Promoting competition and investment in fibre networks: Hull Area Review 2026-31

Annexes 1 to 5

Non-confidential version, for publication

Statement

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A1. Regulatory framework

Regulatory framework

A1.1 This annex provides an overview of the regulatory framework relevant to the market review process, to give some additional context to the matters discussed in this document, including the legal instruments published in Volume 5.

A1.2 Market review regulation is technical and complex and requires us to apply legislation. We may also have regard to a number of relevant recommendations and guidelines. This overview identifies some of the key aspects of materials relevant to this market review but does not purport to give a full and exhaustive account of all materials that we have considered in reaching our decisions for these markets.

A1.3 The regulatory framework relevant for market reviews is set out in Part 2 of the Communications Act 2003 (the 'Act'). In particular, sections 45 to 48C and sections 78 to 86 set out the procedure for imposing conditions based on a finding of significant market power (the 'SMP conditions'), sections 87 to 93 set out specific rules for each type of SMP condition.

Market review concept

A1.4 A market review is a process by which, at regular intervals, we identify relevant markets and carry out analyses of these markets to determine whether they are effectively competitive. Where an operator has SMP in a market, we impose appropriate remedies, known as SMP obligations or conditions, to address this. We explain the concept of SMP below.

A1.5 In carrying out this work, we act in our capacity as the sector-specific regulator for the UK communications industries, including telecommunications. As mentioned above, our functions in this regard are to be found in Part 2 of the Act. The Act requires Ofcom to carry out reviews of competition in communications markets[1] to ensure that SMP regulation remains appropriate and proportionate in the light of changing market conditions.

A1.6 Each market review normally involves three analytical stages:

a) the identification and definition of the relevant markets (the market definition stage);

b) the assessment of competition in each market, in particular whether the relevant market is effectively competitive (the market analysis stage); and

c) the assessment of appropriate regulatory obligations (the remedies stage).

[1] Section 84 and 84A of the Act.

Market definition

Relevant markets

A1.7 The Act provides that, before making a market power determination,[2] we must identify "the markets which in [our] opinion are the ones which in the circumstances of the United Kingdom are the markets in relation to which it is appropriate to consider whether to make such a determination" and analyse those markets.[3]

A1.8 In identifying or analysing markets, the Act provides that we may have regard to certain recommendations or guidelines published by the European Commission, and guidelines published by BEREC (the Body of European Regulators for Electronic Communications) ('EECC materials') relating to market identification and analysis,[4] such as the Commission Recommendation on relevant product and service markets 2020 ("2020 EC Recommendation").[5]

A1.9 We may only identify a market for the purpose of assessing market power where we consider the three criteria set out in section 79(2B) of the Act (the 'three criteria test') are met.

A1.10 The three criteria, which are cumulative, are:

i) the presence of high and non-transitory structural, legal or regulatory barriers to entry;

ii) a market structure which does not tend towards effective competition within the relevant time horizon,6 having regard to the state of infrastructure-based and other competition behind the barriers to entry; and

iii) competition law alone is insufficient to adequately address the identified market failure(s).

A1.11 The fact that we identify product and service markets that meet the three criteria test does not automatically mean that regulation is warranted. Market definition is not an end in itself but rather one input into assessing effective competition.

Sufficiency of competition law

A1.12 In considering the third limb of the three criteria test, that competition law alone is insufficient to adequately address the identified market failure(s), we bear in mind the specific characteristics of the relevant markets we have defined. Generally, the case for *ex ante* regulation is based on the existence of market failures which, by themselves or in

[2] The market power determination concept is used in the Act to refer to a determination that a person has SMP in an identified services market.
[3] Section 79(1) of the Act.
[4] Section 79(2ZA) of the Act. Section 79(6A) of the Act defines EECC materials as "recommendations or guidelines published by the European Commission, and guidelines published by BEREC, under the Framework Directive or EECC Directive (including those published after IP completion day)" i.e. after 31 December 2020.
[5] Commission Recommendation of 18 December 2020 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Code.
[6] Such time period as we determine to be appropriate in relation to the review.

combination, mean that the establishment of effective competition might not be possible if the regulator relied solely on *ex post* competition law powers which are not specifically tailored to the sector. Therefore, it may be appropriate for *ex ante* regulation to be used to address such market failures along with any entry barriers that might otherwise prevent effective competition from becoming established within the relevant markets we have defined. By imposing *ex ante* regulation that promotes competition, it may be possible to reduce such regulation over time as markets become more competitive, allowing greater reliance on *ex post* competition law.

A1.13 *Ex post* competition law is also unlikely in itself to bring about (or promote) effective competition, as it prohibits the abuse of dominance rather than the holding of a dominant position itself. In contrast, *ex ante* regulation is normally aimed at actively promoting the development of competition through attempting to reduce the level of market power (or dominance) in the identified relevant markets, thereby encouraging the establishment of effective competition.

A1.14 We generally take the view that *ex ante* regulation provides additional legal certainty for the market under review and may also better enable us to intervene in a timely manner. We also consider that certain obligations are needed as competition law would not remedy the particular market failure, or that the specific clarity and detail of the obligation is required to achieve a particular result.

Forward look

A1.15 Market definition is not a mechanical or abstract process. It requires an analysis of any available evidence of past market behaviour and an overall understanding of the mechanics of a given market sector. The Act requires that Ofcom must conduct a forward-looking assessment of the market, taking into account expected or foreseeable developments that may affect competition in the market.[7]

Approach to market analysis and modified Greenfield

A1.16 When identifying and analysing markets, we apply the following two principles.

A1.17 First, when identifying wholesale markets for the purposes of section 79(1) of the Act, we start with an analysis of corresponding retail (or other downstream) market(s). We do not formally define the retail market(s) but consider if it is (they are) prospectively competitive in the absence of wholesale regulation based on a finding of SMP, and therefore whether any lack of effective competition is durable.[8]

A1.18 If the underlying retail market(s) is (are) prospectively competitive under these circumstances, we would conclude that regulation is no longer needed at the wholesale level. If the underlying retail market(s) is (are) not prospectively competitive, then we identify the corresponding wholesale market(s). Where wholesale markets are vertically linked, we identify and analyse the most upstream market first, followed by a subsequent analysis of the markets that are downstream, to determine whether they would be effectively competitive in the presence of regulation upstream.

[7] Section 79(1A) of the Act.
[8] Our analysis takes into account the effects of other types of (sector-specific) regulation, decisions or legislation applicable to the relevant retail and related wholesale market(s) during the relevant period.

A1.19 Second, when identifying and analysing a market, we assume that no SMP regulation exists in that particular market. This avoids the risk of circularity in our assessment – i.e. a finding of no SMP in a market which is predicated on pre-existing *ex ante* regulation of that market (this is often referred to as the 'modified Greenfield approach').[9]

A1.20 We note that this approach is consistent with that set out in the European Commission's SMP Guidelines.[10]

Product and geographic dimensions

A1.21 We use competition law methodologies in the market review analysis. In particular, there are two dimensions to the definition of a relevant market: (i) the relevant products to be included in the same market; and (ii) the geographic extent of the market.

A1.22 The boundaries between markets are determined by identifying competitive constraints on the price setting behaviour of firms. There are two main constraints to consider:

a) to what extent it is possible for a customer to substitute other services for those in question in response to a price increase (demand-side substitution); and

b) to what extent suppliers can switch, or increase, production to supply the relevant products or services in response to a price increase (supply-side substitution).

A1.23 The hypothetical monopolist test is a tool used to identify good demand-side and supply-side substitutes. In this test, a product is considered to constitute a separate market if the hypothetical monopolist supplier could impose a small but significant non-transitory increase in price ('SSNIP') above the competitive level without losing sales to such a degree as to make this price rise unprofitable. If such a price rise would be unprofitable, because consumers would switch to other products or because suppliers of other products would begin to compete with the hypothetical monopolist, then the market definition should be expanded to include the substitute products.

