BT's response to Ofcom's consultation Document

"Narrowband Market Review

Consultation on the proposed markets, market power determinations and remedies for wholesale call termination, wholesale call origination and wholesale narrowband access markets"

27 March 2017

NON-CONFIDENTIAL VERSION

Contents

1. Executive Summary

1.1 This response to Ofcom's consultation represents the views of BT Group as a whole. There is a separate response document issued by Openreach, which specifically addresses the issues relating to WLR, ISDN2 and ISDN30. This document considers Ofcom's overall assessment of the way in which voice services are purchased and supplied and the implications this has for Ofcom's proposals for regulation of Wholesale Call Origination (WCO), Wholesale Call Termination (WCT) and interconnect circuits.

1.2 Ofcom's consultation recognises that most customers are taking advantage of the growing array of choice faced about how to communicate with others. Ofcom's proposals attempt to reflect this by removing some of the regulatory requirements currently placed on BT in the supply of wholesale narrowband services. But while we agree with Ofcom on the direction of travel, the pace and scope of these deregulatory moves is disappointing. Customer choice has been facilitated by the growing capabilities of fixed and mobile networks, increased access to smart devices and the high use of social media and over the top applications as a means of staying in touch with others. The volume of fixed voice services continues to fall and we have now reached the point where customer choice is not dependent on regulatory intervention to require the supply of wholesale voice services (access and call origination) on specified terms.

1.3 Our concern is that Ofcom has defined the fixed voice telephony markets too narrowly, and has failed to give due weight to the constraints imposed by the ability to communicate via mobile networks and over broadband connections – whether by audio calls, video calls or other means of direct messaging to individuals or groups of individuals. The evidence shows that demand for fixed voice calls is continuing to decline, and that fixed line access is primarily driven by demand for broadband connections. Evidence presented by Ofcom suggests that only 5% of households take a fixed access exchange line (FAEL) without taking either mobile or broadband. Ofcom has then emphasized the apparent lack of competition for this minority group in order to justify maintaining disproportionate and untargeted regulation on the whole market.

1.4 Neither the WFAEL nor WCO markets defined by Ofcom are on the list recommended by the European Commission for consideration of *ex ante* regulation. In order to justify regulating these markets, Ofcom must show that they meet the "three criteria test" (barriers to entry, market structure and sufficiency of competition law). Our view is that Ofcom has failed to establish that the test is met. Ofcom appears to be concerned that BT could operate some form of margin squeeze in the supply of services from these markets, but fails to explain how this could be done in the face of constraints from both product substitution and ongoing WLA regulation. Ofcom has not demonstrated that BT has the ability or incentive to pursue such an exclusionary policy. Ofcom will also need to take into account BT's notification of 10 March 2017 under Article 13b and Section 89C Communications Act 2003, under which Openreach Limited will be formed as a functionally separate legal entity subject to the obligation to treat all customers equally ("BT's Section 89C Notification").

1.5 Ofcom's 2014 Wholesale Broadband Access market review accepted that competition based on WLA was effective in providing competition, allowing for deregulation in relation to the supply of fixed broadband connections to over 90% of UK premises. This reflected the finding that the combined competitive effect of Virgin Media and CPs investing in exchange equipment to utilize unbundled Openreach copper loops under WLA regulation was sufficient to constrain behaviour in the supply of wholesale broadband access services in most exchange areas. The position is comparable to that under consideration in the present market review.

1.6 Our view therefore is that Ofcom should take the opportunity to deregulate these markets fully, consistent with the approach taken in the 2014 WBA, and in accordance with its duties under s6(1)(b) Communications Act 2003..

1.7 We welcome the removal of WCO from the scope of charge control. In relation to WCT, we believe that Ofcom has not justified the dramatic reduction in fixed termination rates, which are already the lowest in Europe. We propose that Ofcom applies a simpler safeguard cap, with a "glide path" approach to any further price reductions. For interconnect circuits, the evidence is that there is effective competition at the tandem layer, so these services should be fully deregulated.

1.8 We also have a number of concerns with the extent of regulatory financial reporting which Ofcom continues to require, despite the apparent move towards deregulation in some areas. We propose a more proportionate approach to these issues.

2. Introduction

2.1 The proposals made in the wholesale narrowband market review (WNMR) have direct impacts on separate lines of business within the BT Group:

2.2 Openreach supplies Wholesale Line Rental (WLR) and wholesale ISDN2 and ISDN30 access services;

2.3 BT Wholesale & Ventures (W&V) supplies Wholesale Call Origination (WCO), Wholesale Call Termination (WCT) and interconnect circuits; and

2.4 BT Consumer, BT Business, EE and BT Global Services use the wholesale inputs regulated by the WNMR to compete in various downstream retail markets.

2.5 Ofcom has also now published its consultation on the provision of standalone fixed voice (SFV) services at the retail level[1]. There are significant overlaps between the issues in the SFV consultation and the analysis and proposals within the WNMR consultation.

2.6 Openreach is responding separately to all consultation questions of direct relevance to the supply of its products – i.e. questions relating to Ofcom's provisional assessment that it is appropriate to impose remedies on Openreach's supply of services into defined markets for wholesale fixed access exchange line (WFAEL), wholesale ISDN2 and wholesale ISDN30.

2.7 But Ofcom's proposals in relation to the proposed WFAEL market – in terms of how it defines the relevant market, considers the 'three criteria test', assesses significant market power and, ultimately, identifies specific 'competition concerns' – flow from its broader assessment of competition and customer choice across voice services (access and calls). This broader assessment has obvious overlaps with Ofcom's proposals in relation to the supply of WCO and to the issues considered in the SFV consultation.

2.8 This response from BT Group therefore both responds to consultation questions relevant to the supply of services outside of Openreach – i.e. WCO, WCT and interconnect circuits – and also provides our views on the overall provision of voice services.

2.9 In Section 2, we provide our analysis of the way in which voice services are purchased by UK households and businesses and consider what this demonstrates in terms of customer choice about how to communicate.

2.10 In Section 3, we review Ofcom's approach to assessing whether ongoing regulation

[1] "The review of the market for standalone telephone services", Ofcom consultation, 28 February 2017

of wholesale inputs is *necessary* to support ongoing customer choice and competition. Our position is that Ofcom has understated the extent of competitive pressures in the supply of dedicated narrowband inputs arising from ongoing regulation of the wholesale local access (WLA) market. It has done so as a result of overstating concerns with the choices faced by certain customer segments or 'Groups of Interest'. This has direct relevance to the conclusions Ofcom reaches in applying the three criteria test and finding that BT has significant market power in the provision of a specific set of wholesale inputs that can be used to supply lines capable of making and receiving voice calls at a fixed location on a standalone basis (i.e. WLR and WCO).

2.11 In Section 4, we provide answers to Ofcom's specific consultation questions. These answers are supplemented by further submissions in the annexes.

3. The provision of voice services

3.1 In this Section we set out an analysis of the way in which voice services are being purchased and consider the key trends and drivers of those trends over the last decade. This is based on the evidence set out by Ofcom in the WNMR consultation. We start by identifying the way in which lines capable of making and receiving fixed voice calls are purchased by households and businesses. We then consider the drivers that have resulted in significant falls in the volume of fixed voice calls made over those lines.

Purchasing of fixed voice lines:

3.2 Ofcom has identified that there were just over 30 million fixed analogue exchange lines (FAELs) supplied in the UK in 2015 with 26 million lines supplied to residential households and 4 million line supplied to businesses. Ofcom estimates that 40% of these lines were supplied by BT at the retail level and 55% supported by Openreach's provision of WLR.

3.3 We have attempted to construct a breakdown of the different types of customers who consume FAELs based on the different sets of data set out in the WNMR consultation and in the SFV consultation. For residential customers, our starting point is the ONS view that there were just over 27 million households in the UK in 2015.

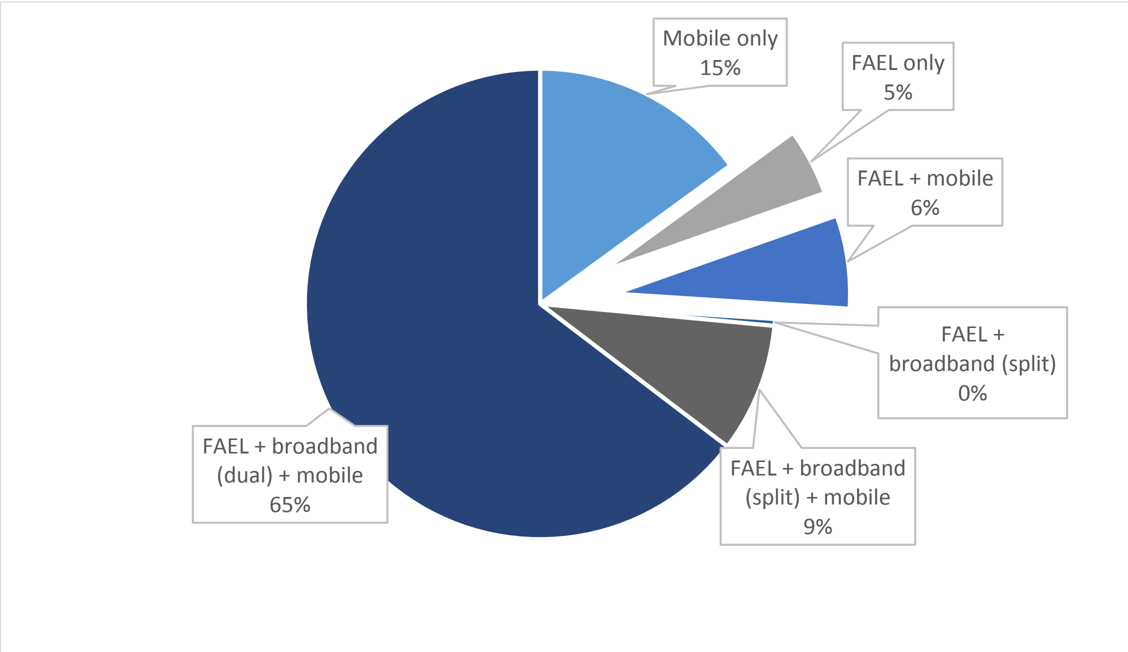
Table 3.1: UK households, breakdown of demand for FAELs, 2015

