Approach to high excess costs under the broadband universal service

Proposed modification to the Universal Service Conditions

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CONSULTATION:

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1. Overview

1.1 In 2018, the UK Government introduced legislation for a broadband 'universal service obligation' (USO), to give people the right to request a decent and affordable broadband connection to their homes and businesses. Under the legislation, if the cost of providing a given connection is no more than £3,400, excluding VAT, then the customer does not have to pay for the connection to be built. If the costs exceed this, the customer can pay the difference.

1.2 In 2019, we designated BT as a universal service provider and set the conditions that apply to it. To calculate the costs of a connection, BT must share the costs of the network that can serve multiple premises. Costs are apportioned based on an assumption that at least 70% of eligible premises in an area will request a connection. If, on this basis, the cost exceeds £3,400 (excluding VAT), BT must find out whether the customer is prepared to pay the excess costs (including VAT). On request, BT must provide customers with a full quote for the excess costs in a timely manner.

1.3 In October 2020, we opened an investigation because of concerns that BT may not be complying with our rules in respect of its approach to calculating excess costs. BT's approach meant it did not divide costs of shared infrastructure in the way we expected, which resulted in some customers being asked to pay materially higher excess costs. We identified a significant risk of consumer harm associated with BT's approach, where the costs of a connection were not significantly above £3,400 (excluding VAT).

1.4 As a result of our investigation, BT has now agreed to use our expected approach to calculating excess cost quotes, where costs are not significantly above £3,400. BT has also agreed to refund affected customers and re-issue quotes it has previously provided. We consider this should, in large part, address the concerns about consumer harm that led to us opening the investigation. We will monitor BT's actions closely to ensure our concerns are addressed.

1.5 During the investigation BT provided evidence that where the cost of building a connection is very high, and costs are significantly above £3,400, there is a risk of there being a disproportionate impact on the costs of funding the USO. This could arise because, while a single customer might be prepared to pay their share of these high excess costs, it is less likely that others will do so.

1.6 Our current expectation is that once one customer agrees to pay their excess costs, BT must build all of the infrastructure necessary to connect that premises. This may lead to a significant shortfall in cost recovery when there are few or no other customers that will pay excess costs at this level. We have looked at this carefully and consider it would be appropriate that, where excess costs are very high, BT can recover all excess costs before commencing build in order to mitigate this possible risk.

1.7 While there will be a number of customers who will benefit from receiving lower quotes going forward, there will be premises where the costs of provision remain very high. These

customers are unlikely to benefit from the USO irrespective of the approach taken to shared costs, and BT's change in approach will not address these cases. We will continue to work with industry and the Government to explore alternative technology and funding solutions for premises facing very high excess costs to receive a decent broadband connection.

What we are proposing

- **Where excess costs are very high, BT can recover total excess costs before commencing build.** When one customer makes a request, and excess costs are more than £5,000 (excluding VAT) per eligible premises based on the forecast assumption of 70% take-up in the area, BT should inform customers of the total excess costs and gain agreement to cover these before building. One or more customers can cover all the excess costs of the build, including shared infrastructure. We expect that very few customers will be willing to pay more than £5,000 (excluding VAT) to receive an upgraded broadband connection under the USO, so this change should have a very limited impact on customers, while reducing any risks on cost recovery.
- **No changes for the assessment of premises where excess build costs are £5,000 (excluding VAT) or below**. Where excess build costs are £5,000 (excluding VAT) or below, based on a forecast of 70% take-up, customers' quotes should be based on this assumed take-up. BT must then provide any connection where a customer agrees to pay their quote. As a result of our investigation, BT has now agreed to apply this approach.

1.8 We are not proposing any other change to the existing rules on how BT must assess USO connection costs. We are also not proposing to make this same change for KCOM, given the availability of decent broadband services in the Hull Area. We note that, to date, KCOM has not received any requests from USO eligible customers.

1.9 This consultation closes on 10 September 2021, and we intend to publish our decision by the end of 2021.

1.10 The overview section in this document is a simplified high-level summary only. The proposals we are consulting on and our reasoning are set out in the full document.

2. Introduction

Background

The 2018 Order

2.1 In March 2018 the Government introduced secondary legislation under section 65 of the Communications Act 2003 (the 'Act') setting the requirements for a broadband USO (the '2018 Order').[1] The USO is intended to act as a safety net to prevent social and digital exclusion.

2.2 The 2018 Order gives people the right to request a broadband connection to their homes and businesses capable of delivering download speeds of at least 10Mbit/s and upload speeds of at least 1Mbit/s.[2]

2.3 The USO is not a broadband rollout programme. Each USO connection will need to be built or upgraded to premises in response to an eligible request.

2.4 Eligibility criteria are set out in the 2018 Order. In summary, customers are eligible if: (i) they do not already receive an affordable broadband connection that meets the USO specification; (ii) such a connection will not be provided by a publicly-funded rollout scheme in the next year; and (iii) the cost of building a USO connection is £3,400 or less. Where the costs are higher than this amount, customers will be entitled to be connected if they are willing to pay costs over this threshold.

Designation of BT and KCOM as USPs and imposition of universal service conditions

2.5 To secure the provision of the broadband universal service specified in the 2018 Order, Ofcom was required to exercise its powers under sections 45, 66 and 67 of the Act to designate universal service providers (USPs) and set universal service conditions on them requiring them to deliver broadband connections and services to eligible consumers.

2.6 To fulfill these duties, in 2019 we published a statement (the '2019 Statement') and designated BT as the USO provider for the whole of the UK, excluding the Hull Area[3] where KCOM was designated.[4] We also set conditions (the '2019 Conditions') that BT and KCOM (the USPs) must follow as they deliver broadband USO connections and services.

2.7 These cover:

[1] The Electronic Communications (Universal Service) (Broadband) Order 2018 (the '2018 Order').
[2] In addition to minimum download and upload speeds, the USO sets technical characteristics that the connection should allow downloading of at least 100GB per month, a contention ratio of no higher than 50:1, and that latency should be low enough to allow for voice calls to be made over the broadband connection.
[3] "Hull Area" means 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 KCOM Group plc.
[4] Ofcom, 2019. Delivering the Broadband Universal Service (the '2019 Statement').

- the eligibility assessments USPs must carry out when they receive a request for a USO service;
- the delivery timeframes for providing these connections, and requirements to ensure that USO customers will receive the same quality of service as non-USO customers;
- the approach USO providers must take to calculating costs of connection, to take into account that infrastructure could be shared in accordance with the provisions of the 2018 Order;[5]
- pricing of USO services to ensure they are affordable so that customers will pay the same price for their USO service as equivalent services across the UK;
- requirements for handling any complaints and dispute resolution; and
- a set of performance reporting requirements to help monitor compliance with these conditions.