A1.24 The starting point for the application of hypothetical monopolist test can be referred to as the 'focal product',[11] and typically starts from the narrowest potential market definition.[12]

A1.25 We may consider both demand-side substitution and supply-side substitution possibilities to consider whether either provide additional constraints on the pricing behaviour of the hypothetical monopolist. In this assessment, supply-side substitution is considered to be a low-cost form of entry which can take place within a reasonable timeframe (e.g. up to 12 months). For supply-side substitution to be relevant not only must suppliers be able, in theory, to enter the market quickly and at low cost by virtue of their existing position in the supply of other products or geographic areas, but there must also be an additional competitive constraint arising from such entry into the supply of the service in question.

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[9] Hutchison 3G UK Ltd v The Office of Communications [2009] EWCA Civ 683, paragraphs 64-66.

[10] Guidelines on market analysis and the assessment of significant market power under the EU regulatory framework for electronic communications networks and services (2018/C 159/01) ('EC SMP Guidelines'), paragraphs 15-18. See also Commission Staff Working Document accompanying the EC SMP Guidelines (C(2018) 2374).

[11] This reflects the terminology used by UK competition authorities (see OFT, Market definition Guidelines, December 2004, OFT403, which has subsequently been adopted by the CMA Board).

[12] Paragraph 3.2 of the OFT Market Definition Guidelines explains that "previous experience and common sense will normally indicate the narrowest potential market definition, which will be taken as the starting point for the analysis".

A1.26 In relation to defining the relevant geographic markets, this comprises an area in which the undertakings concerned are involved in the supply and demand of the relevant products or services, in which the conditions of competition are sufficiently homogeneous, and which can be distinguished from neighbouring areas in which the prevailing conditions of competition are appreciably different. Areas in which the conditions of competition are heterogeneous do not constitute a uniform market.

A1.27 Our approach to market definition follows that used by the UK competition authorities.

Relationship with *ex post* competition law

A1.28 While competition law methodologies are used in identifying the relevant markets *ex ante*, the markets identified will not necessarily be identical to markets defined in *ex post* competition law cases, especially as (i) the markets identified *ex ante* are based on an overall forward-looking assessment of the structure and the functioning of the market under examination, and (ii) as noted above, in carrying out an *ex ante* assessment, we assume there is no SMP regulation in place in the market under examination. Accordingly, the economic analysis carried out for the purpose of this review, including the markets we have identified, is without prejudice to any analysis that may be carried out in relation to any investigation pursuant to the Competition Act 1998 (relating to the application of the Chapter I or II prohibitions) or the Enterprise Act 2002.

Market analysis

Effective competition

A1.29 The Act requires that we carry out market analyses of identified markets for the purpose of making or reviewing market power determinations. The Act requires that such analyses are normally to be carried out within five years from the publication of a previous market power determination relating to that market. Exceptionally, the five-year period may be extended for up to one additional year.[13]

A1.30 In carrying out a market analysis, the key issue for Ofcom is to determine whether any one or more operator(s) has SMP.

A1.31 The definition of SMP is equivalent to the concept of dominance as defined in competition law.[14] In essence, it means that an undertaking in the relevant market is in a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers, and ultimately consumers.

A1.32 The Act provides that, in considering whether to make or revise a market power determination, we may have regard to EECC materials relating to market analysis or the determination of what constitutes significant market power, such as the EC SMP Guidelines.[15]

[13] Section 84A of the Act.
[14] Section 78(1) of the Act. As per section 78(2) of the Act, references in section 78 of the Act to dominance of a market are to be construed, so far as it is appropriate to do so, in the same way as the reference in section 18(1) of the Competition Act 1998 to a dominant position in a market.
[15] Section 79(2BA) of the Act.

A1.33 The EC SMP Guidelines consider the specific application of competition law principles to the electronic communications sector. They reflect our understanding of the factors driving competitive conditions in the markets we are reviewing. We have therefore had regard to the EC SMP Guidelines when determining the market power determinations in this statement.

A1.34 We consider that market shares provide a useful first indicator of competitive conditions in the market, and that they should however be interpreted in light of the relevant market conditions.[16] According to established case law, a market share in excess of 50% is itself evidence of a dominant position, save in exceptional circumstances.[17] On this point, we have had regard to the judgment of the Competition Appeal Tribunal in BCMR 2019. The Tribunal confirmed that the existence of a high market share is to be a trigger for a full assessment, but not to be determinative in itself.[18]

A1.35 The EC SMP Guidelines set out, additionally to market shares, criteria that can be used to measure the power of an operator to behave to an appreciable extent independently of its competitors, customers, and consumers, including:

a) barriers to entry;

b) barriers to expansion;

c) absolute and relative size of the undertaking;

d) control of infrastructure not easily duplicated;

e) technological and commercial advantages or superiority;

f) absence of or low countervailing buying power;

g) easy or privileged access to capital markets/financial resources;

h) product/services diversification (for example, bundled products or services);

i) economies of scale and economies of scope;

j) direct and indirect network effects;

k) vertical integration;

l) a highly developed distribution and sales network;

m) conclusion of long-term and sustainable access agreements;

n) engagement in contractual relations with other market players that could lead to market foreclosure; and

o) absence of potential competition.[19]

A1.36 A dominant position can derive from a combination of these criteria which when taken separately may not necessarily be determinative.

[16] EC SMP Guidelines, paragraph 54.
[17] And this is consistent with the position taken in the EC SMP Guidelines, paragraph 55.
[18] *TalkTalk Telecom Group plc and Vodafone Limited v Ofcom (BCMR 2019)*, Judgment of 5 March 2020 [2020] CAT 8, at paragraphs 163-171 and 282-283.
[19] EC SMP Guidelines, paragraph 58.

Remedies

Powers and legal tests

A1.37 Section 87(1) of the Act provides that where we have made a determination that a person has SMP in an identified services market, we shall set such SMP conditions authorised by section 87 as we consider appropriate to apply to that person in respect of the relevant network or relevant facilities.[20]

A1.38 The Act identifies a number of SMP obligations, including transparency, non-discrimination, accounting separation, access to and use of specific network elements and facilities, price control and cost accounting.[21]

A1.39 For each and every SMP condition, we explain why it satisfies the requirement in section 47(2) of the Act that the obligation is:

a) objectively justifiable in relation to the networks, services, facilities, apparatus or directories to which it relates;

b) not such so as to discriminate unduly against particular persons or against a particular description of persons;

c) proportionate to what the condition or modification is intended to achieve; and

d) transparent in relation to what is intended to be achieved.

A1.40 As part of ensuring that an SMP condition meets this requirement, we consider whether it is based on the nature of the competition problem(s) we have identified in our market analysis.

A1.41 Additional legal requirements may also need to be satisfied depending on the SMP obligation in question. For example, we are subject to additional requirements when imposing price controls and cost recovery obligations.

A1.42 Specifically, we explain why any such SMP condition satisfies the requirements of section 88 of the Act. Namely:

a) our analysis indicates a risk that the telecoms provider concerned might fix and maintain prices at an excessively high level or impose a price squeeze so as to have adverse consequences for end-users of public electronic communications services;

b) we consider the setting of the obligation is appropriate for the purposes of:

i) promoting efficiency;

ii) promoting sustainable competition;

iii) conferring the greatest possible benefits on the end-users of public electronic communications services having regard where relevant to the market analysis, to the long-term interests of end-users in the use of next-generation networks; and

[20] Section 84(4) of the Act provides that where Ofcom determines that an undertaking to whom any SMP conditions apply is no longer a person with significant market power in that market, Ofcom must revoke every SMP condition applied to that person by reference to the market power determination made on the basis of the earlier analysis.