	Category	Ofcom data point	Source (in NMR condoc unless stated)	Implied Households in category (millions)	% of total UK households in category	% of UK fixed line households in category
A	Total UK households	n/a	ONS	27	100%	
B	Mobile only households	15%	Figure 3.6	4	15%	
C	Total households with fixed line services[1]	85%	Figure 3.6	23	85%	100%
D	Households with fixed and mobile services	80%	Figure 3.6	22	80%	94%
E	FAEL only households	13%	Para 4.85	3	11%	13%
E.1	>> of which with mobile	58%	Para 3.58, SFV condoc	2	6%	8%
E.2	>> of which without mobile	42%		1	5%	5%
F	FAEL and broadband, split supply households	11%	Para 4.98	3	9%	11%
F.1	>> of which with mobile	95%	Para 3.58, SFV condoc	2	9%	10%
F.2	>> of which without mobile	5%		0	0%	1%
G	FAEL and broadband, bundled supply households[2]	76%	[100% - E - F]	18	65%	76%
G.1	>> of which with mobile		[D - E.1 - F.1]	18	65%	76%
G.2	>> of which without mobile		[G - G.1]	0	0%	0%

Notes: [1] The breakdown shows households with at least one phone line; [2] We note that there is some inconsistency between different survey figures quoted by Ofcom and figure 3.10 suggests that, in 2015, only 54% of households purchased FAEL in a bundle with broadband. Our own view is that even the higher figure is likely be a conservative estimate.

3.4 This analysis highlights how few households (5%) are now purchasing a FAEL in isolation from any other communications service.

Figure 3.1: Split of UK households by communications services



3.5 The clear majority of households (74%) purchase a broadband line as well as a FAEL with almost all of this group also purchasing mobile services. Of those households without a fixed broadband line, the largest group (15% of all households or 58% of non-broadband households) are not purchasing a FAEL at all and only purchase a mobile service.

3.6 Data in the consultation also suggests that 85% of business customers purchasing FAELs also purchase broadband and 83% use a mobile. Ofcom does not identify what percentage of businesses do not have a FAEL.

<u>Purchasing of fixed voice calls:</u>

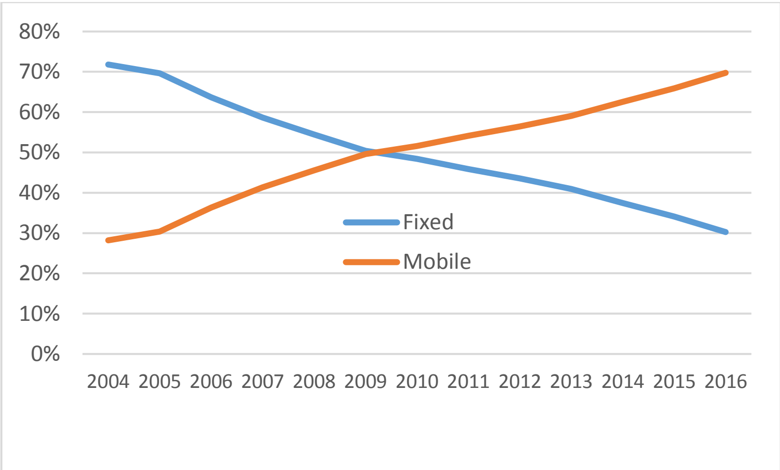
3.7 Ofcom identifies that UK residential and business customers made 74 billion minutes of fixed calls in 2015. Table 3.2 shows this represented a 55% reduction in fixed call volumes in the decade from 2005.

3.8 The fall in the volume of fixed call minutes clearly reflects two trends over the last decade: an ongoing reduction in the relative volume of total voice calls made from fixed networks compared to those made from mobile networks; and reductions in *total* call volumes across fixed and mobile.

3.9 *Substitution of fixed voice calls for mobile voice calls:*

3.10 This shift in the volume of calls made via mobile networks relative to fixed networks is long recognized. Data up to Q3 2016 suggests that the share of all voice calls made over fixed networks has now fallen to 30%. The convenience of making calls away from a fixed location and from a personal device has driven this shift.

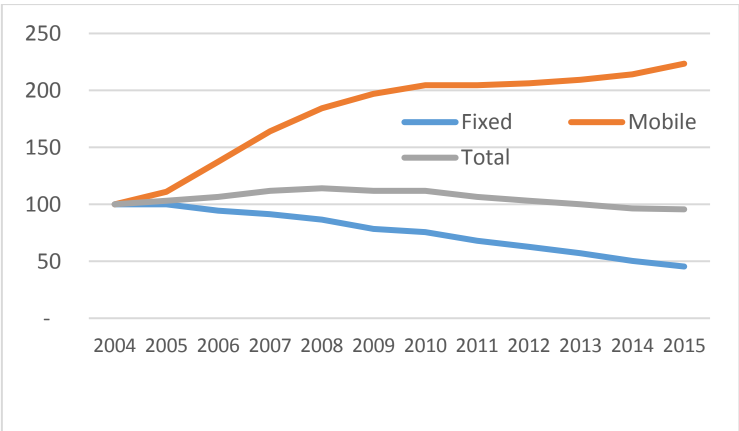
Figure 3.2: Split of fixed and mobile voice minutes



3.11 *Substitution of voice calls for other means of direct communication:*

3.12 While the initial growth in mobile take-up led to an increase in the total volume of calls made in the UK, we have now seen year on year reductions in total call volumes since 2011.

Figure 3.3: Volume of voice minutes, index 2004 = 100



3.13 This shift has been driven by a number of interrelated factors over the period:

Transformation of access network capabilities: driven by: investment by mobile companies in increased coverage and data speeds; growth in DOCSIS-3 capabilities on the Virgin Media network; investment by CPs in exchange equipment to deliver broadband over unbundled BT copper loops; and investment by Openreach, CityFibre and others in superfast fibre.

High take up of broadband and mobile services: as shown above, most households and businesses have access to mobile and broadband services creating opportunities for new means to communicate with others.

Increasing ownership of smart devices and continuous improvements in WiFi capabilities within and outside of the home: Ofcom's latest Communications Market Report estimated that 71% of adults owned a smartphone, up from 27% in 2011, making alternative means of communication inside and outside the home more accessible to all individuals within a household.

A surge in social media engagement and ongoing development of over the top communications applications: Ofcom has estimated that 64% of UK adults use social media and combined with OTT apps, this provides individuals within a household with an ever changing set of options about how and when to communicate (e.g. person-to-person or within groups; via video or audio calls or various means of direct messaging).

<u>Conclusions:</u>

3.14 Only a small minority of households and business have access to a FAEL and no other services: most will also have access to mobile services and to fixed broadband services. This provides the majority of customers with choice about how they communicate; choice that has driven down fixed voice volumes significantly over the last decade.

3.15 The next section assesses the relevance of this to the Wholesale Narrowband Market Review.

4. Overall comments on Ofcom's assessment of the need for regulation of voice services

4.1 In this Section, we consider the approach Ofcom has taken in proposing that SMP remedies are required in relation to the supply of WLR and WCO in order to support competition in the provision of voice services. We then set out our criticisms of this approach, arguing that regulation of these markets is unnecessary. We propose how Ofcom should adjust its assessment in its final decision.

Ofcom's approach to considering the need for regulation

4.2 Ofcom has taken the following six step approach to identifying whether there might be a need for *ex ante* regulation in relation to the supply of voice services:

Step 1: Defining product markets: Ofcom considers which product markets can be defined by broadly applying a SSNIP[2] analysis to a series of narrow candidate markets and considering whether a hypothetical monopolist supplier imposing a SSNIP of around 5-10% would trigger sufficient demand and/or supply side substitutability to make such a move unprofitable. Ofcom assesses the supply of lines and calls separately and considers whether the scope for retail level substitution would act as an indirect constraint on the pricing of wholesale services. Ofcom proposes that it should define markets for wholesale fixed analogue exchange lines (WFAEL) supplied over copper, fibre or cable and for wholesale call origination (WCO) on fixed networks. Ofcom does not consider that the availability of mobile voice services acts as a sufficiently strong indirect constraint.

Step 2: Considering possible product market segmentation: Having defined wholesale product markets for WFAEL and WCO, Ofcom separately considers whether those markets should be segmented to reflect "possible retail market segmentations". Ofcom specifically focuses on segmentation between what it identifies as certain "Groups of Interest": i.e. residential and business customers, fixed-voice only customers, customers in areas where there is no alternative access infrastructure and split purchasers (i.e. who buy both voice and broadband services, but from separate suppliers). Ofcom concludes that it is not appropriate to segment the defined wholesale markets in any of these ways given that wholesale suppliers would not be likely to discriminate based on any potential retail level differences in customer types.

Step 3: Setting geographic scope of markets: Ofcom considers whether there are any differences in competitive conditions by geography and concludes that

[2] Small, but significant, non-transitory increase in price

national pricing of lines and calls means that they do not. Markets are therefore only split between the Hull area and the rest of the UK.

Step 4: Applying the 'three criteria test': Neither the WFAEL or WCO markets defined by Ofcom are on the list of product markets identified by the European Commission in their list of recommended markets – i.e. the list of product markets that the Commission considers have particular characteristics and importance in supporting downstream competition to justify the imposition of ex ante regulatory rules. The European Framework requires that applying regulation to markets not on the list is based on those markets being shown to meet the so-called 'three criteria test': i.e. (i) that the markets have high, non-transitory barriers to entry; (ii) that the market structure does not tend towards effective competition in the relevant time horizon; and (iii) where the application of competition law is insufficient to adequately address identified market failures. Ofcom concludes that WFAEL and WCO both meet the test.