The approach to demand aggregation in the 2019 Conditions

2.8 A customer making a request for a USO connection is only eligible if, among other things, the cost of providing the USO connection is no more than £3,400 excluding VAT or, where the costs exceed this, the customer pays the difference. The USP therefore has to calculate the cost of providing the USO connection and, if this exceeds £3,400 excluding VAT, find out whether the customer is prepared to agree to pay the excess including VAT.

2.9 Our 2019 Conditions set out how costs should be calculated by the USP in circumstances where infrastructure deployed is capable of serving more than one eligible premises with a USO service.[6] This is referred to as 'demand aggregation'. We are required by the 2018 Order to ensure that due account is taken of this when calculating the cost of providing a USO service to a particular location.

2.10 Where demand aggregation arises, the provider must calculate the cost that is attributed to an individual premises by dividing the total cost of the infrastructure which is capable of being shared by the number of relevant premises.

2.11 The conditions require that the number of relevant premises is the higher of:

a) 70% of the total number of eligible premises that are capable of being served by the shared infrastructure; or

b) the actual number of eligible premises that can be served by the shared infrastructure that have requested a USO service.

2.12 Having conducted this calculation, if the provider concludes that the cost will be more than £3,400, it must:

[5] Paragraph 1 of Schedule 2 of the 2018 Order provides that in order to facilitate the effective aggregation of demand for connections, Ofcom should ensure that, in calculating the cost of providing a broadband connection to a particular location, due account is taken of the extent to which the cost may be shared between multiple locations. Under section 67(8) of the Act, in setting universal service conditions, Ofcom must have regard to any guidance that is contained in the universal service order.

[6] Universal Service Conditions A.3(c) and B.8.

a) inform the customer requesting the USO service and provide a best estimate on the range of the excess costs;

b) inform the customer that they are entitled to request a full quotation of the excess costs; and

c) if the customer requests a full quotation, to provide this within 60 calendar days.

2.13 We set out in our 2019 Statement why we decided to take this approach.[7] We considered whether we should require the USPs to use a forecast approach when considering demand aggregation and the sharing of costs, or whether they should use actual demand (i.e. allowing a period of time for the USP to raise awareness during which it can determine the level of demand; after this period it could assess the costs per premises based on this level of demand. Customers would not know the costs they faced until this period was completed). We decided a forecast approach was more appropriate to effectively implement the 2018 Order as this would mean the process of connecting customers could start as soon as a customer placed an order, whereas a process using actual demand would introduce a delay whilst the USPs co-ordinated demand.[8]

2.14 Having adopted the forecast-based approach, we then considered the level of forecast that should be assumed. We took into account several factors including take-up of broadband generally, take-up of broadband services offering a decent broadband service (where available) and whether a different level of take-up may occur in locations where decent broadband is not available. Taking these factors into account, whilst accepting that there would be some uncertainty in any forecast, we decided 70% was a reasonable forecast for the overall long-run take-up of the USO. We noted that a forecast that is too high could increase costs and have a negative impact in terms of increasing customer bills generally in order to recover those costs.[9]

Funding of the scheme

2.15 In delivering USO connections, the USPs will incur costs of connecting USO customers. The USPs are entitled to request compensation in respect of the net costs they incur if these costs represent an unfair financial burden on the USPs.

2.16 In May 2020 we made funding regulations applicable to any requests for compensation in respect of USO associated costs (the 'Regulations').[10] The Regulations were accompanied by a statement which explains our decisions on the rules and procedures that BT and KCOM must follow to make a request for any unfair costs associated with the delivery of the USO ('the 2020 Funding Statement').[11]

2.17 Under the relevant provisions of the Act and the Regulations, Ofcom may establish an industry fund to compensate a USP where it has found that the USP in question has been

[7] Paras 5.55 to 5.109, 2019 Statement.
[8] Para 5.86, 2019 Statement.
[9] Para 5.95, 2019 Statement.
[10] The Electronic Communications (Universal Service) (Costs) Regulations 2020.
[11] Ofcom, 2020. Compensating providers delivering universal services.

subject to an unfair financial burden. As part of this process, we would determine which other providers should contribute to the cost-sharing fund and how much.

Implementation of the USO to date and our investigation

2.18 Following the launch of the USO in March 2020, BT has been responding to requests from consumers, including providing quotes where it calculates costs are above the £3,400 threshold.

2.19 Following engagement with BT to understand how it had implemented the 2019 Conditions, we became concerned that BT may not be complying with certain of the 2019 Conditions correctly when approaching the issue of demand aggregation and providing full quotations to requesting USO customers. We launched an investigation into BT's compliance with its obligations as a broadband USP and its approach to shared costs on 15 October 2020. We identified a significant risk of consumer harm associated with the approach BT was taking, where the costs of a connection were above £3,400. In these circumstances, BT's approach would likely result in fewer customers requesting connections under the USO, due to being asked to pay materially higher excess costs than might have been the case had BT used the approach we expected them to follow under the 2019 Conditions.

2.20 BT has now provided assurances to us that they will use our expected approach to calculating excess cost quotes, where excess costs are not more than £5,000 above the reasonable cost threshold of £3,400. BT has also committed to refunding affected customers and re-issuing previous quotes they have provided. We consider this should in large part address the concerns about consumer harm that led to the opening of the investigation.

2.21 We have provided an update on the investigation today.

Continuing work to connect the hardest to reach premises

2.22 While there will be a number of customers that will benefit from receiving lower quotes going forward, there will be premises where the costs of provision remain very high. These customers are unlikely to benefit from the USO irrespective of the approach taken to shared costs, and BT's change in approach will not address these cases.

2.23 DCMS has recently sought evidence from a range of stakeholders so it can explore possible options for improving broadband connectivity for very hard to reach premises. We will continue to work with industry and the Government to explore alternative technology and funding solutions for premises facing very high costs to receive a decent broadband connection.[12]

[12] See Call for Evidence: Improving connectivity for Very Hard to Reach premises.

Purpose of this document

2.24 During the investigation BT provided evidence that where the cost of a connection is very high, and excess costs are significantly above £3,400, there is a risk of there being a disproportionate impact on the costs of funding the USO. This could arise because, while a single customer might be prepared to pay these high excess costs, it is less likely that others will do so. Once one customer agrees to pay their excess costs, BT must build all of the infrastructure necessary to connect that premises. This may lead to a significant shortfall in cost recovery when there are few or no other customers that will pay excess costs at this level.

2.25 We have considered this carefully and decided to consult on modifying the 2019 Conditions to make a small, technical change to the rules about how BT must assess the costs of providing a USO connection where the costs of connections are very high. We consider that an adjustment to the 2019 Conditions in relation to the treatment of excess costs in determining the eligibility of requests in these circumstances would:

- better meet our objectives of delivering decent broadband connections to consumers; whilst
- limiting the costs of providing very expensive connections to BT and potentially other providers contributing to an industry fund, to avoid a negative impact on customer bills generally in order to recover those costs.