[21] Sections 87 and 88 of the Act.

iv) where relevant to the market analysis, promoting the availability and use of new and enhanced networks.[22]

A1.43 In setting such an SMP condition we also take account of:

a) the extent of investment by the telecoms provider in the matters to which the SMP obligation relates;

b) where the condition involves price controls on the provision of network access to existing network elements, the benefits of predictable and stable wholesale prices in ensuring:

i) efficient market entry; and

ii) sufficient incentives for all undertakings to bring into operation new and enhanced networks.[23]

A1.44 Where an obligation to provide third parties with network access is considered appropriate, we take into account factors including:

a) the technical and economic viability (including the viability of other network access products, whether provided by the dominant provider or another person), having regard to the state of market development, of installing and using facilities that would make the network access unnecessary;

b) the feasibility of the provision of the network access;

c) any technological developments that, in our opinion, are likely to affect the design and management of the relevant network or facilities;

d) the need to ensure that the provision of the network access does not have the effect of favouring one form of technology over another in relation to the design and management of the electronic communications networks;

e) the investment of the network operator who is required to provide access (taking account of any public investment made);

f) the need to secure effective competition (including, where it appears to us to be appropriate, economically efficient infrastructure-based competition) in the long term and to support innovative business models that support sustainable competition; and

g) any rights to intellectual property that are relevant to our decisions.[24]

A1.45 In this statement, we demonstrate the application of the relevant requirements to the SMP obligations that we have decided to impose. In doing so, we also set out our assessment of how, in our opinion, the performance of our general duties under section 3 of the Act would be secured or furthered by our regulatory interventions, and that it would be in accordance with the six requirements in section 4 of the Act (see below). This is also relevant to our assessment of the likely impact of implementing our decisions.

[22] Section 88(1) of the Act.
[23] Section 88(2) of the Act.
[24] Section 87(4) of the Act.

Ofcom's general duties – section 3 of the Act

A1.46 Under the Act, our principal duty in carrying out our functions is to further the interests of citizens in relation to communications matters and to further the interests of consumers in relevant markets, where appropriate by promoting competition.

A1.47 In doing so, we are required to secure a number of specific objectives and to have regard to a number of matters set out in section 3 of the Act.

A1.48 In performing our duties, we are also required to have regard to a range of other considerations, as appear to us to be relevant in the circumstances. For the purpose of this review, we consider that a number of such considerations are relevant, in particular:

a) the desirability of promoting competition in relevant markets;

b) the desirability of encouraging investment and innovation in relevant markets;

c) the desirability of encouraging the availability and use of high-speed data transfer services throughout the UK; and

d) the desirability of ensuring that relevant markets facilitate end-to-end connectivity in the interests of consumers in those markets.

A1.49 We are also required to have regard to the principles under which regulatory activities should be transparent, accountable, proportionate, consistent, and targeted only at cases in which action is needed, as well as to the interest of consumers in respect of choice, price, quality of service and value for money.

A1.50 However, we have a wide measure of discretion in balancing our statutory duties and objectives. In doing so, we will take account of all relevant considerations, including the responses we received during our consultation process, in reaching our conclusions.

Section 4 of the Act – duties for the purposes of fulfilling obligations

A1.51 Section 4 of the Act requires us, when carrying out our market review functions, to act in accordance with six requirements for regulation which are in summary:

i) to promote competition in the provision of electronic communications networks and services, associated facilities and the supply of directories;

ii) to promote the interests of all members of the public in the United Kingdom;

iii) to take account of the desirability of Ofcom's carrying out of its functions in a manner which, so far as practicable, does not favour one form of or means of providing electronic communications networks, services or associated facilities over another (i.e. to be technologically neutral);

iv) to encourage, to such extent as Ofcom considers appropriate the provision of network access and service interoperability for the purpose of securing: efficient and sustainable competition; efficient investment and innovation; and the maximum benefit for customers of telecoms providers and of persons who make associated facilities available;

v) to encourage compliance with certain standards in order to facilitate service interoperability, end-to-end connectivity, and secure freedom of choice for the customers of telecoms providers; and

vi) to promote connectivity and access to very high capacity networks[25] by members of the public and businesses in the United Kingdom.

A1.52 We consider that the first, second, third, fourth and sixth of those requirements are of particular relevance to the matters under review and that no conflict arises in this regard with those specific objectives in section 3 of the Act that we consider are particularly relevant in this context.

Section 4A of the Act – taking account of EC recommendations

A1.53 Section 4A of the Act provides that in carrying out certain of our functions (including, among others, our functions in relation to market reviews), we may take account of recommendations issued by the European Commission under Article 19(1) of the Framework Directive[26] or Article 38(1) of the EECC Directive[27] if the recommendations appear to us to be relevant to those functions.

Impact assessment – section 7 of the Act

A1.54 The regulatory framework in relation to impact assessments under section 7 of the Act is set out in Volume 1, Section 5. The assessment is also set out in that section.

Equality impact assessment

A1.55 The regulatory framework in relation to equality impact assessments under the Equality Act 2010 and the Northern Ireland Act 1998 is set out in Volume 1, Section 5. The assessment is also set out in that section.

UK Government's Statement of Strategic Priorities

A1.56 Under section 2B(2) of the Act, when exercising our functions relating to telecoms, management of radio spectrum and postal services, we are required to have regard to the government's Statement of Strategic Priorities (SSP).

A1.57 On 11 February 2026, a draft SSP was laid before Parliament (the "2026 draft SSP").[28] Following completion of the procedural steps in section 2C of the Act and for the purpose

[25] A "*very high capacity network*" is set out in section 4(12A) of the Act as meaning "an electronic communications network which—
(a) consists wholly of optical fibre elements at least up to the distribution point at the serving location; or
(b) is capable of delivering, under usual peak-time conditions, network performance that, in OFCOM's opinion, is similar, in terms of available downlink and uplink bandwidth, resilience, error-related parameters and latency and its variation, to the network performance of a network falling within paragraph (a)."

[26] Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, as amended by Directive 2009/140/EC of the European Parliament and of the Council.

[27] Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code (Recast).

[28] Department for Science, Innovation and Technology. 11 February 2026. Draft Statement of Strategic Priorities for telecommunications, the management of radio spectrum, and postal services

of section 2A of the Act, the new SSP was designated by the Secretary of State on the 27 April 2026,[29] replacing the 2019 SSP. [30]

A1.58 In accordance with our duty, we have had regard to the 2026 SSP in reaching our decisions in this statement and have set out how we have done this in our Approach to Remedies (Volume 3, Section 1).

The desirability of promoting economic growth

A1.59 In exercising our regulatory functions, we are also required to have regard to the desirability of promoting economic growth (the "growth duty").[31] In particular, we must consider the importance for the promotion of economic growth of exercising the regulatory function in a way which ensures that regulatory action is taken only when it is needed, and any action taken is proportionate. Section 110(3) of the Deregulation Act 2015 requires us to have regard to the "Growth Duty: Statutory Guidance" (revised by Government in May 2024). See Volume 3, Section 1.

[29] DSIT, April 2026. Statement of Strategic Priorities for telecommunications, the management of radio spectrum, and postal services. Accessed on 24 August 2026.
[30] DCMS, October 2019. Statement of Strategic Policies. Accessed on 24 August 2026.
[31] Section 108 of the Deregulation Act 2015, which was extended to Ofcom's regulatory functions by The Economic Growth (Regulatory Functions) (Amendment) Order 2024.