Step 5: Assessing Significant Market Power: At this stage, Ofcom considers whether Openreach in supplying WLR or BT W&V in supplying WCO can act independently of other market players. Ofcom provisionally concludes that product market shares and other factors support a finding of SMP although notes in both cases that SMP has weakened since the last market review.

Step 6: Identification of specific 'competition concerns' and proposed regulatory remedies to apply: Ofcom considers what remedies are appropriate to address the 'competition concerns' arising from the analysis above.

<u>Assessment of Ofcom's approach</u>

4.3 Ofcom approaches its analysis and assessment of each of the six stages separately, but there is clear and significant overlap between the stages in terms of the issues considered and the provisional conclusions reached. For instance, Ofcom does *<u>not</u>* segment the wholesale product market definitions to reflect potential retail market segmentation at Step 2. But considerable weight is then attached to the need for regulation to support competitive supply to those same segments, even though they represent the minority of all voice customers, when considering the three criteria test at Step 4, the existence of SMP at Step 5 and the necessity and appropriateness of remedies at Stage 6.

4.4 Ultimately each of the stages is a means to an end with the goal being to appropriately assess whether it is necessary to impose regulation to support competition and customer choice in the provision of voice services. Specifically, Ofcom's proposals about the need for and form of remedies are based on an identified 'competition concern' that BT could use the supply of WLR and/or WCO services to distort competition in downstream markets by imposing a price squeeze.

4.5 We disagree that such a competition concern exists. The high level of customer choice around how to communicate set out in Section 1 places significant competitive constraints on the provision of fixed voice services at the retail and wholesale level. Openreach's provision of WLR and BT W&V's provision of WCO is shaped by a commercial desire to maximize the utilization of our existing network assets in the face of risks that volume will divert onto mobile networks, MPF-based providers, Virgin Media and/or onto other means of direct communication between individuals. Moreover, we consider that any potential concerns in relation to Openreach using the supply of WLR services to distort downstream competition cannot subsist in light of BT's Section 89C Notification.

4.6 To an extent, Ofcom's provisional finding that there are competition concerns has its roots in Ofcom defining relatively narrow product markets for WFAEL and WCO and rejecting the existence of constraints from the availability of mobile services and the alternative means individuals have for directly communicating with each other. We think there are strong arguments to broaden the markets Ofcom has defined. This is particularly clear in relation to calls, given the ongoing trend in the substitution of fixed calls for mobile calls and the growth in availability and use of alternative means of communication[3]. But we recognize there are practical difficulties in attempting to unpack demand for fixed lines capable of making and receiving voice calls from demand for broadband lines.

4.7 We therefore focus our criticisms more on two closely related issues that affect Ofcom's assessment of the three criteria test and of SMP on the narrowly defined markets:

- First, we believe Ofcom understates the effectiveness of existing regulation of the wholesale local access (WLA) market in driving competition and choice for customers in fixed voice services; and
- Second, we believe Ofcom overstates concerns with competition for particular customer segments or "Groups of Interest" for the supply of fixed voice services.
- This results, in our view, in Ofcom understating the constraints that flow from retail level customer choices into the wholesale provision of WFAEL and WCO services.

[3] See response to Question X

- We set out further detail on these criticisms below.

Ofcom's narrow focus on the provision of fixed voice services

4.8 Ofcom starts its analysis with a focus on demand for FAELs as the means of making and receiving calls over a fixed line. As shown in Section 1 of this response, customer choice around fixed voice services is not just about options in *who* can supply such services, but also a much broader set of options about *how* they communicate. The data from 2015 set out in the consultation suggests that 87% of households and 85% of businesses with fixed lines had a FAEL *and* a fixed broadband connection and the large majority of these customers also had access to mobile services. This means that heading into this market review period, the vast majority of customers have full access to the ever expanding choice in how to communicate.

4.9 As Ofcom acknowledges, given that customers require a FAEL in order to receive a fixed broadband connection[4], it is difficult to distinguish the extent to which customer demand for a FAEL is driven by their demand to make and receive fixed voice calls and the extent to which it is driven by their demand for high speed broadband access. It is then difficult to identify the extent to which demand for high speed broadband access is driven by demand for access to the other means of direct communication (VOIP, social media, OTT apps) rather than other services (e.g. ability to access streaming services, download games, transfer files, etc.).

4.10 Survey analysis, such as that provided by Jigsaw, will provide some insight into stated customer preferences and, therefore, the potential drivers of customer behaviours in the face of wide choice. Ofcom relies heavily on such survey data in considering the marginal decisions of customers and how this might impact pricing constraints indirectly affecting the wholesale level. But much of this marginal assessment seems at odds with the bigger picture trends: for example, customers may highlight the importance of the personal nature of voice communication or a preference for making certain calls over landlines rather than mobile or VOIP, but the reality is that customers are making fewer and fewer fixed voice calls and choosing instead to communicate by mobile calls, VOIP calls and by other means of communication.

4.11 We therefore observe that while demand for fixed calls continues to fall, demand for fixed broadband lines continues to rise. This strongly implies that absent the need for a FAEL to receive fixed broadband, the overall value customers attach to FAELs would be falling – i.e. as they are making and receiving fewer calls over the FAEL,

[4] With only one low-volume exception identified in the consultation.

customers must be deriving lower utility from it in respect of that specific functionality. We may also expect that absent demand for fixed broadband, more households would become mobile only – a trend that stopped once demand for fixed broadband was clear. This suggests caution in interpreting survey data on specific demand for fixed voice services in the current circumstances where FAELs *are* required to support supply of fixed broadband connections.

4.12 The preferences customers express in how they might choose to communicate will inevitably be shaped by the fact that in purchasing fixed broadband lines, customers will also have to receive a FAEL and retain the ability to make and receive fixed voice calls. Further complications in understanding the relevance of marginal decisions in how to communicate arise due to the fact that so many fixed voice calls will be available at zero marginal cost to the customer due to the provision of call packages and that most other means of communication, including mobile minutes in call packages, are also available at zero marginal cost. In these circumstances, actual choices about how customers communicate will be driven by convenience and the specific nature of each communication - i.e. with whom, why and when the customer is seeking to communicate. There may well be circumstances in which individuals may prefer to make a voice call over a fixed line, but, again, this does not support a finding that individuals are insensitive to the prices charged for those calls and does not outweigh the clear evidence that individuals are making fewer such calls over time.

4.13 Our view is that attempting to disaggregate the value customers attach to the capabilities offered by a combined FAEL/broadband connection is not only difficult, but is largely unnecessary in considering the core issues in this review: i.e. whether ongoing regulation of wholesale FAELs and wholesale call origination (WCO) is necessary to support the competitive provision of voice services. The focus must be on identifying what is necessary to support customer choice.

Customer choice in voice services is driven by WLA regulation

4.14 Our view is that Ofcom has not given sufficient weight to the clear fact that customer choice in the provision of communications services is and will continue to be driven by the ability of communications providers (CPs) to access the wholesale local access (WLA) market. This customer choice then drives competitive pressures affecting the provision of narrowband voice services at the retail and wholesale level. The necessity for *additional* regulation of WFAEL and WCO must therefore be assessed by considering the sufficiency of WLA regulation to drive customer choice in the provision of voice services.

4.15 Ofcom notes that provision of fixed voice services and of all other alternative means of communication over fixed broadband connections effectively sit downstream of the separately regulated WLA market. CPs with access to network assets within the WLA market – whether through their own investments or through regulated access to Openreach copper and fibre – can clearly provide customers with voice services *and* the means to access the alternative means of communication outlined above via fixed broadband connections.

4.16 Ofcom's 2014 Wholesale Broadband Access market review accepted that competition based on WLA was effective in providing competition in the supply of fixed broadband connections to over 90% of UK premises. This reflected the finding that the combined competitive effect of Virgin Media and CPs investing in exchange equipment to utilize unbundled Openreach copper loops under WLA regulation was sufficient to constrain behaviour in the supply of wholesale broadband access services in most exchange areas[5].

4.17 But Ofcom's view in the WNMR is that the presence of Virgin Media and/or LLU operators in an exchange footprint is insufficient to place competitive pressure on the supply of WFAEL and WCO services. This position is reached as a means for Ofcom to address its concerns with competition for the *minority* of customers who are not currently purchasing combined FAEL/broadband connections. In other words, Ofcom believes that WLA regulation is insufficient to provide competition for these customers.

4.18 We think this is wrong in two regards: first, WLA regulation *is*, in fact, supporting competition for the identified groups of customers and this may increase over the period of this market review; and second, WLA regulation has a direct impact on commercial choices faced in the supply of WLR and, therefore, of WCO services.

Ofcom has overstated concerns with competition in supplying services to certain Group of Interest

4.19 In Section 4, Ofcom considers whether to segment the defined wholesale markets for WFAEL and WCO and sets out its assessment of particular "Groups of Interest" who are currently purchasing services using WFAEL and WCO inputs rather than WLA-based inputs. Ofcom proposes not to segment the markets on the basis that suppliers of WFAEL and WCO would be unlikely to discriminate in charges to serve these segments compared to customers who are served by WLA-based inputs. But in proposing that the three criteria test is met for the WFAEL and WCO markets and in proposing to identify that BT holds SMP in these markets, Ofcom relies on

[5] We believe there are strong arguments for concluding that WLA regulation is now sufficient to support effective competition for 100% of broadband customers, but even a simple updating of Ofcom's 2014 analysis to capture further LLU rollout would increase the competitive footprint to around 95%.

concerns about serving these same segments. The competition concerns referred to above then arise because of the segmentation of these groups – specifically that prices for WLR and/or WCO could be set in a way that distorts competition by creating a price squeeze on suppliers seeking to compete against BT to supply these groups.