Legal framework for setting and modifying universal service conditions

2.26 We have discretion to set and modify the conditions as we consider appropriate to ensure that the 2018 Order is implemented properly and effectively,[13] but in doing so we must have regard to any guidance set out in the 2018 Order made by the Secretary of State.

2.27 In setting and modifying universal service conditions, we must act in accordance with the statutory requirements and legal tests set out in the Act, in particular those set out in sections 45 to 48C, 67 and 68. These include a duty to ensure that we are satisfied that any modification of universal service conditions is:

a) **objectively justifiable** in relation to the networks, services, facilities, apparatus or directories to which the modified conditions relate;

b) **not unduly discriminatory** against particular persons or against a particular description of persons;

c) **proportionate** to what the modified conditions are intended to achieve; and

[13] This includes ensuring that the conditions (among other things) include a requirement securing that the terms on which a person is provided with a broadband universal service do not require them to pay any amount relating to an unnecessary additional service.

d) **transparent** in relation to what they are intended to achieve.[14]

2.28 In addition to the statutory requirements and legal tests set out above, in fulfilling our role under the legislation in respect of the implementation of the 2018 Order, we must have regard to our duties under the Act. In particular, we must consider our principal duty to further the interests of citizens in relation to communications matters and the interests of consumers in relevant markets, where appropriate by promoting competition.[15]

2.29 We set our consideration of these legal tests to modify the 2019 Conditions in Section 3.

Impact assessment

2.30 The analysis presented in this document constitutes an impact assessment as defined in section 7 of the Act.

2.31 Impact assessments provide a valuable way of assessing different options for regulation and showing why the preferred option was chosen. They form part of best practice policy-making. This is reflected in section 7 of the Act, which means that generally we have to carry out impact assessments where our proposals would be likely to have a significant effect on businesses or the general public, or when there is a major change in our activities. However, as a matter of policy, we are committed to carrying out impact assessments in relation to the great majority of our policy decisions.[16]

Equality impact assessment

2.32 Section 149 of the Equality Act 2010 (the '2010 Act') imposes a duty on Ofcom, when carrying out its functions, to have due regard to the need to eliminate discrimination, harassment, victimisation and other prohibited conduct related to the following protected characteristics: age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion or belief; sex and sexual orientation. The 2010 Act also requires Ofcom to have due regard to the need to advance equality of opportunity and foster good relations between persons who share specified protected characteristics and persons who do not.

2.33 Section 75 of the Northern Ireland Act 1998 (the '1998 Act') also imposes a duty on Ofcom, when carrying out its functions relating to Northern Ireland, to have due regard to the need to promote equality of opportunity and regard to the desirability of promoting good relations across a range of categories outlined in the 1998 Act. Our Revised Northern Ireland Equality Scheme explains how we comply with our statutory duties under the 1998 Act.[17]

[14] Section 47(2) of the Act.
[15] Section 3(1) of the Act.
[16] For further information about our approach to impact assessments, see the guidelines, Better Policy Making - Ofcom's approach to Impact Assessment.
[17] Ofcom, 2019. Revised Northern Ireland Equality Scheme for Ofcom.

2.34 To help us comply with our duties under the 2010 Act and the 1998 Act, we assess the impact of our proposals on persons sharing protected characteristics and in particular whether they may discriminate against such persons or impact on equality of opportunity or good relations.

2.35 We do not consider that our proposals have equality implications under the 2010 Act or the 1998 Act. In particular, it is not apparent to us that the proposals set out in this consultation are likely to have any particular impact on the following protected characteristics: age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion or belief; sex and sexual orientation. Specifically, we do not envisage the impact of any outcome to be to the detriment of any group of society. This is because our implementation of the 2018 Order seeks to ensure that all consumers, irrespective of their protected characteristics or the part of the UK they live in, can benefit from the broadband universal service if they meet the eligibility criteria specified in the 2018 Order.

Rest of this document

2.36 In the remainder of this document, we set out our proposed approach to sharing costs where USO builds are very expensive. More detailed analysis is set out in Annex 5. Notice of our proposed modification to the 2019 Conditions to give effect to our proposals is set out in Annex 6.

Next steps

2.37 We ask for views by 10 September 2021. Details on how to respond to this consultation are set out in Annex 1.

3. Sharing costs where build is very expensive

3.1 In this section we explain our concern that, where excess costs are very high, there could be a large shortfall in cost recovery if BT builds expensive shared infrastructure required to connect premises under the USO, but take-up is low.

3.2 Based on BT's updated modelling of data we provided on the potentially eligible premises for the USO following the launch of the USO, we have evaluated the potential scale of any shortfall in excess cost payments on the cost of providing the broadband USO. We explain how a shortfall can occur and our analysis that indicates where costs are very high, there could be a risk of a significant shortfall. We then evaluate the impact that a change in the treatment of excess costs to determine eligibility, in order to mitigate that risk, would have on the extent of the shortfall and on customers.

3.3 Based on this analysis, we propose to make a change to the 2019 Conditions so that where there are excess costs of over £5,000 per premises (excluding VAT), BT is able to recover all these excess costs prior to commencing build so that the potential for a shortfall is removed. We also include guidance on how BT should raise awareness of the USO where excess costs are £5,000 or less per premises.

3.4 Throughout the rest of this document, figures exclude VAT unless otherwise stated.

The risk of a shortfall in excess cost payments

3.5 Since being designated as the USP, BT has undertaken further work to plan out the network it will need to build to fulfil its obligation to provide USO connections. To do this, BT uses data provided by Ofcom showing which premises currently lack a decent connection and so may be eligible for a connection under the USO. The data is based on our Connected Nations reports and is refreshed each time we publish a new report or update.[18] The latest location data allows BT to revise and refine its models to plan efficient deployment of new network and provide an estimate of the cost of building those new connections.

3.6 This updated modelling shows that there are around 66,500 premises where the cost of connection exceeds the £3,400 reasonable cost threshold ('RCT').[19] [20] This modelling also shows that a large proportion of these premises [✂] will share network infrastructure. Where network is shared, BT is required under the 2019 Conditions to calculate the cost of connection at a particular premises by assuming that 70% of the customers connected to shared infrastructure will take up the service. The premises that share the same shared

[18] See Ofcom's Connected Nations and infrastructure reports. In addition to data used in our Connected Nations reports, the data provided to BT also takes account of where public schemes will deliver a connection in the next twelve months and so are not eligible for the USO.
[19] The RCT is £3,400 excluding VAT. This is the cost of providing a USO connection to an eligible premises above which any excess costs will be paid by the end-user, as specified in the 2018 Order.
[20] Our analysis is based on BT's modelling of data we provided in January 2021. This data is based on the Connected Nations report and data published in December 2020.

infrastructure are referred to as 'clusters'.[21] BT calculates the shared costs for the cluster based on the 70% forecast, and each customer in the cluster must then decide whether to pay their excess cost, which is the difference between their individual cost of connection and the £3,400 RCT.