A2. Overview of KCOM's network

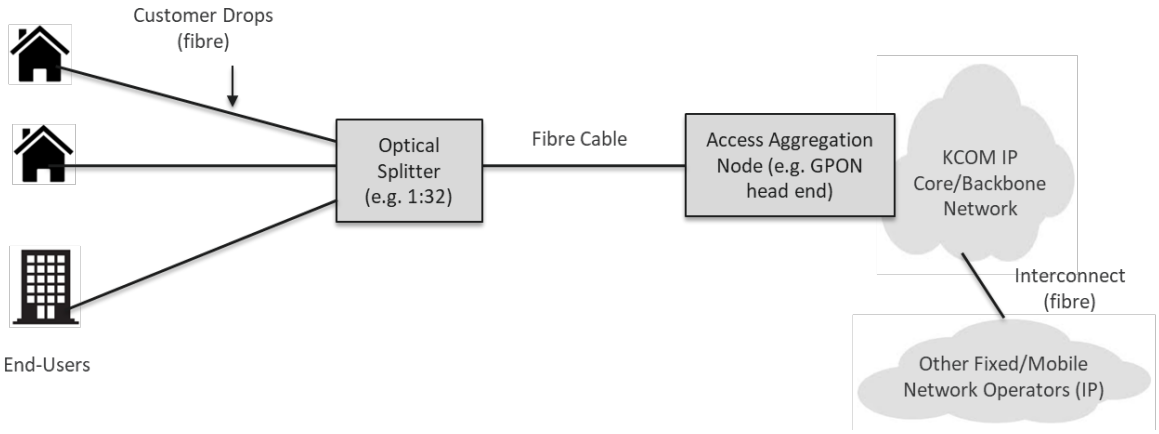
A2.1 A general overview of fixed telecoms networks can be found in Annex A2 of the Telecoms Access Review 2026-31 statement. This sets out how networks are configured to provide end to end services to residential and business consumers. It covers both access and leased line networks, and for completeness, wireless networks for delivering fixed services.

A2.2 Figure A2.1 shows KCOM's broadband access network which currently delivers its broadband fixed telecoms services over a GPON-based FTTP access network. This architecture mirrors the more generalised FTTP architecture set out in Annex A2 of the Telecoms Access Review 2026-31 statement .i.e. connections from an end-user's premises to an access aggregation node via an optical splitter, which is then connected to a core and backhaul network with interconnect to other operators' networks.

A2.3 KCOM also offers point to point leased line services, with a dedicated optical fibre running from the end-user all the way to the KCOM core/backhaul network i.e. no intermediate optical splitter is required.

A2.4 Some customers are still using copper products delivered over KCOM's legacy PSTN network (not shown) which it is in the process of retiring once migration of all its customers to the new 'all IP' network is complete.[32]

Figure A2.1: KCOM Hull Area access 'all IP' network



Source: Ofcom. 2025.

[32] IP is short for Internet Protocol. The term 'all IP' is used to describe the services delivered over a packet-switched IP network that will replace KCOM's legacy circuit-switched PSTN network. An overview of KCOM's 'all IP' network and its legacy copper network can be found in Annex A2 of the Hull WFTMR2021.

A3. Data analysis supporting our WLA and LLA market assessments

A3.1 In this annex we set out the input data and methodology that we use:

a) to assess coverage in the WLA market in the Hull Area; and

b) to assess coverage and other measures of competitive conditions in the LLA market in the Hull Area.

WLA coverage analysis

A3.2 In Volume 2, we set out the coverage of competing WLA network providers as part of our market analysis. In this subsection we describe the data analysis underlying this assessment.

A3.3 We cover:

a) the data that we use for this analysis; and

b) the methodology we adopt for determining WLA coverage.

A3.4 At the end of each methodology discussion, we set out the results which we draw on when reaching our conclusions in our market analysis.

Input data

A3.5 Our WLA network coverage analysis uses data on providers' coverage at the level of individual premises.[33]

A3.6 Since the HAR26 December 2025 Consultation, we have updated the input data with the January 2026 Connected Nations data.[34] As previously, the updated data includes coverage for KCOM, MS3, CityFibre, VMO2, and FibreNest. We now also include Grain, which was not included in the January 2025 data used in the HAR26 December 2025 Consultation.

A3.7 The data was processed as described in the Methodology Annex of the 2026 Connected Nations report.[35]

WLA network coverage methodology and analysis

A3.8 We determine the number of premises passed by each network provider in the Hull Area and the overlap between networks at the level of individual premises.

[33] These include business and residential premises.
[34] Our consultation used January 2025 Connected Nations data.
[35] Ofcom. May 2026. Connected Nations 2026 Methodology Annex. Pages 1-3.

A3.9 To calculate each network provider's coverage as a share of all premises in the Hull Area we divide the number of premises passed by that provider in the Hull Area by the total number of premises in the Hull Area as identified by Connected Nations.

A3.10 As of January 2026, there were approximately 199,000 premises in the Hull Area, which was less than 1% of the number of premises in the rest of the UK.[36] The number of premises in the Hull Area grew by approximately 1% annually between 2021 and 2026.[37]

A3.11 Table A3.1 shows that as of January 2026, KCOM covered 91-100% [✂]% of premises in the Hull Area, with MS3 and CityFibre covering 61-70% [✂]% and 31-40% [✂]% respectively.

Table A3.1: Network providers' WLA coverage in the Hull Area, January 2026

	Premises passed	% premises
KCOM	[✂]	91-100 [✂]
MS3	[✂]	61-70 [✂]
CityFibre	[✂]	31-40 [✂]
Grain	[✂]	11-20 [✂]
Total premises	199,072	100

Source: Ofcom analysis of Connected Nations data. Other network providers included in the Connected Nations data together covered less than 1% of the premises in the Hull Area.

A3.12 Table A3.2 sets out our estimates as of January 2026 of the share of premises covered by:

a) KCOM only;

b) KCOM and one of MS3 and CityFibre and Grain; and

c) KCOM and two of these network providers; and[38]

d) KCOM and all three of these network providers.

Table A3.2: Presence of competitors to KCOM in the WLA market across the Hull Area, January 2026

	Premises passed	% premises
KCOM only	[✂]	11-20 [✂]
KCOM + 1	[✂]	41-50 [✂]
KCOM + 2	[✂]	21-30 [✂]
KCOM + 3	[✂]	0-11 [✂]
Total	199,072	100

[36] There were 30.5m premises in the rest of the UK in January 2026. Ofcom. May 2026. Connected Nations update: Spring 2026.

[37] Analysis of Connected Nations data (collected 2021-2026)

[38] The share of premises covered by network providers other than KCOM are unaffected by including network providers included in the Connected Nations data other than MS3 and CityFibre.

Source: Ofcom analysis of Connected Nations data.

Leased lines reach and competition analysis

A3.13 In Volume 2, we set out the network reach of competing LLA networks in the Hull Area as part of our market analysis. We also set out other measures of competitive conditions to inform our LLA SMP assessment. In this subsection we describe the data analysis underlying these assessments.

A3.14 We cover:

a) the data that we used for this analysis;

b) the methodology of our network reach analysis, used to determine the location of competing networks and their proximity to users of LLA services; and

c) the methodology used to calculate take up shares and other measures of competitive market conditions in the provision of LLA services.

A3.15 At the end of each methodology discussion, we set out the results which we draw on when reaching our conclusions in our market analysis.

A3.16 The methodology set out below is unchanged from that presented in the HAR26 December 2025 Consultation. We have, however, updated the underlying analysis using the most recent data available. In particular, we have incorporated the TAR March 2026 Statement network reach dataset (reflecting deployed build as of June 2025) and the latest available leased line provisions data (inclusive of the whole of 2024).