4.20 We note here that Ofcom suggests that concerns with the provision of wholesale inputs to serve the identified Groups on Interest could impact 38% of customers. This appears to be based on an assessment of those Groups who are *currently* served by WLR/WCO inputs.

4.21 But the majority of customers within these Groups *could* be served by MPF based suppliers and/or by Virgin Media within their network footprint. In particular, split purchaser households and the 85% of business customers with fixed and broadband connections could clearly be supplied with a combined FAEL/broadband connection where we have shown that competition is driven by WLA regulation.

4.22 Even for those customers who currently do not purchase a broadband access line, Ofcom has not fully considered and analysed the scope for competition. This is a shrinking customer segment; a proportion of households and businesses with voice-only services at any point in time will add broadband. This means that any CPs who supply combined FAEL/broadband lines are active in competing for the voice only segment. It is notable that CPs such as Sky and TalkTalk offer keenly priced entry level FAEL/broadband offerings to customers looking to upgrade.

4.23 Furthermore, even if Ofcom is correct in its concern that some CPs are less active in directly competing for voice only customers, this does not mean that those CPs are incapable of serving this group nor that they will not become more active during this market review period. LLU-based providers have equipment in BT exchange buildings (MSANs) that allows them to supply FAEL only lines to customers if they choose. Some CPs may *prefer* to fully utilize their assets and extract higher value from voice-only customers by persuading them to purchase a combined FAEL/broadband line rather than just a FAEL line. But the incremental cost of connecting a standalone voice customer using spare MSAN capacity in exchanges would be low and acquisition of these customers will drive long term incremental value (especially given the potential for them to extend the services they take in the future). Ofcom should therefore assess the scope for increased competition for this segment based on WLA regulation.

Impact of competition for the identified Groups of Interest on commercial supply of WLR and WCO

4.24 Ofcom's concern seems to be that Openreach could supply WLR and/or BT W&V could supply WCO on terms that will benefit downstream BT by reducing the ability of other CPs using WLR and WCO to compete. But Ofcom has not attempted to identify what net benefit would be seen by BT in attempting to pursue a distortionary/exclusionary strategy. There is a clear risk that any end customer who is currently served by or could potentially be served by a CP using WLR/WCO would, if that CP had to increase its prices to remain profitable, divert to being served by Virgin Media or an LLU-based provider. This would result in lower volumes of services utilizing BT's voice assets. Moreover, any potential concerns that Openreach could use the supply of WLR services to distort downstream competition cannot subsist in light of BT's Section 89C Notification.

4.25 There is no question that competition for the provision of combined FAEL/broadband connections (and calls over those connections) is effective. So a distortionary pricing strategy would not be rational, were BT to have the ability and incentive (which it does not, for reasons stated above). The stated concern must therefore only relate to the supply of services to the identified Groups of Interest. We have shown above that Virgin Media and/or LLU-based operators have the ability to compete for many, if not all, of the customers in these Groups. This would make the pursuit of a distortionary pricing strategy on WLR and/or WCO irrational for these customers. Furthermore, notwithstanding the degree of competition for these groups, it would require discriminatory supply at the wholesale level in relation to lines used to supply these groups – something Ofcom rightly considered unlikely when assessing whether to segment defined product markets.

Implications for Ofcom's assessment of the need for regulation of WFAEL and WCO

4.26 The issues above are relevant to Ofcom's assessment of the three criteria test and the finding that BT has SMP.

4.27 Concerns with competition for the identified Groups of Interest are overstated in terms of the impact of wholesale level pricing decisions. There is a clear route for CPs to enter and/or expand the provision of services into the defined WFAEL and WCO markets by using regulated WLA inputs or – as Virgin is doing via Project Lightening – in expanding network footprints. Furthermore, taking account of the effectiveness of competition from Virgin Media and LLU-based suppliers and the position with regards to the Groups of Interest, it is not clear how Openreach and/or BT W&V could act independently of other suppliers in pricing WLR and/or WCO.

4.28 It would necessarily follow that if Ofcom concluded that the three criteria test was not passed for the defined product markets or that BT did not have SMP in those markets, no regulation could be applied.

4.29 Further, the approach proposed by Ofcom, to maintain regulation on the supply of WFAEL and WCO overall must not only be considered unnecessary, but also to amount to disproportionate, untargeted and inconsistent proposals wholly at odds with Ofcom's duties under s3 and s6 Communications Act 2003.

5. Responses to questions (excludes Openreach products)

NB: These responses relate to Ofcom's proposals regarding WCO, WCT and interconnection. Please see the separate submission from Openreach in relation to WFAEL and ISDN markets.

Question 4.3: Do you agree with our provisional conclusion regarding market definition for WCO? Please provide reasons and evidence in support of your views.

5.1 In Section 3 above, we noted the complexities faced in unpacking demand for FAELs for the purpose of making and receiving calls from demand for FAELs to establish high speed broadband connections. We also noted that Ofcom's assessment of the need for regulation was driven as much by its assessment of the three-criteria test and of SMP as by its approach to market definition.

5.2 Nevertheless, we believe there is scope for including mobile and fixed voice in a single calls market. At the retail level, the evidence is that fixed-mobile substitution is happening on an ever-increasing scale. The price differential between fixed and mobile calls continues to decline which might suggest that a SSNIP in the price of fixed would tip the balance even more towards mobile usage. The development of new technologies that allow mobile handsets to use the fixed network when at home (such as BT's Onephone proposition) is likely to reduce further the perceived differences between fixed and mobile calling. The functional differences perceived by the consumer between the two hitherto different services will become blurred. On a forward-looking basis, it is reasonable to expect these trends to continue, such that a single voice market would be a more accurate description of the economic market.

5.3 Ofcom characterises the influence of mobile calls services as being indirect constraints on the fixed voice market. While we would question the market definition, we agree with the point expressed at various parts of the consultation that these constraints are growing in significance. This implies that even if they are not directly included for market definition purposes, they are highly relevant to the question of what remedies might be appropriate for fixed access.

Question 4.4: Do you agree with our provisional conclusion regarding the three-criteria test for WCO? Please provide reasons and evidence in support of your views.

5.4 No. Ofcom (at paragraphs 4.119-4.120) offers no evidence that any of the three limbs of the test is satisfied or why the UK should be different to other EU countries. As set out in Section 2, competition for the supply of fixed voice calls is driven by access to assets within the separately regulated WLA market. The requirements placed on BT to supply fully unbundled copper loops and fibre access lines support market entry and expansion in the supply of voice services. Ofcom relies on concerns with a minority of customers within particular segments to support its view that barriers to entry are high. For reasons set out in Section 2, we do not agree.

5.5 Nor does there appear to be anything like a comprehensive forward look to show that the second limb of the test is satisfied and the market will not tend towards effective competition. Again, Ofcom's provisional findings are driven by concerns with supply to the minority of customers. Notwithstanding our overall concerns with this approach, Ofcom accepts that the numbers of customers in these segments continues to fall.

5.6 Finally, Ofcom does not appear to give any consideration to the third strand of the test which is the application of competition law. Ofcom has concurrent powers here unlike many sector regulators in other countries and has actively pursued many such investigations against CPs in the past.

5.7 In summary BT maintains that Ofcom has not demonstrated any justification for upstream regulation on services which have been removed from the Commission's list of recommended markets.

Question 6.2: Do you agree with our provisional conclusion that, during the period covered by this market review, BT and KCOM will have SMP in the WCO markets? Please provide reasons and evidence in support of your views.

5.8 No. Even if treated as outside the narrowly defined market, we believe mobile and increasing use of other means of direct communication will provide much stronger constraints on the terms on which BT supplies WCO than Ofcom expects and this trend will grow over the next review period. Ofcom has signalled that there may be a case for full deregulation in a future market review, but we consider that the appropriate conditions have already arrived. The theoretical ability of BT to increase prices for WCO is severely limited in practice by the fact that wholesale customers can move to alternative offerings such as MPF and/or that their end customers will make fewer voice calls over the fixed connection. Ofcom's own evidence shows that wholesale prices for call services are continuing to decline. In these conditions it is unclear that any player can truly exercise market power.

Question 7.1: Do you agree with the remedies that we propose for BT in the WFAEL, WCO, wholesale ISDN30 and wholesale ISDN2 markets? Please provide reasons and evidence in support of your views.

5.9 Please see the separate Openreach response in relation to remedies in the WFAEL, ISDN2 and ISDN30 markets.

5.10 For WCO, we support Ofcom's move towards less onerous regulation, especially the removal of charge control and the non-discrimination requirement. As noted above, we believe that competitive conditions are such that it would be desirable to remove all *ex ante* regulation from WCO.

5.11 On the face of it, a requirement for prices to be fair and reasonable should provide sufficient commercial flexibility to offer WCO on terms that support downstream competition. However, we are concerned about the potential interaction between Ofcom's proposed retail level constraints on SFV prices and an interpretation of the fair and reasonable charges remedy based on prevention of a price squeeze. This is because it would appear that Ofcom's SFV proposals assume no above inflationary cost pressures in the supply of WLR and WCO. If such pressures emerge then the proposed retail pricing constraints (if implemented) may require wholesale charges – whether for WLR or WCO – to be set at rates that fail to recover appropriate wholesale costs. Ofcom will need to assess wholesale level costs pressure across its market reviews (including its review of LLU charge controls) must ensure that a joined up approach is adopted across different policy areas and avoid imposing conflicting requirements. ✄.

5.12 We support the removal of the requirement for new forms of WCO access, given that this market is, as Ofcom recognises, mature and well established. In our view, any access innovation is most likely to be focused on broadband and mobile technologies, and certainly not in relation to TDM telephony. We therefore agree also with the removal of the requirement to notify technical information.

