, conditions and charges. We propose to make this Direction pursuant to that provision.
- 10.18 We consider that the proposed Direction meets the criteria set out in section 49(2) of the Act. In particular, it is:
- a) objectively justifiable, in that it will promote competition by preventing BT from over recovering the cost of supplying VULA services. It is also likely to facilitate switching and promote retail competition for VULA services;
 - b) not unduly discriminatory, in that the Direction applies only to BT, which is the only operator to have a provisional finding of SMP in the markets in which the Direction will apply;
 - c) proportionate, in that, while it will promote competition, the overall impact on BT's incentives to invest, and more generally on take-up of fibre, is likely to be limited and the measure is, therefore, no more intrusive than necessary to achieve its intended goals;
 - d) transparent, in that it is clear in its requirements and intention, as explained in this document and the draft text of the Direction is set out at Volume 7.

Section 87 factors

- 10.19 We are proposing SMP conditions requiring BT to give entitlements as respects the provision of network access to the relevant network, the use of the relevant network and the availability of the relevant facilities. As explained in Sections 4 to 8, in determining which conditions are authorised by section 87, we have taken into account in particular the factors set out in section 87(4) of the Act.

Section 88 tests

- 10.20 We are proposing SMP conditions requiring BT to provide network access on reasonable request on fair and reasonable terms, conditions and charges where no charge control applies or where no basis of charges obligation applies in each of the PIA, WLA (Area 2 and Area 3), LLA (Area 2, Area 3 and the HNR Area) and IEC markets (BT Only exchanges and BT+1 exchanges, and for a transitional period BT+2 exchanges). In addition, we are proposing that this fair and reasonable requirement should apply to FTTP services where a charge control applies. We set out how we consider these draft SMP conditions satisfy the tests set out in section 88 of the Act in Volume 4.

Ofcom's duties

- 10.21 As set out in Volume 1, we consider the package of proposed SMP conditions and the draft directions we are proposing to set both individually and together meet our duties in sections 3 and 4 of the Act.