Input data

Network reach analysis

A3.17 Our network reach analysis is based on the information received from LLA providers on the locations of leased line demand sites and physical network infrastructure that we used to inform our TAR March 2026 Statement (the "TAR network reach dataset"). A detailed discussion of how we gathered and processed the data is available in the TAR March 2026 Statement leased line geographic analysis annex.[39]

A3.18 The TAR network reach dataset includes detailed information on deployed network build. LLA providers supplied the locations of their flexibility points and ducts which allows us to map their networks.[40] The dataset includes networks built within the Hull Area as well as outside it. This allows us to reflect that demand sites close to the Hull Area boundary could potentially be supplied using network infrastructure located just outside the Hull Area. We hold data on deployed build in the Hull Area for KCOM, Openreach, CityFibre, MS3, and Neos.[41]

A3.19 The data reflects deployed build as of June 2025 for all providers. CityFibre also provided information on its planned build within the Hull Area [✂].

[39] TAR March 2026 Statement, Annex 5.
[40] We did not request data on Openreach's duct map in TAR. Its LLA network is therefore mapped in slightly less detail than that of other network providers operating in the Hull Area.
[41] These LLA providers have network presence within 50m of demand sites in the Hull Area.

A3.20 We limit our analysis to leased line demand sites contained within the TAR network reach database which are located within the Hull Area. This is consistent with our approach in the TAR26 March 2026 Statement, where we excluded these demand sites from our analysis of the rest of the UK. As in the rest of the UK, we have sought to identify the locations of demand sites for LLA connectivity in the review period. We consider that the demand is likely to be driven by the following types of sites: fibre-connected LLA sites, sites of large businesses; and mobile cell sites.[42]

Leased line take up and build analysis

A3.21 As part of TAR March 2026 Statement, we also asked LLA providers for information on leased line connections installed between 2020 and 2024. The data ('the leased line provisions dataset') includes the type of circuit installed and how the connection was supplied and covers the whole of the UK. Details on how this data was collected and processed are available in the TAR March 2026 Statement Leased line geographic analysis annex.[43]

A3.22 We filter the processed leased line provisions dataset to LLA circuit ends within the Hull Area and use it to examine different providers' shares of new LLA circuit ends in the Hull Area as well as the distances dug by KCOM and competing network providers.

Network reach methodology and analysis

A3.23 Using the TAR network reach dataset described above, we assess the ability of different LLA providers to supply leased line demand sites across the Hull Area.

A3.24 We assess the proximity of LLA providers' networks to each modelled demand site in the Hull Area. For each provider, we estimate the number of demand sites which are within 50 meters (50m) of their physical network infrastructure. As set out in more detail at paragraph 3.29 in Volume 2, the purpose of the distance is to capture the distance at which LLA providers can supply – and compete for – customers who require a leased line. We conduct this analysis based on deployed build for all leased line providers. We also calculate CityFibre's reach based on its planned build included in the TAR network reach dataset.[44]

A3.25 We note that we use a 50m buffer distance to calculate the number of demand sites within reach of networks in the Hull Area rather than a 100m buffer distance used in the TAR geographic markets for LLA Areas 2 and 3.[45] As discussed in footnote 148 in Volume 2, we consider that the reasons for moving towards a longer buffer distance in the rest of the UK do not currently apply to the Hull Area.

A3.26 Table A3.3 shows the share of demand sites located in the Hull Area which are within 50m of the physical network infrastructure of each LLA provider present in the Hull Area.

[42] Unlike in our consultation, we no longer represent data centre access sites using a separate dataset. This is because data centres, to the extent they are the locations of LLA sites, are already captured by the data on fibre-connected LLA sites.
[43] TAR March 2026 Statement, Annex 5. Paragraphs A5.29 – A5.50.
[44] CityFibre provided its planned build [✂].
[45] TAR March 2026 Statement, Volume 2. Paragraph 5.339.

Table A3.3: Volume and share of demand sites in the Hull Area within 50m of deployed network infrastructure, by LLA provider, June 2025

	Number of demand sites within 50m of network infrastructure	% demand sites in the Hull Area
KCOM	[✂]	91-100 [✂]
MS3	[✂]	41-50 [✂]
CityFibre	[✂]	21-30 [✂]
Openreach	[✂]	0-10 [✂]
Total	**1,722**	**100**

Source: Ofcom analysis of the TAR network reach dataset. Neos maintains network infrastructure within 50m of less than 1% of demand sites in the Hull Area.

A3.27 We also assess the presence of competing networks in the Hull Area using the same data. To do so we estimate the average number of competing networks (i.e. networks other than KCOM) within 50m of a demand site across the Hull Area. We also estimate the proportion of all demand sites in the Hull Area with competitors within 50m. The analysis includes Openreach, CityFibre, MS3, Colt, and Neos.

A3.28 Table A3.4 shows the results of this analysis. On average across the Hull Area there are 0.76 competing networks within 50m of a demand site. KCOM and at least one competitor are within 50m distance of 56% of demand sites in the Hull Area. KCOM and at least two competitors are within 50m distance of 16% of demand sites.

Table A3.4: Presence of competing networks in the Hull Area, June 2025

Presence of competing networks	Hull Area
Average number of current (and potential future) competitors present within 50m of a demand site	0.76 (0.76)
Share of all demand sites with at least 1 current (and potential future) competitors within 50m	56% (56%)
Share of all demand sites with at least 2 current (and potential future) competitors within 50m	16% (16%)

Source: Ofcom analysis of the TAR network reach dataset.

Leased line take up analysis

A3.29 We calculate the share of all new and upgraded circuits supplied in the Hull Area by each provider annually between 2020 and 2024, and across the period. This analysis is based on the leased line provisions dataset.

A3.30 Table A3.5 shows the annual and overall shares of new and upgraded leased line connections. Note the results for 2020 to 2023 reflect minor changes in the input data submitted by some network providers compared to the data used in our HAR26 December 2025 Consultation.

Table A3.5: Shares of new and upgraded connections, across the Hull Area in 2020 to 2024

	2020	2021	2022	2023	2024	2020 - 2024
New and upgraded circuits	489	248	219	181	342	1,479
						Share of all new and upgraded circuits (%)
KCOM	71-80 [✂]	71-80 [✂]	71-80 [✂]	81-90 [✂]	81-90 [✂]	71-80 [✂]
CityFibre	11-20 [✂]	1-10 [✂]	1-10 [✂]	1-10 [✂]	1-10 [✂]	1-10 [✂]
MS3	1-10 [✂]	1-10 [✂]	11-20 [✂]	1-10 [✂]	[✂]	1-10 [✂]
Other*	1-10 [✂]	11-20 [✂]	1-10 [✂]	1-10 [✂]	[✂]	1-10 [✂]
Total	**100**	**100**	**100**	**100**	**100**	**100**

**Includes Openreach, Colt, VMO2, Nexfibre and Vodafone. Source: Ofcom analysis of the leased line provisions dataset.*

Leased line build analysis

A3.31 As part of our SMP assessment, we assess the competitive constraints arising from the presence of competing network infrastructure. We analyse the:

a) average distance from demand sites to network infrastructure for KCOM and its competitors using the TAR network reach dataset;

b) digging behaviour, by network operator using the leased lines provisions dataset; and

c) distance operators are willing to dig to connect new customers, using the leased lines provisions dataset.

A3.32 The analysis presented in this subsection has not been updated since our HAR26 December 2025 Consultation, but we have replicated it below for completeness.

Average distance from demand sites to network infrastructure

A3.33 Using the TAR network reach dataset, we compare the distance from modelled demand sites to LLA providers' existing and planned network infrastructure. We measure the average distance between a modelled demand site and the nearest network infrastructure for KCOM and any competing providers.

A3.34 Table A3.6 shows that the average distance from a given demand site to the nearest point on KCOM's network is 11m-20m [✂]m. The equivalent average distance to the nearest competitor is 131m-140m [✂]m and to the second closest competitor 391-400m [✂]m.