5.13 Please see our separate response on Question 19 in relation to regulatory financial reporting for all of these markets.

Question 10.1: Do you agree with the remedies that we propose for KCOM in the WFAEL, WCO, wholesale ISDN30 and wholesale ISDN2 markets? Please provide reasons and evidence in support of your views.

5.14 No comment

Question 11.1: Do you agree with our provisional conclusion regarding market definition for WCT? Please provide reasons and evidence in support of your views.

5.15 Yes, although the constraint of switching to mobile and or OTT VoIP is likely to increase over time. Unified communications and fixed-mobile interworking will eventually undermine this definition of WCT.

Question 11.2: Do you agree with our provisional conclusion that each CP has SMP in the defined market for fixed geographic call termination applicable to that CP? Please provide reasons and evidence in support of your views.

5.16 Yes – this is a logical conclusion from the market definition. In the future, it is possible that the control of a customer's number may not be the determining factor, as alternative communications methods, based on IP addresses rather than telephone numbers become increasingly prevalent. In that instance the designation of SMP may no longer be appropriate for the range holder.

Question 12.1: Do you agree with the remedies that we propose for CPs with SMP (other than BT) in the WCT markets? Please provide reasons and evidence in support of your views

5.17 We support Ofcom's overall aim of ensuring that WCT rates are transparent and fair across the industry. While we disagree with the way the charge control has been calculated, we support the view that the same control should apply to all terminating CPs. We also support the requirement to provide network access on reasonable request, and the transparency obligations.

5.18 In order to ensure a "level playing field" for all CPs, such that everyone is equally incentivised to make the wholesale narrowband market work effectively, we believe that Ofcom should apply the End-to-end Connectivity obligation to all, and not just to BT. Ofcom's proposals will apply exactly the same charge control regime to all fixed terminating CPs. The logical corollary of this should be that the same rights and obligations apply equally to all. At present, only BT is obliged to purchase call termination[6]. This has led to difficulties in recent years with some CPs being unwilling to open number ranges on their networks. We believe that the same connectivity obligation should apply equally to all CPs to reduce these risks.

Question 12.2: Do you agree with the remedies that we propose for BT in the WCT market? Please provide reasons and evidence in support of your views.

5.19 No. Ofcom's approach does not seem logical. The imposition of SMP on terminating CPs applies to all, regardless of the volume of lines or calls affected. The source of market power is the terminator's control of access to the relevant number range. BT has exactly the same control in this respect as any other

[6] Ofcom Statement on End-to-end Connectivity, 13 September 2006

terminating CP. There is therefore no justification for applying additional remedies, simply on account of BT's size.

5.20 We do not believe there is any justification for a non-discrimination requirement on BT's WCT. The application of an *ex post* test of should be sufficient, as it is for all other terminating CPs and as Ofcom is proposing for WCO. The accounting separation and cost accounting requirements are excessive for such a small market – see also our response to Question 19.

Question 13.1: Do you agree with our proposal to apply a charge control to all designated CPs with SMP in the WCT markets? Please provide reasons and evidence in support of your views.

5.21 Yes. The same control should apply to all. This will reduce the number of commercial and regulatory disputes in relation to termination rates.

Question 13.2: Do you agree with our proposal to apply the WCT charge control to all calls terminated in the UK irrespective of where the call was originated? Please provide reasons and evidence in support of your views

5.22 While we accept that Ofcom's position has the benefit of simplicity and transparency, we believe there are good reasons to adopt a different approach, in support of the wider UK consumer interest. As Ofcom is well aware, a number of operators outside the EEA apply extremely high FTRs for calls generated by UK customers. If UK CPs were able to discriminate, by applying higher rates on UK-inbound traffic, this could provide an incentive to negotiate a reduction in these rates on a reciprocal basis. We would suggest that UK CPs should be given the freedom to discriminate, perhaps subject to a cap on the UK FTR being no more than the rate applicable in the relevant overseas market.

Question 15.1: Do you agree with our proposals regarding modelling and setting the WCT charge control? Please provide reasons and evidence in support of your views.

ALREADY SENT TO OFCOM ON 3 MARCH 2017

5.23 No. BT considers that the WCT charge has been set too low:

- The model is very volatile and Ofcom has selected a single value of 0.024ppm from a sensitivity analysis which shows a range of possible values from 0.020ppm to 0.037ppm. Given this volatility it is unusual that Ofcom is not consulting on a range for the charge control and that the chosen value is significantly below the mid-point of the range of possible values.
- There a number of parameter values used in the model that should be changed, as explained further below:

  - The market share of the hypothetical operator should be 25% throughout the modelling period.
  - The volume forecast is too high and inconsistent with historic trends; the low volume case should be adopted as the base case forecast.
  - BT has observed that the average call duration in the busy hour is 2.6 minutes and not the 2.9 minutes used in the base case, meaning that more network capacity is required for busy hour call attempts (shorter call durations mean that there will be a higher volume of call set-ups and hence more network resources required.).
  - The real price trend for network costs is highly volatile and unrealistic. BT recommends that a more stable price trend is used in the modelling.

  Changing these parameter values would increase the modelled LRIC in 2019/20 to 0.028ppm, 40% higher than Ofcom's proposed value.

- Ofcom should adopt a glide path, consistent with the approach set out in the BCMR. This would give prices that are 25% higher in 2017/18 and 13.6% higher than the Consultation proposal.
- Ofcom's 2016 LRIC value is out of line with the LRIC based prices set by all other National Regulatory Authorities in the EU. There is no analysis, explanation or justification for why Ofcom's calculations should be so much lower than all the 22 EU nations that price Fixed Termination Rates on a LRIC basis.

5.24 BT therefore recommends that Ofcom adopt one of the two alternative proposals for the charge control set out below:

i) Set a price ceiling equal to the current price of 0.035ppm.

ii) Adopt a glide path from the current price to BT's LRIC estimate of 0.028ppm.

Table 5.1: BT's proposed glide path

	Current Price	2017/18	2018/19	2019/20
BT Proposal	0.035	0.0325	0.0302	0.0280
X		-7.2%	-7.2%	-7.2%

5.24 BT's glide path proposal is based on the application of a CPI – 7.2% price change in each year of the charge control, applying a glide path from the current price of 0.035ppm to BT's estimate of LRIC in 2019/20 of 0.028ppm.

5.25 The points set out in this executive summary are considered in more detail in Annex 1.

Question 16.1: Do you agree with our approach to the regulation of interconnection? Please provide reasons and evidence in support of your views.

5.26 Overall, yes. TDM is still the benchmark for interconnect and IP arrangements can be negotiated freely, as barriers to entry are very low. It is reasonable to suppose that the industry will continue to migrate to IP, and BT has previously announced that we expect that all our voice customers will be served by IP by 2025. Interconnect arrangements in an all-IP world may be very different from today, but for the timescale of this review TDM interconnection will continue to be the basic enabler of voice competition at the wholesale level. As Ofcom has effectively recognised in previous market reviews, the tandem layer is competitive, so it is not necessary or proportionate to maintain regulation of tandem-layer interconnect services.

Question 17.1: Do you agree with the remedies we propose in relation to BT's interconnect circuits? Please provide reasons and evidence in support of your views.

5.27 We agree with Ofcom's statement at paragraph 18.11 that "only BT's TDM interconnect circuits provided at the DLEs should be regulated". As Ofcom says, the justification for regulation stems from BT's SMP in WCO and WCT, which is dependent on access to the DLEs. The tandem layer has been progressively deregulated over successive market reviews and the logical next step is to remove the regulation on tandem-level interconnect circuits. This means that the requirements for non-discrimination, price publication and so on should be removed, as well as the charge control. As currently drafted, Ofcom's proposals would exempt tandem-layer interconnection from charge controls, but still leave these services subject to the other SMP remedies. It does not seem to be proportionate to require regulated access at the tandem layer when tandem layer services are themselves already deregulated.

Question 17.2: Do you agree with the remedies we propose in relation to KCOM's interconnect circuits? Please provide reasons and evidence in support of your views.

5.28 No comment

Question 18.1: Do you agree with our charge controls proposals for BT's interconnect circuits? Please provide reasons and evidence in support of your views

5.29 BT agrees that the charge control should apply to TDM interconnect services at the DLE layer and that these should be set on a LRIC + basis. Applying the charge control to the DLE layer only is consistent with Ofcom's findings of SMP in other related TDM markets, where the tandem layer of services has been deregulated.

5.30 BT also agrees with Ofcom that it would be disproportionate to build a LRIC model specifically for interconnect circuits given their low and declining revenue. Such an approach would be complex and costly to implement and the output of such a model would be relevant for a limited time only given the migration away from TDM voice services. LRIC based prices would also risk encouraging operators to stay on the TDM voice platform rather than migrate to IP based voice services and inevitably delaying its closure.

5.31 BT has conducted a detailed review of interconnect circuits volumes, which shows volumes of certain interconnect services to be higher than those reported in the Regulatory Financial Statements[7]. Whilst this is unfortunate, we do not consider that this has a material effect on the charge control.

5.32 The adjustments to volumes increases revenue and results in a ROCE of Interconnect Services that do not decline in 2014/15 and 2015/16 as shown in Table 18.1 of the consultation but remain at similar levels to earlier years[8]. These ROCE figures reflect the fact that the switches and SDH equipment used to deliver interconnect circuits are heavily depreciated.

5.33 When calculated on a HON (Hypothetical Ongoing Network[9]) basis, the ROCE declines to a value that is, in 2015/16, substantially lower than BT's cost of capital. The calculations of returns on a HON basis is explained in Annex 2 and the adjustments set out in Table 10.

5.34 What is more relevant to the charge control is the impact on interconnect circuits at the DLE. This increases revenue by £✂ (£<1m) as a result of the volume changes identified. The ROCE of interconnect circuits at the DLE has declined in 2015/16 to minus ✂ (0-5%), as shown in Table 5.2 below. This means that the prices for the interconnect circuits that would be subject to the charge control are more than 10% lower than FAC.