3.7 BT is required to build the infrastructure as soon as one request is assessed as eligible for a connection, with BT and the customer entering into an agreement regarding excess costs. So, if only one customer agreed to pay their excess cost payment, BT would be required to build all of the infrastructure needed to connect that customer, even if none of the other customers in the cluster also agree to pay.

3.8 BT's modelling of costs, based on the updated data we have provided from Connected Nations since the launch of the USO, shows that there are clusters where, even when the costs of shared infrastructure are divided across 70% of all eligible premises in a cluster, the excess costs that apply to each premises are very high. In these cases where excess costs are very high, there could be a significant shortfall in excess cost payments if fewer than anticipated customers sharing infrastructure decide to come forward. For example, if there are ten customers sharing infrastructure, and the excess cost per premises (at 70% take-up) is £10,000, BT would expect seven excess cost payments and expect to collect a total of £70,000 in excess cost payments. But if only one customer comes forward, there would be a shortfall of £60,000.

3.9 The size and likelihood of a shortfall in excess cost payments depends on a number of different factors including:

- **The extent to which network is shared between premises.** In cases where network is not shared between potentially eligible premises there can be no shortfall in excess cost payments. As the number of premises that share infrastructure increases, excess cost payments are spread across a larger number of customers, so the scope for a shortfall increases.
- **The cost of the shared network assets.** Where the shared network assets are costly, the amount of shared costs recovered from each customer through excess cost payments is larger. This increases the value of the shortfall if fewer than 70% of potentially eligible premises come forward.
- **Demand for USO connections.** A shortfall will arise where there is at least one order, which means BT must build all the shared infrastructure, but demand is lower than expected, so that there are fewer than expected excess cost payments. If demand is high, BT will recover excess costs through customer payments whereas if demand is very low it may not need to build the infrastructure and so will not incur the costs.

[21] The USO is technologically neutral, but in general BT uses full fibre to provide USO connections. In its full fibre deployment, a cluster would typically be the premises connected to a specific splitter node. A splitter node is a node where optical splitters are located. Optical splitters are a component in a point to multi-point fibre network where a single optical input is split into multiple outputs. Each of these multiple outputs provides a dedicated connection to a customer premises.

3.10 A shortfall in excess cost payments could increase the net cost of providing the broadband USO. This cost would be borne by BT in the first instance and, if we find that there is an unfair cost burden on BT as a result of the USO, this would be borne by the contributors to a USO fund. Ultimately this could have a negative impact on customer bills as BT and/or contributors seek to recover those costs. We would be concerned if a shortfall in excess cost payments led to a significant increase in the cost of providing the USO. As such we have analysed the potential size of any shortfall.

Modelling the extent of the risk

3.11 We have sought to understand the scale of the risk from a shortfall occurring where excess costs are high, and the impact that it could have on the cost of the broadband USO. We also looked at how the scale of that risk varies depending on how costly it is to connect different premises.

3.12 We used updated cost data from BT which provided details on the cost of shared network assets, how many premises share those assets and the extent of costs that are not shared between premises. This data covered all of the 66,500 premises that BT's modelling identified as above the £3,400 RCT.

3.13 There is some uncertainty regarding demand for USO connections where customers are required to make an excess cost payment. Some data is available from the excess cost payments that customers have already agreed to pay for their USO connections. However, only [✂] customers have agreed to pay excess costs so far, and it is not clear how representative this sample is of demand in the longer term.

3.14 In order to assess the potential size of any shortfall, we used two demand profiles which we labelled 'low' and 'high' respectively to represent a range of scenarios for the proportion of customers that come forward at a given level of excess cost payment. More details of these demand profiles and payments customers have agreed to pay are provided in Annex 5. We do not currently have a large amount of data to support a particular forecast and recognise that, in practice, demand could be lower or higher than this range. However, these forecasts help assess any shortfall if take-up is lower than 70% when excess costs are high, and the level of excess costs at which the scale of any potential shortfall could become significant.

3.15 We used the cost data and the demand scenarios to estimate the probability that an order is made within each cluster of premises and the expected number of orders. This allowed us to calculate the expected costs above the £3,400 RCT and the expected revenues from excess cost payments and consequently the expected shortfall. [22]

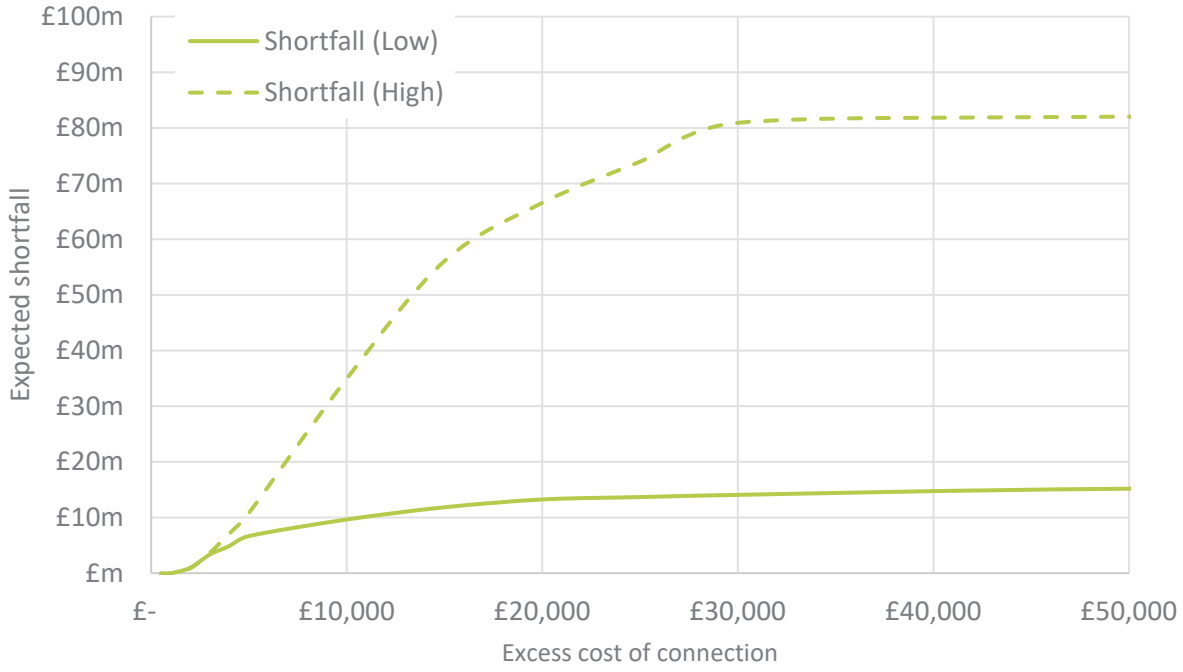
3.16 The aggregate expected shortfall, across all clusters of premises, using these demand scenarios is £17m in the low demand scenario and £84m in the high demand scenario. This

[22] That is, the expected network build costs at nodes where there is an excess cost per customer, less the RCT at those nodes (i.e. £3,400 * 70% of potentially eligible premises at the nodes).

shows that there could be a material impact on the cost of providing the broadband USO due to shortfalls in excess cost payments if no mitigation is put in place.