Table A3.6: Presence of existing LLA network infrastructure, December 2023

	Average modelled distance (m)
From a demand site to the nearest point on KCOM network	11-20 [✂]
From a demand site to the nearest current (and potential future) competitor	131-140 [✂] (131-140) ([✂])
From a demand site to the second nearest current (and potential future) competitor	391-400 [✂] (371-380) ([✂])

Source: Ofcom analysis of the TAR network reach dataset.

Propensity to install new infrastructure

A3.35 New leased line connections can be provided on-net, where a LLA provider either lights the fibre using its own electronic equipment or supplies the fibre without electronics ('dark fibre'), or off-net, where the LLA provider serves a customer using dark fibre purchased from a third party or an active wholesale leased line product purchased from a third-party.

A3.36 We assess the extent to which new LLA circuit ends provisioned between 2020 and 2023 in the Hull Area were provided on-net and off-net. Further, for on-net connections we determine whether digging was required to provide the connection ('on-net digging required') and those already duct connected ('on-net duct connected').[46]

A3.37 Our analysis is based on actual new connections identified in the leased lines provisions dataset and defines competitors as LLA providers with presence in the Hull Area as identified in the network reach dataset. We hold digging behaviour for KCOM, Openreach, CityFibre, and MS3.

A3.38 Table A3.7 shows that between 2020 and 2023 in the Hull Area:

[46] To connect these circuits, network operators may have had to install fibre tubing, blown fibre, use an existing fibre connection to the end-user or circuits where no duct was needed but the cable was installed on poles.

a) the vast majority of new leased line circuits from KCOM and its competitors were provisioned on-net and were already duct connected; and

b) for the small number of cases where a new customer could not be supplied using the existing network, KCOM's competitors chose to build new duct in the large majority of cases, rather than supply off-net.

Table A3.7: Digging behaviour by KCOM and LLA competitors, 2020-2023

		Number of LLA circuit ends	Proportion of each LL providers' LLA circuit ends %
KCOM's proportion of leased line access ends provisioned	On-net (duct connected)	[✂]	91-100 [✂]
	On-net (digging required)	[✂]	0-10 [✂]
	Off-net	[✂]	0-10 [✂]
	Not indicated	[✂]	0-10 [✂]
Competitors breakdown of leased line access ends provisioned [47]	On-net (duct connected)	[✂]	91-100 [✂]
	On-net (digging required)	[✂]	0-10 [✂]
	Off-net	[✂]	0-10 [✂]

Source: Ofcom analysis of the leased line provisions dataset. Competitors include: Openreach, CityFibre and MS3.

The distance providers are willing to dig to connect to customers

A3.39 Extending the above analysis, we also calculate the median distance dug when network providers provided a new on-net circuit which required a new duct connection.

A3.40 We were able to perform this analysis for KCOM, CityFibre and Openreach. Between 2020 and 2023 the data shows no instances of MS3 digging new duct specifically to connect a new customer. We identify [✂] access ends provisioned by Openreach in the Hull Area but did not receive detailed circuit end level data. We therefore approximated the build distances associated with these access ends using the same assumptions as in the TAR March 2025 Consultation.[48]

[47] Other competitors include only Openreach, CityFibre, MS3 and exclude Lumen and Neos due to their minimal presence in the Hull Area.

[48] Where only one end of a circuit is an access end, we attribute all the build data to the access end. This could overstate the actual new customer connections dug by Openreach. Where both ends of a circuit are access ends, we assign the probability of build to each end with a 50% probability. This could overstate the distance dug.

A3.41 Table A3.8 shows the median radial distance dug by the network operators who have a presence in the Hull Area.

Table A3.8: Median radial distance dug by network provider, 2020-2023

	Instances were new duct dug	Distance dug (m)
KCOM	21-30 [✂]	0-10 [✂]
CityFibre	0-10 [✂]	21-30 [✂]
Openreach	11-20 [✂]	31-40 [✂]

Source: Ofcom analysis of the leased line provisions dataset.

A4. PIA network adjustments

A4.1 In Volume 3, Section 5, we outlined our remedies for access to KCOM's physical infrastructure. These include a requirement on KCOM to adjust its physical infrastructure network in certain circumstances. In this annex, we outline our guidance on what we consider a network adjustment constitutes.

Network adjustments

The requirement to make network adjustments is limited

A4.2 While our approach allows KCOM some degree of flexibility in the development of their PIA services, we seek to ensure that KCOM does not act unreasonably. Therefore, where KCOM refuses a request for network access, it should provide reasons for doing so. Furthermore, if it becomes apparent that this approach is not working, we will reconsider whether it is appropriate to adopt a more prescriptive approach.

A4.3 When designing our guidance on the extent of the network adjustments requirement we have taken into account the factors set out in section 87(4) of the Act, in particular:

i) the technical and economic viability (including the viability of other network access products, whether provided by the dominant provider or another person), having regard to the state of market development, of installing and using facilities that would make the proposed network access unnecessary;

ii) the feasibility of the provision of the proposed network access;

iii) technological developments that, in our opinion, are likely to affect the design and management of the relevant network or (as the case may be) the relevant facilities;

iv) the need to ensure that the provision of network access does not have the effect of favouring one form of technology over another in relation to the design and management of the network;

v) the investment made by the person initially providing or making available the network or other facility in respect of which an entitlement to network access is proposed (taking account of any public investment made); and

vi) the need to secure effective competition (including, where it appears to us to be appropriate, economically efficient infrastructure-based competition) in the long-term and to support innovative business models that support sustainable competition.

A4.4 In our guidance, we have set out the criteria we expect to apply. In selecting these criteria, we have taken particular account of the first, second and sixth of the section 87(4) factors of the Act set out above. We consider these factors follow on from our reasons for imposing a PIA obligation. Without access to KCOM's physical infrastructure network, further network expansion to the largest extent possible in the Hull Area is likely to be unviable. Without an obligation to make network adjustments, the scope for competitive

network investment will be reduced. Moreover, our objective in imposing PIA is to unlock the efficiencies arising from sharing existing infrastructure to the greatest extent possible to help facilitate further competitive network investment, and therefore promote effective competition throughout the Hull Area in the long-term. However, in imposing PIA we seek to ensure that the obligation is appropriate in scope and that we do not create incentives to use PIA where this is not necessary.

A4.5 Specifically, the following three criteria should be applied to determine whether a particular network adjustment falls within the scope of the PIA obligation:

a) **Is the requested adjustment necessary?** This criterion considers the narrow question of whether an alternative option exists which would render the requested adjustment unnecessary, taking account of the first factor set out in section 87(4) of the Act.

b) **Is the requested adjustment feasible?** This criterion considers whether there are barriers that prevent KCOM from being able to make the required adjustment, taking account of the second factor set out in section 87(4) of the Act.

c) **Does the requested adjustment improve efficiency?** This criterion considers whether the requested adjustment promotes efficiency and is therefore consistent with our rationale for requiring KCOM to provide network access in the form of PIA (i.e. to unlock the efficiencies from sharing existing infrastructure). This takes account of the sixth factor set out in section 87(4) of the Act.

A4.6 With respect to the third and fourth factors set out in section 87(4) of the Act, our criteria are technologically and network design neutral and therefore take account of these factors.

A4.7 With respect to the fifth factor set out in section 87(4) of the Act, we take account of this through our approach to cost recovery, set out in Volume 3, Section 5. Specifically, we consider KCOM has a fair opportunity to recover the costs of any network adjustments.

Defining a network adjustment

A4.8 Before discussing the three criteria when determining the extent of the PIA obligation on KCOM, we clarify what we mean by a network adjustment.