Table 5.2 Interconnect Circuits connected to BT DLE

Financial Performance of interconnect circuits connected to BT DLEs (£m)	2014/15	2015/16
Revenue	✂	✂

[7] As provided in response to Ofcom's 13th narrowband market review s135 Notice on 17 March 2017
[8] See Table 18.1 of the Narrowband Market Review consultation dated 1 December 2016
[9] The Hypothetical Ongoing Network approach was used by Ofcom in the 2009 Network Charge Control modelling

CCA operating costs	✄	✄
Return	✄	✄
Mean Capital Employed	✄	✄
FAC	✄	✄
ROCE	✄	✄
Revenue - FAC	✄	✄
As % of revenue	✄	✄

5.35 The rate of return from interconnect circuits connected at the DLE is significantly below the cost of capital (and would be very much lower when calculated on a HON basis.) Economies of scope will be lost as higher allocations of the SDH cost to TDM voice services (including interconnect circuits) as the 20CN broadband service (IPStream) is withdrawn around the end of 2018. We also expect the loss of economies of scale as volumes decline. It seems unlikely any efficiency gains will be sufficient to offset the impacts of the loss of economies of scale and scope. Therefore Ofcom should set the charge control for interconnect circuits towards the top end of the Consultation range, namely a charge control of CPI + 5%.

5.36 We agree that there should be a sub-cap on individual charges in addition to the basket and consider the additional flexibility of an additional 10% on top of the main basket charge control is reasonable.

5.37 We set out our reasoning more fully in Annex 2 below.

Question 19.1: Do you agree with our proposals for BT and KCOM's regulatory financial reporting? Please provide reasons and evidence in support of your views

5.38 In terms of regulatory reporting, we would have expected Ofcom to follow a clear policy of flowing through the proposed deregulation to reporting requirements. However, Ofcom is not proposing any significant changes to reporting requirements. An example of this is WLR moving to 'fair and reasonable', which is not based on fully-allocated cost (FAC), but still requires the FAC to be published. We recommend that Ofcom should relax the reporting requirements in line with the proposed deregulation of prices. We consider that such association between pricing remedies and reporting remedies could be best achieved via an overall framework for regulatory financial reporting.

5.39 Our comments on Ofcom's proposals are set out below. Please note that should Ofcom propose to re-introduce regulatory financial reporting for retail services, we will review such proposals in the context of the relevant consultation[10].

5.40 Before we comment on Ofcom's specific proposals, we make introductory comments on the need for a framework for regulatory reporting.

A framework for regulatory reporting

5.41 We propose that Ofcom should create a framework for regulatory financial reporting (the 'framework'), which defines the information provided to Ofcom and published for other stakeholders. Such a framework should be relevant in the context of all market reviews, providing a clear association between pricing remedies and reporting remedies, giving stakeholders clarity and certainty over the information required to be disclosed.

5.42 In addition to ensuring that stakeholder needs are consistently met, such framework should lead to a reduction in the complexity and volume of regulatory financial reporting. Specifically, removing the obligation to provide stakeholders with information which adds no or little value, or relates to items which are not material, will improve transparency for stakeholders and reduce the cost of compliance, to the benefit of all stakeholders.

5.43 We consider that such framework would complement Ofcom's review of regulatory financial reporting which began with a call for inputs on 8 November 2011. The conclusions of the review were published in Ofcom's statement of 20 May 2014, followed by its statement of 30 March 2015 on Directions for Regulatory Financial Reporting. We consider that in order to complete the work of the reporting review, Ofcom should develop a framework that covers reporting (including criteria for publication).

Proposed Directions to implement regulatory accounting requirements

5.44 We do not agree with Ofcom's view that an Adjusted Performance Schedule is not required for the markets considered in this review. We set out our views on each market in turn below.

[10] The review of the market for standalone landline telephone services 28 February 2017 paragraph 9.33

Proposed Direction specifying requirements in relation to the preparation, delivery, publication, form and content of the RFS

Distinction between public and private information

5.45 Ofcom's proposals relating to reporting requirements and the distinction between public and private information are based on the approach set out in the 2014 Regulatory Financial Statement, which Ofcom reiterates here[11].

5.46 In particular, Ofcom considers that the public information category should include information that would give stakeholders reasonable confidence that BT has complied with its SMP conditions, allow them to contribute to the regulatory regime, and "is consistent with the level of the remedy"[12]. On the other hand, private information provided by BT to Ofcom may be required in order for Ofcom to make informed regulatory decisions, monitor compliance with SMP conditions, ensure those SMP conditions continue to address the underlying competition issues, and investigate potential breaches of SMP conditions and anti-competitive practices.

Private information

5.47 BT is required to provide Ofcom with a 'Data File[13]', which includes a large amount of granular financial data. This should be the starting point for Ofcom to assess the need for any additional information to be provided to Ofcom privately by BT.

5.48 We consider that any additional private information should be limited and justified as follows:

- there is a clear need for the required information in order for Ofcom to meet its regulatory duties, in particular where that information is required annually, rather than for example for input to market reviews and charge controls;
- the requirement for additional information is proportionate for that purpose; and
- the information cannot be extracted from the Data File.

5.49 For example, we recognise that there are a number of existing additional information requirements[14], including LRIC information and billed hours for TRCs, that may be justified on the above basis.

[11] 2016 WNMR Consultation, paragraphs 19.34-19.36.
[12] 2016 WNMR Consultation, para 19.36.
[13] 2016 WNMR Consultation, Annex p203 para 18 a xii
[14] 2016 WNMR Consultation, Annex p202 para 18

5.50 We are proposing to continue to work with Ofcom to make sure that the Data File continues to meet its needs in terms of scope and content.

Public information

5.51 In line with its approach in the 2014 Regulatory Financial Reporting Statement, Ofcom reiterates in this consultation that there should be a link between the information published and the remedy imposed:

> *"cost, volume and revenue information published in the RFS should reflect the level of the remedy"*[15]

5.52 The key requirements for publication are summarised in paragraph 19.38 of the Consultation by reference to 3 categories: (i) market level information, (ii) service level information, and (iii) cost components for reported services. Ofcom's specific proposals are set out in paragraphs 19.40-19.78 of the Consultation.

5.53 BT agrees that Ofcom's reporting proposals should strictly reflect the pricing remedies imposed. Therefore, BT considers that:

- Performance Summary by Market (e.g. as most recently published on page 21 of the 2015/16 RFS), should be required to be published for all markets where we have SMP *and* prices are set by reference to our incurred costs. Conversely, market performance should not be required to be published where either there are no pricing remedies in place, or pricing remedies are not related to our incurred costs,
- Service volumes and revenue should only be required to be published when required to demonstrate compliance with a charge control or safeguard cap. The split between internal and external revenue should only be required to be published when required to demonstrate compliance with no undue discrimination obligations. Where publication requirements are justified as above, volumes and revenue should only be required to be published as part of the market summary (e.g. as shown, for example, in the WFAEL Summary on page 32 of the 2015/16 RFS) or, preferably, as part of a non-confidential compliance statement. In any event, there should not be a requirement for overlapping information to be published,
- Fully allocated cost (FAC) by service and component (as shown, for example in the 'WFAEL calculation of FAC based on component costs and usage factors' on page 33 of the 2015/16 RFS), should only be required to be published where prices are set by reference to our incurred costs by service and component (e.g.

[15] 2016 WNMR Consultation, para 19.35

this may apply in case of a CPI-x charge control or cost orientation obligation). Conversely, where prices are not set by reference to our actual incurred by service and component, this information should not be required to be published,

- Where service volumes or fully allocated cost (FAC) justify a requirement for publication, as noted above, this should be at no lower level than the level at which prices are regulated (basket or sub-basket) and subject to a level of materiality.

5.54 We set out in Table 5.3 below our proposed approach, which makes a clear link between any pricing remedy imposed and the information we are required to publish, in line with Ofcom's statement in paragraph 19.35 of the Consultation.

Table 5.3: BT's proposed approach to Pricing and Publication remedies

Pricing remedy	Reporting obligation			
	Performance summary	Adjusted performance schedule	Market summary	FAC by service and component
No remedy	None	None	None	None
Bottom up charge control	None	None	None (revenues and volumes in a compliance statement)	None
Fair and reasonable	Published	As appropriate	None	None
Safeguard cap	None	As appropriate	None (revenues and volumes in a compliance statement)	None
CPI-X charge control	Published	As appropriate	Published	Published
Cost orientation / basis of charges	Published	As appropriate	Published	Depends upon specific nature of cost orientation requirement

5.55 The rationale behind BT's proposed approach is provided in Annex A. .

Implementation of the framework for non-Openreach markets

5.56 The implementation of the framework on the reporting obligations in the non-Openreach markets is summarised in Table 5.4 and described in more detail below.

Table 5.4[16] Consistency of Ofcom's proposed reporting obligations with the framework for Openreach markets

Market	Remedy	Basket[1]	Obligation[2]	Level[3]	Consistent[4]
WCO	Fair and reasonable charges	Market	Performance summary	Basket	Yes
WCT	Charge cap (maximum price)	Market (single service)	Market summary	Basket (time of day pricing analysis)	No – None required
Interconnect (technical area)	Safeguard caps: CPI-X Market; CPI-X-Y services	Market and individual service	FAC by component	Basket	Yes

5.57 We welcome deregulation, but note that the form of deregulation will make reporting obligations, while remaining feasible, harder to fulfil as interconnection at the tandem layer will need to be distinguished from interconnect at the DLE.

Call Origination

5.58 We welcome Ofcom's proposal to remove the obligation to publish a market analysis schedule, including service level information on revenue, volume, price and FAC. This is consistent with the framework.