3.17 However, this figure masks a wide variation between premises. Figure 3.1 shows the cumulative value of the expected shortfall, in each demand scenario, depending on the cost of connection for the premises.

Figure 3.1: Expected shortfall by cost of connection



Source: Ofcom analysis of BT splitter node data

3.18 The chart shows that the bulk of the expected shortfall is driven by those premises that are more expensive to connect. Those premises where the excess cost per premises is £5,000 or less account for only £7m of the £17m total in the low scenario and only £11m of the £84m total in the high demand scenario.

3.19 Figure 3.2 shows the expected number of premises connected, in each demand scenario, depending on the excess cost of connection for the premises.

Figure 3.2: Expected premises connected by cost of connection

Source: Ofcom analysis of BT splitter node data

3.20 Figure 3.2 shows that the majority of the expected customer connections come from the premises that are less expensive to connect. In the low demand scenario, we would expect around 2,400 premises to be connected in total; nearly all of these (95%) are premises where the excess cost of connection is no more than £5,000 above the RCT. In the high demand scenario, we would expect around 6,200 premises to be connected in total; of which 4,800 (75%) are premises where the excess cost is £5,000 or less.

3.21 Given the very limited extent of the risk of a shortfall in excess cost payments where the excess cost of connection is £5,000 or less, we think the current eligibility process using the 70% take-up forecast to share costs of shared infrastructure works well.

3.22 For premises that have an excess cost of connection greater than £5,000, a relatively large risk of a shortfall in excess costs is driven by a relatively small number of expected connections. We have therefore considered some changes to the treatment of excess costs in determining customers' eligibility for these premises, that could mitigate this risk.

A change in the treatment of excess costs to mitigate the risk of a shortfall in excess cost payments where excess costs are above £5,000

3.23 One way to avoid the possibility of a shortfall in excess cost payments where excess costs are above £5,000 per premises is to change the eligibility process so that build commences once all the excess costs are covered.

3.24 This would mean that BT would calculate excess costs for each premises, as now, using a forecast take-up of 70%. However, where this approach resulted in an excess cost per premises of more than £5,000, BT would be permitted to decline to commence building until it had enough actual orders to cover all the excess costs of building to a cluster of premises. BT would also be allowed to quote a higher price (compared to the price assuming 70% take up), to allow costs to be covered by a single customer or subset of customers.

3.25 This approach would eliminate the possibility of an excess cost shortfall. However, it could introduce a delay in build (if initial customers have to wait for others to agree to contribute to excess costs) or could increase costs for customers that choose to pay all the excess costs for a cluster of premises.[23] As set out above, we consider this will impact a very small number of customers (between 5-25% of premises where the cost of connection exceeds the £3,400 RCT) so overall any impact on customers accessing the USO is likely to be limited.

Our proposed approach

3.26 We propose to modify the 2019 Conditions (specifically we propose to modify condition B.11 and to add a small number of new definitions) in relation to the approach to excess costs in assessing eligibility such that:

a) where excess costs are £5,000 (excluding VAT)[24] or less per premises, BT must connect customers on request if there is agreement that the excess costs relevant to their premises will be paid (as currently required by the 2019 Conditions); and

b) where excess costs are above £5,000 (excluding VAT) per premises, BT must connect customers where there is agreement to pay the total excess costs of connecting a cluster of premises that share network assets. We recognise there could be cases where a single customer may wish to pay all, or a significant portion, of the excess costs, and cases where a subset of customers may wish to contribute at different levels. We expect BT to take reasonable steps to support different approaches. Where a single customer does not commit to paying the total excess costs, this would include waiting a reasonable period of time (for example, 6 months) during which time BT should raise awareness within a community to allow demand to be aggregated.[25]

3.27 Where excess costs are £5,000 or less (excluding VAT) and BT builds shared infrastructure to provide a connection where a customer agrees to pay the excess costs relevant to their premises, BT should make reasonable efforts to raise awareness amongst other potentially

[23] When we set the 2019 Conditions, we used the forecast approach specifically to avoid such delays.
[24] The proposed modification to the 2019 Conditions refers to the threshold of £8,400 (excluding VAT) as we have taken account of the RCT of £3,400. The threshold of £8,400 (excluding VAT) is therefore the same as excess costs of £5,000 (excluding VAT) above the RCT to which we refer in this consultation.
[25] We note BT has recently implemented a similar approach where, once an initial customer expresses interest, a community scheme can be established via a crowd funding website. We understand that BT intends to continue with that approach.

eligible premises on this infrastructure once build commences. To do this, we would generally expect BT to contact the customer on several occasions, such as:

i) an initial letter to make the customer aware of their potential eligibility for the USO (this will usually occur before build is triggered);

ii) further notification that build in the area has been triggered and the excess costs they would need to pay in order to be provided with a service;

iii) a notification once build is complete, allowing a reasonable period for the customer to respond (such as 3 months); and

iv) further notifications where BT considers this could be effective in getting more customers to sign-up.

3.28 Where the customer has already contacted BT and has received information, such as a quote, but has chosen not to progress, BT will need to take into account the previous contact with the customer in any further communications, so as to not over-burden the customer with unwelcome communications.

3.29 In notifying customers, we would expect BT to look to use all effective practical means of communications (for example calling back customers who have indicated they would welcome this).

3.30 Once infrastructure is built, BT should continue to require all subsequent customers to pay their share of excess costs until there are no outstanding excess costs. This could be as a result of payments from customers where take-up is high, the resolution of a funding claim, or BT waiving the costs and/or deciding not to submit a request for compensation in respect of outstanding excess costs for the specific infrastructure.

3.31 Where BT seeks to recover excess costs through a request for compensation from an industry fund, we would expect it to be able to provide evidence it has taken reasonable steps to raise awareness, such as those set out above.

Legal tests

3.32 For the reasons set out above and summarised below, we are satisfied that the proposed modifications to Condition B.11 and the definitions used for the purpose of this Condition meet the relevant tests set out in the Act. Our proposals in respect of the 2019 Conditions continue to form part of the process of ensuring that the 2018 Order is implemented properly and effectively as required by the Act.