Facilitating access to existing infrastructure

A4.9 Network adjustments forming part of PIA involve facilitating access to existing infrastructure, rather than the construction of new infrastructure. Since the specific network access obligation in this review requires KCOM to provide access to existing physical infrastructure, it does not ordinarily require KCOM to construct physical infrastructure on behalf of other telecoms providers. This does not mean that KCOM is never required to construct new physical infrastructure assets (e.g. new ducts, chambers or poles should there be, for example, capacity constraints), but where it is required to do so, this will be for the purposes of facilitating access to existing physical infrastructure.

A4.10 Therefore, KCOM should not be required to construct new physical infrastructure for rival telecoms providers in geographic locations where it does not already have infrastructure (i.e. outside its network footprint). This amounts to an extension of the infrastructure network rather than making use of existing infrastructure assets and will therefore always fall outside the scope of our network access obligation.

A4.11 Similarly, where additional capacity is required within the existing network footprint, as the amount of additional capacity sought increases relative to the total capacity in that section of the existing infrastructure, the work required to provide that capacity is increasingly likely to resemble the construction of new parallel infrastructure, rather than facilitating access to the existing infrastructure.

Permanent changes

A4.12 Network adjustments involve making changes which are permanent. It is sometimes necessary to remove obstructions preventing use of existing infrastructure that is otherwise in good working order.[49] Our view is that it is more appropriate to regard the removal of obstructions as ancillary activities associated with the deployment and maintenance of access networks, rather than network adjustments. This is because activities associated with removing obstructions often need to be undertaken every time cables are to be installed or where a telecoms provider needs to access its fibre network as part of on-going maintenance or repair of that fibre. The ability of telecoms providers to remove such obstructions is provided for by virtue of the requirement on KCOM to provide certain ancillary services, but we do not regard them as network adjustments.[50]

A4.13 In contrast, we regard network adjustments as involving permanent changes which are required to facilitate access to the physical infrastructure. Generally, this will involve making a permanent change to the physical infrastructure itself, although as we explain below, it may involve the permanent removal of redundant cables or equipment left in the physical infrastructure.[51]

Three criteria test for the network adjustment requirement

A4.14 Below, we explain how we will apply the three criteria identified above, to determine whether a particular network adjustment falls within the scope of the PIA obligation. We consider that these criteria are cumulative, i.e. KCOM should only be required to make network adjustments where all three criteria are met.

Is the requested adjustment necessary?

A4.15 In some of the cases where a telecoms provider encounters an unusable section of physical infrastructure, an alternative option of still using KCOM's physical infrastructure may exist, which would enable the telecoms provider to deploy its access network without an adjustment to the physical infrastructure being made. Provided these alternatives allow for a reasonably equivalent outcome for the telecoms provider compared to making an adjustment, KCOM is unlikely to be under an obligation to remedy the unusable section of the physical infrastructure.

A4.16 For example, in the case of an unusable section of duct, an alternative duct route might exist; or in the case of an unusable chamber, an alternative chamber might be available

[49] For example, removing silt from ducts, or pumping water out of chambers before being able to deploy and maintain access networks through KCOM's underground physical infrastructure. Similarly, it is sometimes necessary to cut back trees to access the top of poles and install or maintain dropwires or pole-top equipment.
[50] The practical effect of this is that these ancillary activities are not subject to our measures regarding the recovery of network adjustment costs below the financial limit.
[51] The removal of redundant cables or equipment left in the physical infrastructure by telecoms providers using the infrastructure (including KCOM), is distinct from changes to KCOM's active network. The latter is not part of the PIA remedy (although under our regulation KCOM can choose to meet its obligations to make network adjustments by making changes to its active network in lieu of making a network adjustment).

with space to accommodate the equipment. Provided these alternatives allow the telecoms provider to deploy its network to the same end customer premises, and any additional cost incurred by the telecoms provider is not disproportionate,[52] KCOM is unlikely to be under an obligation to remedy the unusable section of the physical infrastructure.

Is the requested adjustment feasible?

A4.17 Adjustments which are infeasible are not required under the network access obligation. In some cases, there may be technical, operational or legal barriers that prevent KCOM from being able to make the required adjustment, for example, wayleave access for the work is not granted, or planning restrictions are in place.

A4.18 In some cases, such barriers may not be insurmountable, but the cost involved in overcoming any barriers would be significant. We consider that this is addressed by the third factor discussed below (i.e. whether the adjustment is efficient).

Does the requested adjustment improve efficiency?

A4.19 We consider that KCOM should only be required to make network adjustments where this improves efficiency (i.e. it is quicker, easier and/or cheaper for KCOM to adjust the existing physical infrastructure than for a telecoms provider to install its own infrastructure alongside KCOM's). This is consistent with our rationale for requiring KCOM to provide network access in the form of PIA. We want to encourage infrastructure sharing when it is more efficient than the other options available to a telecoms provider, such as building its own physical infrastructure, as these efficiencies will facilitate investment which would not otherwise be viable.

A4.20 If telecoms providers paid the full upfront cost of any network adjustments they requested, we would expect them to have incentives to request network adjustments only where this was the most efficient way to overcome unusable sections of physical infrastructure. However, for the reasons set out in Volume 3, Section 5 we have decided that KCOM should recover the costs of network adjustments, up to a financial limit, over all users of the physical infrastructure. We recognise that as a result, telecoms providers may not have the incentive to choose the most efficient solution to overcome unusable sections of physical infrastructure (for example, when choosing between requesting a network adjustment or building their own parallel infrastructure).

A4.21 Given the risk that telecoms providers request network adjustments which would be inefficient, we consider that KCOM should only be required to adjust its physical infrastructure where this improves efficiency. This reflects our aim in requiring KCOM to make network adjustments, namely, to avoid unnecessary duplication of the physical infrastructure in situations where it is quicker, easier and/or cheaper for KCOM to adjust the infrastructure than for a telecoms provider to install their own infrastructure.[53]

[52] For example, a telecoms provider may incur additional costs associated with longer lengths of fibre, or higher rental charges associated with longer lengths of duct. In assessing whether the additional cost is disproportionate, we would consider how any cost difference compares to the cost of undertaking the requested adjustment.

[53] We recognise that it might be argued that KCOM should also be required to make network adjustments in situations where the adjustment is as efficient as the telecoms provider installing its own infrastructure, on the basis that this would promote greater network competition and would still ensure efficient network

A4.22 We would consider whether this is the case by comparing two scenarios:

a) KCOM adjusts its physical infrastructure to remedy the unusable section of KCOM's infrastructure (the 'factual' scenario); and

b) the telecoms provider builds its own network asset to circumvent the unusable section of KCOM's infrastructure (the 'counterfactual' scenario).

A4.23 KCOM should only be required to make network adjustments where the factual scenario is more efficient than the counterfactual scenario, for example, it is quicker, easier and/or cheaper.[54]

A4.24 In this comparison, the cost in the factual scenario should be the incremental cost to KCOM of making the adjustment at the telecoms provider's request. For example, if KCOM would have carried out the work anyway, even if the telecoms provider had not requested the adjustment, the incremental cost will be lower than the cost of the civil works (and in some cases could be zero).

A4.25 Moreover, the factual and counterfactual scenarios should be based on KCOM's own engineering practices applicable at the time. This ensures that KCOM cannot refuse requests for network adjustments by requiring competing telecoms providers to choose a lower cost engineering solution that it would not choose for itself. This approach will also provide greater certainty to KCOM and competing telecoms providers in cases where a range of engineering solutions might exist.

A4.26 We recognise that it might be argued that even in cases where it is more efficient for KCOM to make an adjustment than for the telecoms provider to build its own network asset, the costs involved in making the adjustment outweigh the benefits of making of the adjustment (i.e. so the adjustment could still be considered inefficient). At the level of individual network adjustments, we think a comparison of the costs and benefits is unlikely to be a meaningful exercise. This is because the benefits of making network adjustments – i.e. more fully realising the efficiency benefits of sharing the existing infrastructure, thereby increasing the scope for competitive network investment – arise from the cumulative impact of multiple adjustments, rather than an individual network adjustment. We consider that the risks of the costs outweighing the benefits should be assessed at the overall level of whether the entry of a competing network provider is efficient.