5.59 However, we see no benefit to stakeholders in publishing market level returns for WCO as Ofcom proposes. WCO market level returns are potentially misleading (shown as 51.9% on page 21 of the 2015/16 RFS). This has arisen because of Ofcom's previous approach to setting prices in WCT and WCO, with WCT prices set at LRIC and common costs recovered only through WCO prices.

5.60 Ofcom recognised this issue and published graphs showing the separate and combined returns for the WCO and WCT market[17]. Given that it is only the combined return which Ofcom believe demonstrates that we are recovering our common costs and the returns cannot be interpreted separately, Ofcom should consider publishing only a combined return.

[16] Notes to Table 5.4

1 'Basket' refers to the level at which prices are regulated.

2 'Obligation' refers to the level of reporting obligation proposed by Ofcom:

'Performance summary' means only the Performance Summary schedule, Attribution of Wholesale Current Costs, Attribution of Wholesale Current Cost Mean Capital Employed and Adjusted Financial Performance Schedule (if relevant),

'Market summary' means the information required for 'performance summary' plus the Market Summary schedule,

'FAC by component and service' means the information required for 'market summary' plus analysis of service level FAC by component.

3 'Level' refers to the level at which results are disclosed, specifically 'Basket' means that results are disclosed at the level shown in the 'Basket' column, at which prices are regulated.

4 'Consistent' is our assessment of whether Ofcom's proposed reporting obligation is consistent with the framework.

[17] Narrowband Market Review 1 December 2016 figures 13.2 and 13.3

5.61 We propose that an adjustment is made to the market return in the Adjusted Performance Schedule. We are willing to work with Ofcom on how this adjustment should be calculated.

Call Termination

5.62 We welcome Ofcom's proposal to require publication at the level at which services are regulated and Ofcom's proposal that there should be no requirement to publish FAC for components and services as the remedy is a charge control which is not based on our costs. These proposals will not reduce the value of the RFS to stakeholders and are consistent with the framework.

5.63 However, as noted above, the recovery of costs for WCT did not include common costs which were instead recovered through WCO, leading to a published market return in the 2015/16 RFS of -53.7%. Our view is that there is therefore no benefit to stakeholders in our publishing a return for the WCT market in the Performance Summary schedule, as this is potentially misleading, given that the costs for WCT in charge control calculations are not based on our actual costs. We therefore propose that we should not publish a market return for WCT. This would bring fixed call termination into line with Ofcom's approach on mobile call termination.

5.64 Stakeholders will want assurance that we are complying with our SMP obligations and this can be provided through publication of a non-confidential compliance statement in addition to our price list. We do not believe there is any additional benefit to stakeholders from publication of revenues, volumes and average prices in a Market Summary report for WCT, which we therefore believe should not be required.

5.65 We concur that time of day reporting should no longer be required once time of day pricing ceases, which Ofcom proposes to be from 1 December 2017. Regulatory Financial Reporting for 2017/18 will therefore need to include an element of time of day reporting, but from 2018/19 this will not be required[18].

5.66 We will retain the capability to provide the time of day analysis for as long as this is needed for compliance purposes and to support the revenue figures and can provide this privately to Ofcom as an AFI. Our day/evening/weekend prices would continue to be published in our price list and be required in our charge control compliance calculations, for as long as this is required.

5.67 We note that all CPs have SMP for call termination, but reporting obligations are proposed to be made only on BT, not even on KCOM who, along with BT, have some regulatory reporting obligations. It would be in the interests of all

[18] Narrowband Market Review Annexes page 56, 'First Relevant Period'

stakeholders for there to be transparency across the whole market. As we argue in our response to question 12.2, this appears to us to be unduly discriminatory and we propose that all CPs with SMP have the same obligations imposed on them regardless of size, whatever Ofcom decides those obligations should be.

Interconnect circuits (technical area)

5.68 We concur with Ofcom's proposed reporting for Interconnect Circuits, which is consistent with the framework, including the private provision of LRIC information.

6. Glossary of terms

AFI	Additional Financial Information
CP	Communications Provider
DLE	Digital Local Exchange
EEA	European Economic Area
EU	European Union
FAC	Fully Allocated Cost
FTRs	Fixed Termination Rates
HON	Hypothetical Ongoing Network
ISDN	Integrated Services Digital Network
LRIC	Long Run Incremental Cost
LLU	Local Loop Unbundling
MPF	Metallic Path Facility
MSAN	Multi-Service Access Node
NCC	Network Charge Control
OTT	Over The Top
POI	Point of Interconnect
RAV	Regulatory Asset Valuation
ROCE	Return on Capital Employed
RFS	Regulatory Financial Statements
SDH	Synchronous Digital Hierarchy
SMP	Significant Market Power
SFV	Standalone Fixed Voice
SSNIP	Small but Significant Non-transitory Increase in Prices
TDM	Time Division Multiplexing
TED	Tool for Extracting Data
TRCs	Time Related Charges
VoIP	Voice over IP
W&V	BT Wholesale and Ventures
WACC	Weighted average cost of capital
WCO	Wholesale Call Origination
WCT	Wholesale Call Termination
(W)FAEL	(Wholesale) Fixed Access Line
WLA	Wholesale Local Access
WLR	Wholesale Line Rental
WNMR	Wholesale Narrowband Market Review

7. Annexes

A1. Call Termination

A2. Interconnect Circuits

A3. Financial Reporting

A4. Legal Instruments

Annex 1

BT's review of Ofcom's WCT charge control proposals

BT has the following detailed comments on Ofcom's Consultation proposals (summarised in the response to question 15.1).

The model is very volatile

A1.1 Ofcom has selected a single value of 0.024ppm from a sensitivity analysis which shows a range of possible values from 0.020ppm to 0.037ppm. Given this volatility it is unusual that Ofcom is not consulting on a range for the charge control and that the chosen value is significantly below the mid-point of the range of possible values.

A1.2 BT considers the model is unable to produce a precise value for LRIC given the inherent uncertainties in the parameter values. For example, the values selected for the base case volumes lead to a minimum LRIC value given that the sensitivities for both higher and lower volumes give a higher LRIC model output.

A1.3 The sensitivity analysis presented by Ofcom[19] shows a wide variation in LRIC estimates depending on the assumptions used. This means that, far from being a precise estimate, Ofcom's model is subject to considerable uncertainty. Ofcom has not taken this volatility into account as a single value has been proposed for the FTR rather than a range. Given the adverse consequences of setting prices below LRIC, Ofcom should have adopted what is their usual approach and ensured that the value chosen for the FTR price is set towards the top end of the LRIC model sensitivity analysis. This would have given some headroom to avoid the risk of setting a price below the actual LRIC.

A1.4 The risk for competition of an FTR price set too low is that it could lead to market distortions. If prices are below LRIC, this might affect competitors' and customers' decisions, including whether to terminate a call on a fixed line or using alternatives. Such distortions could lead to a misallocation of resources into fixed line calls rather than competitive alternatives, including mobile. It also has adverse consequences for all fixed operators as they will be unable to recover all their costs incurred in providing the FTR service.

A1.5 The sensitivities to the LRIC estimate in 2015/16 are set out in Annex 9. These are summarised in Table A1.1 below:

[19] Annex 9 to the Consultation

Table A1.1: Sensitivity Analysis compared with "base case"

Sensitivity (values expressed in pence per minute compared with the base case value of 0.024ppm	"low case"	"high case"
Voice traffic (A9.1)	+0.001	+0.001
Data traffic (A9.2)	-	-
Market Share (A9.3)	+0.003	+0.002
Demand Parameters in total (A9.4)	**+0.004**	**+0.005**
Deployment Period (low = 6yrs; high = 8 yrs)(A9.5)	+0.003	+0.008
Roll-Out (A9.6) (low = 05/6 rollout; high = 12/13 rollout)	+0.001	+0.008
POI (low =100 POI; High = 30 POI) (A9.7)	-0.002	-
Asset Utilisation (A9.8)	-0.002	+0.003
WACC (A9.9)	-0.002	+0.002
Admin Costs (A9.10)	-0.001	-
BH call duration (low = long BH calls); high = short BH calls (A9.11)	-0.001	+0.011
Overall Scenario Analysis	**-0.004**	**+0.013**
As a % of the base value of 0.024ppm	**-13%**	**+55%**
LRIC value range based on modelling sensitivities	**0.020**	**0.037**

A1.6 The analysis above shows that if demand is either higher or lower than anticipated this alone could increase the LRIC estimate to 0.028 to 0.029ppm. The value of LRIC is therefore highly dependent on the accuracy of the demand estimate. From the 2013 model, volumes have turned out to be substantially lower than expected, indicating the difficulty in accurately forecasting voice volumes as evaluated below.

A1.7 In a similar way, a different choice of roll-out date and deployment period in the hypothetical model would lead to a substantially higher estimate of LRIC. (The values used in the base case are the same as used in the 2013 model.) It is worth noting that the overall scenario analysis presented in A9.11 does not show impacts of different assumptions for the roll-out or deployment period both of which would lead to higher LRIC values and increase the top end of the range further.

A1.8 Many of the parameter choices appear to have been set to achieve a minimum LRIC. For example the market share approach of tapering from 33% to 25% leads to a lower cost than using either 25% or 33% throughout. As the main reason for the change is the recognition that Vodafone (Cable & Wireless) should be considered a Principal Operator due to its significant volume of ISDN lines provided by this company , indicating that there would be on average four national operators not three had this been recognised in 2013. The change in number of Principal Operators is not due to any changes in the market but due to the inclusion of a competitor who had been overlooked when the 2013 LRIC model was built.

A1.9 The tapering of the market share is therefore inappropriate as the increase in the number of Principal Operators simply corrects an oversight made during the 2013 LRIC modelling. It also seems to be unrealistic that any operator would manage its investment to precisely fit a gradually changing market share. BT therefore considers that a 25% market share for the hypothetical operator should be used throughout the model in place of the tapering assumption. Similar issues occur with voice traffic (figure A9.1 in the Consultation) and demand parameters (figure A9.4).