3.33 When considering modifying the 2019 Conditions under sections 45 to 48 and 48A of the Act in a particular case, we must be satisfied that the legal tests in section 47(2) of the Act are met. We consider that the proposed modifications to Condition B.11 and the definitions used for the purpose of this Condition are:

a) objectively justifiable, as we have taken account of evidence which shows that where the cost of providing a USO connection is very high, and excess costs of providing that connection by BT are more than £5,000 excluding VAT above the RCT, there is a risk of

there being a disproportionate impact on the costs to BT of providing very expensive connections and potentially other providers contributing to an industry fund. The proposed modifications seek to mitigate that risk by enabling BT to recover appropriate excess costs before the build is commenced;

b) not unduly discriminatory, as while we only propose to modify the 2019 Conditions imposed on BT and not on KCOM as the USP for the Hull Area, we note that to date KCOM has not received any requests from USO eligible customers given the availability of decent broadband services in the Hull Area;

c) proportionate, as the proposals seek to make only small, technical modifications to the 2019 Conditions imposed on BT in order to better meet our objectives of delivering decent broadband connections to consumers, whilst limiting the costs of providing very expensive connections to BT and potentially other providers contributing to an industry fund; and

d) transparent, in that the proposed modifications seek to ensure that BT has clear and workable criteria and processes to determine eligibility and deliver USO connections and services to eligible USO customers. Further, we are consulting on making the proposed modifications to the 2019 Conditions.

3.34 We also consider that the proposed modifications to the 2019 Conditions meet our duties under section 3 of the Act and the six requirements in section 4 of the Act. The proposed modifications to the 2019 Conditions further the interests of citizens in relation to the communications matters and the interests of consumers in the relevant markets as well as meet the six requirements in section 4 of the Act because they seek to ensure that BT continues to have clear and workable criteria and processes to determine eligibility and deliver USO connections and services to eligible USO customers, thereby making the eligibility checking process easy to understand and navigate from consumers' perspective.

Consultation question

Do you agree with our proposal to amend the treatment of excess costs in determining eligibility for a USO connection, where excess costs are above £5,000? Please set out your reasons and supporting evidence for your response.

A1. Responding to this consultation

How to respond

A1.1 Ofcom would like to receive views and comments on the issues raised in this document, by 5pm on 10 September 2021

A1.2 You can download a response form from the Ofcom website. You can return this by email or post to the address provided in the response form.

A1.3 If your response is a large file, or has supporting charts, tables or other data, please email it to Broadband.USO@ofcom.org.uk, as an attachment in Microsoft Word format, together with the cover sheet.

A1.4 Responses may alternatively be posted to the address below, marked with the title of the consultation:

A1.5 The Broadband USO Team

Ofcom
Riverside House
2A Southwark Bridge Road
London SE1 9HA

A1.6 We welcome responses in formats other than print, for example an audio recording or a British Sign Language video. To respond in BSL:

- Send us a recording of you signing your response. This should be no longer than 5 minutes. Suitable file formats are DVDs, wmv or QuickTime files. Or
- Upload a video of you signing your response directly to YouTube (or another hosting site) and send us the link.

A1.7 We will publish a transcript of any audio or video responses we receive (unless your response is confidential)

A1.8 We do not need a paper copy of your response as well as an electronic version. We will acknowledge receipt if your response is submitted via the online web form, but not otherwise.

A1.9 You do not have to answer all the questions in the consultation if you do not have a view; a short response on just one point is fine. We also welcome joint responses.

A1.10 It would be helpful if your response could include direct answers to the questions asked in the consultation document. The questions are listed at Annex 4 It would also help if you could explain why you hold your views, and what you think the effect of Ofcom's proposals would be.

A1.11 If you want to discuss the issues and questions raised in this consultation, please contact the Broadband USO Team by email to Broadband.USO@ofcom.org.uk.

Confidentiality

A1.12 Consultations are more effective if we publish the responses before the consultation period closes. In particular, this can help people and organisations with limited resources or familiarity with the issues to respond in a more informed way. So, in the interests of transparency and good regulatory practice, and because we believe it is important that everyone who is interested in an issue can see other respondents' views, we usually publish all responses on the Ofcom website as soon as we receive them.

A1.13 If you think your response should be kept confidential, please specify which part(s) this applies to, and explain why. Please send any confidential sections as a separate annex. If you want your name, address, other contact details or job title to remain confidential, please provide them only in the cover sheet, so that we don't have to edit your response.

A1.14 If someone asks us to keep part or all of a response confidential, we will treat this request seriously and try to respect it. But sometimes we will need to publish all responses, including those that are marked as confidential, in order to meet legal obligations.

A1.15 Please also note that copyright and all other intellectual property in responses will be assumed to be licensed to Ofcom to use. Ofcom's intellectual property rights are explained further in our Terms of Use.

Next steps

A1.16 Following this consultation period, Ofcom plans to publish a statement by the end of 2021.

A1.17 If you wish, you can register to receive mail updates alerting you to new Ofcom publications.

Ofcom's consultation processes

A1.18 Ofcom aims to make responding to a consultation as easy as possible. For more information, please see our consultation principles in Annex 2.

A1.19 If you have any comments or suggestions on how we manage our consultations, please email us at consult@ofcom.org.uk. We particularly welcome ideas on how Ofcom could more effectively seek the views of groups or individuals, such as small businesses and residential consumers, who are less likely to give their opinions through a formal consultation.

A1.20 If you would like to discuss these issues, or Ofcom's consultation processes more generally, please contact the corporation secretary:

Corporation Secretary
Ofcom
Riverside House
2a Southwark Bridge Road
London SE1 9HA
Email: corporationsecretary@ofcom.org.uk

A2. Ofcom's consultation principles

Ofcom has seven principles that it follows for every public written consultation:

Before the consultation

A2.1 Wherever possible, we will hold informal talks with people and organisations before announcing a big consultation, to find out whether we are thinking along the right lines. If we do not have enough time to do this, we will hold an open meeting to explain our proposals, shortly after announcing the consultation.

During the consultation

A2.2 We will be clear about whom we are consulting, why, on what questions and for how long.

A2.3 We will make the consultation document as short and simple as possible, with a summary of no more than two pages. We will try to make it as easy as possible for people to give us a written response. If the consultation is complicated, we may provide a short Plain English / Cymraeg Clir guide, to help smaller organisations or individuals who would not otherwise be able to spare the time to share their views.

A2.4 We will consult for up to ten weeks, depending on the potential impact of our proposals.

A2.5 A person within Ofcom will be in charge of making sure we follow our own guidelines and aim to reach the largest possible number of people and organisations who may be interested in the outcome of our decisions. Ofcom's Consultation Champion is the main person to contact if you have views on the way we run our consultations.

A2.6 If we are not able to follow any of these seven principles, we will explain why.

After the consultation

A2.7 We think it is important that everyone who is interested in an issue can see other people's views, so we usually publish all the responses on our website as soon as we receive them. After the consultation we will make our decisions and publish a statement explaining what we are going to do, and why, showing how respondents' views helped to shape these decisions.

A3. Consultation coversheet

BASIC DETAILS

Consultation title:

To (Ofcom contact):

Name of respondent:

Representing (self or organisation/s):

Address (if not received by email):

CONFIDENTIALITY

Please tick below what part of your response you consider is confidential, giving your reasons why

Nothing ☐

Name/contact details/job title ☐

Whole response ☐

Organisation ☐

Part of the response ☐

If there is no separate annex, which parts? _____

_____

If you want part of your response, your name or your organisation not to be published, can Ofcom still publish a reference to the contents of your response (including, for any confidential parts, a general summary that does not disclose the specific information or enable you to be identified)?