KCOM should choose how to undertake network adjustments

A4.27 We believe that, where an adjustment is necessary for KCOM's physical infrastructure network to be available to telecoms providers for the purpose of deploying their own networks, KCOM should be able to choose the form of adjustment it makes to meet its obligation. This provides KCOM with the flexibility to choose the most efficient solution possible and allows it to take account of its own future requirements.

A4.28 We note that a possible concern of other telecoms providers might be in relation to KCOM's ability to choose how to undertake network adjustments. Notwithstanding the

adjustments. However, at this stage, we are not persuaded that such an obligation is necessary to ensure effective competition in the long term or proportionate given our current understanding of the benefits and risks. For the avoidance of doubt, our approach does not prevent KCOM from choosing to undertake a broader set of network adjustments than required under the network access obligation, provided it treats all telecoms providers including KCOM in the same way (unless differences can be justified).

[54] We note that time and difficulty (or operational complexity) can be thought of as drivers of additional costs.

benefits of giving KCOM flexibility, it is important that KCOM is not able to exploit this flexibility to undermine the effectiveness of the remedy. We consider that our broader measures prevent KCOM from doing this in the following ways:[55]

a) The non-discrimination requirements prevent KCOM from applying a different approach for external PIA users to the approach taken for its own network deployments unless such a difference can be justified;

b) The requirement to produce a Reference Offer includes a requirement to set out the terms and conditions on which other providers may purchase PIA and access KCOM's infrastructure (also see below); and

c) Our approach regarding how KCOM should recover the costs of making any adjustments provide KCOM with the incentive to select the most efficient approach and limit the incentive to select high cost solutions to increase a competing telecoms provider's costs of deployment.

A4.29 Some network adjustments may be just as easily carried out by the telecoms provider. For the avoidance of doubt, our guidance sets out where a network adjustment is likely to be required. If an adjustment falls within the scope of the access obligation, although the responsibility for the adjustment rests with KCOM, it may meet this requirement by agreeing with industry arrangements for the telecoms provider to undertake the works itself (effectively on behalf of KCOM).[56]

Breaking in and out of KCOM's network infrastructure

A4.30 Telecoms providers are likely to deploy hybrid networks, using a mixture of KCOM's infrastructure and their own infrastructure.[57] Therefore, to make effective use of KCOM's physical infrastructure, telecoms providers need to be able to break in and out of the infrastructure to interconnect with their own infrastructure. In addition, the ability of telecoms providers to overcome unusable sections of KCOM's physical infrastructure as efficiently as KCOM depends on the ability to break in and out of KCOM's physical infrastructure at particular points.[58]

A4.31 For the avoidance of doubt, the ability of telecoms providers to break in and out of the infrastructure is provided for by virtue of the requirement on KCOM to provide certain ancillary services, but we do not regard breaking in and out of the network as network adjustments on the basis that these are for the purpose of enabling hybrid networks rather than making KCOM's network ready for use.

[55] For further details about the no undue discrimination requirement and reference offer, see Volume 3, Sections 2 and 5 respectively. For further details about cost recovery of network adjustments, see Volume 3, Section 5.
[56] As network adjustments are made to KCOM's physical infrastructure, KCOM will retain ownership of the relevant assets.
[57] We expect most deployments will be hybrid designs but with varying use of KCOM's infrastructure.
[58] For example, the ability to install duct directly between KCOM's chambers requires that they can break out of the end walls of KCOM's chambers (i.e. in the direction of the duct run).

A5. Glossary

This glossary provides a brief explanation of terms used throughout this s which are specific to the Hull Area. These explanations are in addition to a detailed glossary of terms available in Annex A19 of the Telecoms Access Review 2026-31 statement.

Term	Description
Additional financial information (AFI)	Detailed financial information provided in confidence to Ofcom as part of KCOM's regulatory financial statements.
Altnet	Altnet is short for alternative network provider which, in the context of the Hull Area review, is not KCOM. An altnet is an organisation operating within the Hull Area that builds its own network infrastructure for wholesale and/or retail provision of broadband services. Some altnets also offer leased lines services.
Distribution point (DP)	A flexibility point in KCOM's access network to which final connections to customer premises are connected. Usually, a connection point either in an underground chamber or on a pole.
European Commission (EC)	The European Commission.
Ethernet connect access service (ECAS)	KCOM's Ethernet connect access service which comprises Ethernet point to point data circuits (similar to the EDAS service but permitted for use where there is onward connection to a point outside of the Hull Area).
Ethernet direct access service (EDAS)	KCOM's Ethernet direct access service which comprises Ethernet point to point data circuits.
Excess construction charges	A charge levied by KCOM where additional construction of duct and fibre or copper is required to provide service to customer site. Provided either directly by KCOM or by a contractor.
Exchange	The KCOM operational building, to which customers are directly connected.
Hull Area	The area defined as the "Licensed Area" in the licence granted on 30 November 1987 by the Secretary of State under section 7 of the Telecommunications Act 1984 to Kingston upon

	Hull City Council and Kingston Communications (Hull) plc (KCOM).[59]
Optical distribution frame (ODF)	The ODF is a structured frame for the termination and cross-connection of optical fibres.
Physical infrastructure access (PIA)	A remedy requiring KCOM to provide telecoms providers with access to its passive access network infrastructure (i.e. ducts and poles).
Public switch telephony network (PSTN)	A telephony network used to provide telephone calls using (or emulating) circuit-switching and using telephone numbers to identify subscribers or called locations, allowing all customers connection to the network to call all other customers.
Resellers	Resellers are telecoms providers that buy retail-minus products from KCOM and resell these products under a white-label arrangement, predominantly to business customers. Resellers provide aspects such as billing and customer service, but do not provide any technical elements.
Regulatory financial statements (RFS)	The financial statements which KCOM are required to produce under the obligations contained in its SMP conditions set by Ofcom. They include the published RFS and any additional financial information (AFI) provided to Ofcom in confidence.[60]
Rest of the UK (RoUK)	The geographic markets set out in the TAR26 March 2025 Statement which exclude the Hull Area.
Service level agreement (SLA)	A contractual commitment provided by a telecoms provider, such as KCOM, to a customer, which sets out the service standards such as time to provide and time to repair.
Service level guarantee (SLG)	A contractual commitment by KCOM to telecoms providers specifying the amount of compensation payable by KCOM to a telecoms provider for a failure to adhere to an SLA.

[59] A map of the Hull Area, for illustrative purposes, can be found in 2019 PIMR and BCMR Statement – Annex 26 page 170. Accessed on 16 Oct 2026.
[60] KCOM. Regulatory accounts. Accessed on 16 Oct 2026.

Statement of requirement (SoR)	A KCOM process for submission and processing of requests for product/service enhancements.
Telecoms Access Review (TAR)	TAR refers to the fixed telecoms market review which concluded in March 2026, with regulations covering the 2026-2031 review period. It can also sometimes be referred to as TAR26.
Third party	A person, or an organisation, other than KCOM, providing a public electronic communications service or a public electronic communications network.
Wholesale fibreLine local access (WFLLA)	KCOM's fibre-based wholesale line access service.
Wholesale Fixed Telecoms Market Review (WFTMR)	WFTMR refers to fixed telecoms market reviews. For the RoUK (excluding the Hull area), the review concluded in March 2021, and or the Hull area, in October 2021. These reviews can also be referred to as WFTMR21.
Wholesale pricing transparency report (WPTR)	A report detailing the charges that a telecoms provider makes to its customers for certain services.