DECLARATION

I confirm that the correspondence supplied with this cover sheet is a formal consultation response that Ofcom can publish. However, in supplying this response, I understand that Ofcom may need to publish all responses, including those which are marked as confidential, in order to meet legal obligations. If I have sent my response by email, Ofcom can disregard any standard e-mail text about not disclosing email contents and attachments.

Ofcom seeks to publish responses on receipt. If your response is non-confidential (in whole or in part), and you would prefer us to publish your response only once the consultation has ended, please tick here.

Name Signed (if hard copy)

A4. Consultation question

Do you agree with our proposal to amend the treatment of excess costs in determining eligibility for a USO connection, where excess costs are above £5,000? Please set out your reasons and supporting evidence for your response.

A5. Modelling the potential scale of a shortfall in excess cost payments

Summary

A5.1 In this annex we assess the potential scale of a shortfall in excess cost payments (the 'shortfall') and the impact that a strategy to mitigate that risk could have on the scale of the potential shortfall and on customers.

A5.2 We first model the excess costs in the absence of mitigation, then model a range of different excess cost thresholds above which the eligibility process is altered so that a shortfall cannot occur.

A5.3 We find that the risk of a shortfall is modest for premises that are relatively inexpensive to connect (i.e. those where the cost of connection is no more than £5,000 above the RCT). We expect that few customers will be willing to pay more than £5,000 for a USO connection to a premises.[26] However, if an order is made for these premises, there are very high costs to recover and the likelihood of further orders being made may be low.

Data and approach to modelling

The cost of connecting USO premises

A5.4 BT provided a dataset which has details of the costs of providing USO connections to around 66,500 premises in the UK that do not currently have a decent connection and where the cost of connection exceeds the RCT.

A5.5 The data is arranged by individual splitter node ('node'), which, in BT's full fibre deployment, are generally the nodes by which clusters are defined for the purposes of the USO.[27] For each node, data is provided on the number of potentially eligible premises connected to that node and the total estimated cost of connecting 70% of those premises. The total cost is further broken down into two components: the estimated shared cost (i.e. costs of the infrastructure which is shared between premises connected to that node) and the sum of estimated non-shared costs (i.e. costs that are specific to individual premises).[28]

A5.6 Figure A5.1 shows the cost profile of these premises based on the size of the excess cost payment.[29]

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[26] In addition, customers would have to pay VAT on the excess cost payment so a £5,000 excess cost would result in a customer needing to pay £6,000 to secure a USO connection.
[27] A splitter node is a node where optical splitters are located. Optical splitters are a component in a point to multi-point fibre network where a single optical input is split into multiple outputs. Each of these multiple outputs provides a dedicated connection to a customer premises.
[28] The total estimated shared cost is based on an assumption that 70% of potentially eligible premises at the splitter node require a connection.
[29] This is calculated as the total expected costs at the splitter node divided by the number of relevant premises (70% of the eligible premises) less £3,400.

Figure A5.1: Number of premises by expected excess cost payment

[✂]

Source: Ofcom analysis of BT splitter node data

Demand for USO connections where an excess cost payment is required

A5.7 It is difficult to predict the likely demand for USO connections where customers are required to make an excess cost payment. Residential broadband services typically charge a monthly fee for the broadband service and upfront payments are usually small. Consequently, there is no market wide data available that would allow for a more formal estimate of demand for connections where customers are required to make an excess cost payment.

A5.8 We looked at the data provided by BT on the amounts that customers have agreed to pay, so far, to get a USO connection. This data shows us what customers have been willing to pay, however it is difficult to draw firm conclusions about the profile of demand as the USO has only been available since March 2020, relatively few customers have agreed to pay excess cost so far and there could be further applicants in future. It is therefore unclear how representative this sample is of demand in the longer term.

Figure A5.2: Proportion of USO orders by excess cost payment

[✂]

Source: BT USO order data May 2021

A5.9 These data show that overall, relatively few customers have been willing to pay large sums for a USO connection with only [✂] orders, so far, from a population of around 66,500 potential applicants. We also note that the majority of orders (70%) are from customers where the excess cost payment was £5,000 or less (excluding VAT).

A5.10 Whilst it is difficult to predict demand at any given level of excess cost, we used a set of demand profiles in order to model the potential impact on the number of customers that might be impacted by different approaches, and the impact on the fund.

Table A5.1: The probability that a potentially eligible premises will make an order, by excess cost band

Excess cost	£0-500	£500-1k	£1-2k	£2-3k	£3-4k	£4-5k	£5-10k	£10-15k	£15-20k	£20-30k	over £30k
Low scenario	70.0%	22.6%	7.4%	7.2%	2.4%	2.8%	0.5%	0.3%	0.3%	0.1%	0.1%
High scenario	70.0%	50%	30%	20%	14%	10%	7%	5%	3%	2%	0.1%

Source: Ofcom

A5.11 We think that these scenarios could represent a plausible range for how long-term demand for USO connections might turn out. However, we recognise that, in practice, demand may turn out to be higher or lower than these profiles. We use them here only to test the sensitivity of the cost shortfall to changes in demand profiles.

Our approach to modelling

Overall approach

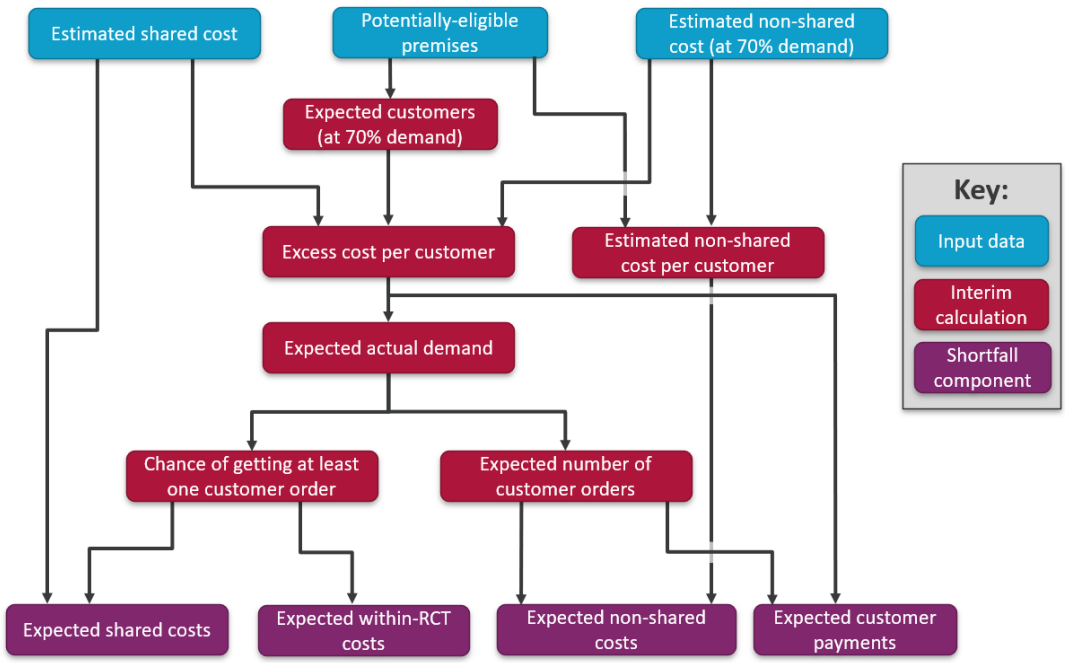
A5.12 We are interested in understanding the potential impact of imposing a threshold on excess costs, which would mitigate the likelihood of a shortfall in excess cost payments. We have estimated the overall shortfall and number of customers connected in a range of scenarios, first without imposing a threshold at all and then with a range of different threshold levels. This allows us to see the trade-off between the number of customers connected and the potential shortfall in excess cost payments at different levels of threshold.

A5.13 We estimate the expected shortfall at each node in the dataset provided by BT. The shortfall at each node is calculated as follows:

$$\begin{aligned} \textit{Expected shortfall} = {} & \textit{Expected shared costs} \\ & + \textit{Expected non-shared costs} \\ & - \textit{Expected within-RCT costs} \\ & - \textit{Expected customer contributions} \end{aligned}$$

Calculation method

Figure A5.3: Map of calculation logical flow



Source: Ofcom

A5.14 The first step in the calculation is to calculate the excess cost per customer at the node using the 70% demand level specified in the USO conditions. This is the amount that any ordering customers will need to pay, and so determines the likelihood of a given customer making an order for a connection at this node.

A5.15 We use the demand profiles outlined above to determine the probability that at least one order is placed at the node, given the size of the excess cost payment. BT must build the connection if at least one valid order is made so this calculation determines the probability that the node will be built.[30]

A5.16 We use the probability of there being at least one order at the node to calculate:

a) **Expected shared costs:** these will be incurred if there are any orders at the node. We calculate these costs by taking the estimated shared costs at the node and multiplying them by the probability that there is at least one order at that node.

b) **Expected within-RCT costs:** we calculate the total within-RCT costs at the node by taking the expected customers at the node assuming 70% demand and multiplying this by the £3,400 RCT level. We calculate the expected within-RCT costs by multiplying this total by the probability that there is at least one order at the node.

A5.17 We separately calculate the likely total number of applications at the node using the same demand profiles.[31]

A5.18 We use the expected number of orders at the node to calculate:

a) **Expected non-shared costs:** these will be incurred separately for each ordering customer. We calculate these costs by multiplying the expected number of orders at the node by the estimated non-shared cost per customer.

b) **Expected customer contributions:** these will be paid by each ordering customer. We calculate these contributions by multiplying the expected number of orders at the node by the excess cost bill per customer at that node.

A5.19 The difference between the expected costs (expected shared costs + expected non-shared costs) and the expected contributions (expected within-RCT costs + expected customer contributions) is the expected shortfall at the node.

A5.20 We run these calculations for all nodes with no threshold applied to assess the overall expected numbers of connections and the aggregate expected shortfall. We then run the calculations again at various threshold levels.

A5.21 When applying a threshold, we check at each node whether the excess cost per customer (as set out above) is over the selected threshold level. If it is, then we presume that no orders are made, no costs or contributions are incurred, and there is no expected shortfall.

[30] For example, at a node with 3 premises and an expected actual demand level of 10%, the chance of at least one order being placed is given by the formula 1 – (100% - 10%)^3 = 27.1%.
[31] For example, at a node with 3 premises and an expected actual demand level of 10%, the expected number of orders is 3 * 10% = 0.3 orders.

A5.22 This is a simplification, as in reality we would expect some connections to be built at these nodes, for example where individuals or groups of customers decide to pay the total excess cost bill at that node. This means that our estimated number of premises connected may be an underestimate of the number of premises that are eventually connected. This does not affect the expected shortfall, as in any of these cases of building where the per-customer bill is above the threshold level, there will, by definition, be no shortfall.

Scenarios tested

A5.23 For each demand profile we have tested excess cost thresholds at various intervals between £500 and £50,000, considering the number of premises connected and the overall shortfall for each threshold level.

Results

A5.24 The results of our analysis are presented in Figure A5.4, below.

Figure A5.4: Shortfall and premises connected at different threshold levels, by demand profile

Source: Ofcom analysis of BT splitter node data

A5.25 Setting a higher threshold level leads to network that connects premises that are more expensive to build being deployed on the basis of the first order. As expected, this leads to more premises being connected, as more nodes fall under the threshold level, and a larger shortfall, being incurred.

A5.26 The high demand scenario leads to larger shortfalls, as it is more likely that each node will have at least one order (which will trigger the building of the node and the associated costs). Higher demand also leads to more orders and so more excess cost payments, but this effect is dominated by the impact of demand on the probability that the node is built. The higher demand scenario also results in more premises being connected, as more customers place an order.

A5.27 As the threshold level is increased the marginal number of premises falls more quickly than does the marginal increase in the shortfall. This is shown by the number of premises being connected flattening off at lower levels of thresholds, while the shortfalls continue to rise and only flatten off at higher levels of thresholds.

A5.28 This means that there are levels at which a threshold could be set which leave the eligibility process undisturbed for most of premises that we expect to make an order, while limiting the risk of a large shortfall. Under the 'low demand' profile, a threshold of £5,000 would limit the expected shortfall to around £7m, less than half of what we expect it could rise to if uncapped (£17m). The vast majority of expected customers in this scenario (95%) have a cost of connection that is less than £5,000 above the RCT. In the high demand scenario, we see a similar pattern; the expected shortfall is £11m compared to £84m without a threshold. We would expect around 6,200 premises to be connected in total in the high demand scenario; of which 4,800 (75%) are premises where the excess cost is £5,000 or less.

A5.29 Under the high scenario, the number of premises connected increases at a slower rate above £5,000 and flattens off at around £10,000 - £15,000. Setting a higher threshold could, when considering the high demand case, allow some of these remaining 1,400 premises to connect. However, this would increase the shortfall substantially from £11m to over £30m if a threshold of £10,000 is used, or over £50m if a threshold of £15,000 is used. A higher threshold would have very little impact on the number of customers connected in the low scenario.

A5.30 On this basis, we consider a threshold of £5,000 best balances the number of customers that might be connected with mitigating the risk of a high shortfall.

A6. Proposed modifications to the legal conditions

A6.1 We have published the proposed modifications of the 2019 Conditions alongside this consultation.

A7. Marked-up version showing proposed modifications to the legal conditions

A7.1 We have published a marked-up version showing the proposed modifications to the legal conditions.