There a number of parameter values used in the model that should be changed.

A1.10 Ofcom treats the LRIC values in its base case as an accurate calculation of the LRIC of Fixed Call Termination and uses these values to justify the very significant reductions in FTR prices (in percentage terms.) The change in the LRIC estimate for 2017/18 is highlighted in Figure A8.15 with the changes analysed by the main changes within the model

A1.11 BT considers that the update to the traffic forecasts and the lower administration costs are reasonable adjustments to make given the facts, although we consider that the low volume forecast should have been used, as explained below. We consider the following changes to parameter values should be made:

a) The market share of the hypothetical operator should be 25% throughout the modelling period.
b) The volume forecast is too high and inconsistent with historic trends; the low volume case should be adopted the as a base case forecast.
c) BT has observed that the average call duration in the busy hour is 2.6 minutes and not the 2.9 minutes used in the base case meaning that more network capacity is required to for busy hour call attempts (shorter call durations mean that there will be a higher volume of call set-ups and hence more network resources required).
d) The real price trend for network costs is highly volatile and unrealistic. BT recommends a more stable price trend is used in the modelling.

A1.12 Changing these parameter values would increase the modelled LRIC in 2019/20 to 0.028ppm, 40% higher than Ofcom's proposed value.

a) *Market share of the hypothetical operator should be 25% throughout the modelling period*

A1.13 The market share assumptions should be set at 25% from the start of the model build. As the main reason for the change is the recognition that Vodafone (Cable & Wireless) should be considered a Principal Operator due to its significant volume of ISDN lines provided by this company, indicating that there would be on average four national operators not three had this been recognised in 2013. The change in number of Principal Operators is not due to any changes in the market but due to the inclusion of a competitor which had been overlooked when the 2013 LRIC model was built. Had Vodafone been included as a principal operator in 2013, the average number of operators would have rounded to four operators, giving a theoretical market share of 25%.

A1.14 The introduction of tapering distorts the LRIC by creating an artificial market share during the tapering years. It is not realistic to presume that a market entrant would be able to build a network model so precisely. The approach Ofcom is proposing goes beyond a simple update of the LRIC model and introduces an element of spurious accuracy.

A1.15 *The volume forecast is too high and inconsistent with historic trends. The low volume case should be adopted as the base case.*

Tables A1.2 and A1.3 below show Ofcom's 2013 model significantly over-estimated voice volumes during the past four years in both the Base Case and the Low Case from the 2013 model.

Table A1.2 showing 2013 NCC base case forecasts versus actuals:

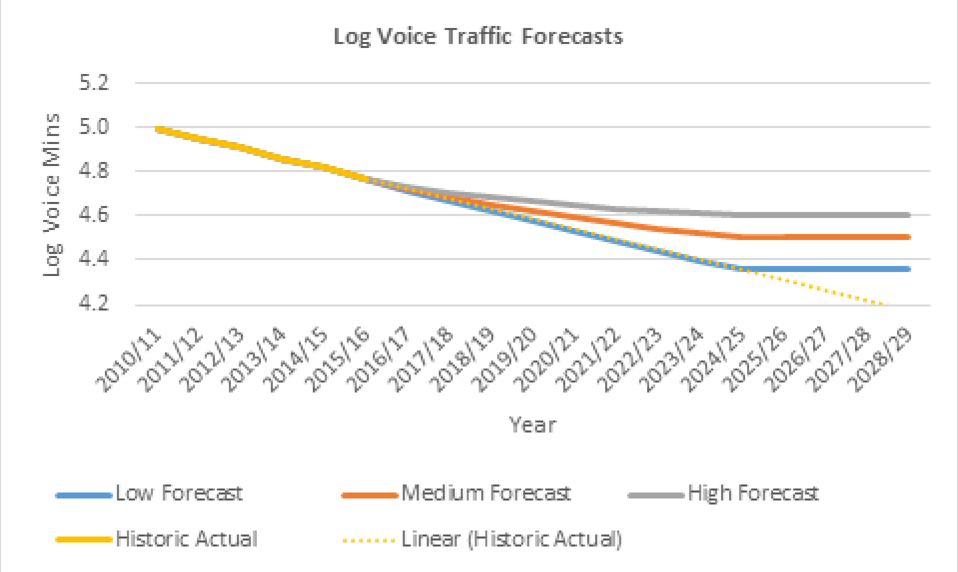
	2012/13	2013/14	2014/15	2015/16
2013 NCC Base Case	86,000	82,433	79,088	76,947
Actual	82,605	72,578	66,096	58,316
Over-forecast %	4%	14%	20%	32%

Table A1.3 showing 2013 NCC low volume forecasts versus actuals:

	2012/13	2013/14	2014/15	2015/16
2013 NCC Low Case	85,265	80,897	76,622	73,505
Actual	82,605	72,578	66,096	58,316
Over-forecast %	3%	11%	16%	26%

A1.16 We believe the use of "dampening factors" in the 2013 model contributed to this over-forecast of volumes. It is of concern that this approach has been carried forward into the 2016 modelling. We consider this will lead to the current model also over-forecasting volumes. This is explored in Figure 5 below.

Figure A1.1 Call Volume trends – historical and Ofcom forecasts



A1.17 Figure A1.1 plots volumes on a log chart to help observe trends in volumes. On this chart straight lines indicate a constant percentage change in volume. The historic volume data since 2010/11 shows a steady rate of volume decline. Both the medium and high volume scenarios produce higher forecasts than is consistent with the historical trend. Only the "low forecast" scenario is aligned with the historical trends. We believe this is due to smaller dampening factors used in the low forecast.

A1.18 It is clear that the medium and high forecasts scenarios retain the same dampening approach from the 2013 LRIC model. This produces a forecast that is out of line with past trends and risks repeating the volume forecast shortcomings of the 2013 model. BT considers that Ofcom should have evaluated the accuracy of past volume forecasts and made appropriate adjustments to the dampening factors.

A1.19 As the "low volume" forecast is the closest fit with the evidence we consider it to be the best estimate of future volume growth and should be used when calculating LRIC.

b) *The average call duration in the busy hour is lower than Ofcom has estimated and a value of 2.6 minutes should be used.*

A1.20 BT has examined call records during a representative working week in September 2016 to calculate the average call duration during each 15 minute interval. This allowed us to identify the busy hour using Erlang data and then measure the average call durations during the busiest one-hour period. The data showed the average call duration to be 2.6 minutes during the network busy hour, lower than the 2.9 minutes used in Ofcom's base case. This means more network capacity is required for the busy hour call attempts (shorter call durations mean that there will be a higher volume of call set-ups and hence more network resources required).

c) *The real terms cost trend for network costs is highly volatile and unrealistic. A more stable price trend should be used for modelling*

A1.21 BT has examined the cost trend used in the models for Active Equipment. It can be seen from Figure A1.2 below that the 2016 model has a very unusual cost trend that is distorting the economic depreciation calculations.

Figure A1.2 Price trend for network equipment

A1.22 BT sees no reason why the cost trend should have such an unusual shape. BT understands that Ofcom has used data from CPs to derive this trend. This data needs to be treated with caution as any volume discounts or temporary price discount would show up in the trend. We therefore suggest that a long-term view of a 6% real price decline is a reasonable assumption to use in the LRIC model. This avoids distortions from short term price volatility with the concomitant effect on the economic depreciation resulting from this volatility.

Conclusion from evaluation of input parameters

A1.23 BT has re-run the 2016 LRIC model to take into account the different input assumptions as evaluated above. These result in a LRIC value of 0.0280 ppm in 2019/20, similar to the estimate produced by the 2013 LRIC model and 40% higher than the value estimated by Ofcom and used in the Consultation. An analysis of the effect of each change in input parameter is shown in Table A1.4 below.

Table A1.4 – Summary of proposed adjustment to LRIC estimates

(ppm)	2017/18	2018/19	2019/20
Published Consultation	0.024	0.022	0.020
Flat 25% market share	0.003	0.003	0.003
“Low Forecast” voice volume	0.001	0.001	0.001
Updated daytime busy hour call length	0.001	0.001	0.001
Stable cost trend for active equipment	0.001	0.001	0.002
Cumulative effect of the above	0.001	0.001	0.001
Revised LRIC of Fixed Call Termination	0.032	0.030	0.028

Ofcom should implement a glide path to the new rates given the role played by efficiency improvements in reducing the estimated LRIC value and because of the significant difference it makes to prices in 2017/18 and 2019/20

A1.24 Ofcom explain their decision not to adopt a glide path in 15.14.

“Given the benefits for competition of FTRs set at LRIC discussed in Section 13 we would prefer to move charges to LRIC as soon as practically possible. We

would only consider using a glide path in the case of a large change, if making this change immediately would have a material impact on the industry."

A1.25 Ofcom go on to state in 15.15 "In this case the difference between the two options is very small"

A1.26 We consider this reasoning has a number of flaws:

- ***There is no discernible competition benefit from Ofcom's proposals that might outweigh the disadvantages of Ofcom's proposed approach***

A1.27 FTR prices are already based on LRIC. The Consultation is considering the change from one LRIC estimate to another based on an updated model.

A1.28 Whilst competition benefits were certainly *discussed* in Section 13, there is no clear evidence or analysis of any genuine competition benefits as a result of moving to the current LRIC based FTR price. The 2013 WNMR price reduction was an order of magnitude larger than the ones currently being proposed, yet Ofcom is unable to demonstrate any obvious competition impact from the 2013 WNMR price change.

A1.29 To examine Ofcom's current proposal, the 0.015ppm price reduction applied to 33bn of mobile to fixed traffic amounts to around 15p per year per line, or just over 1p per line per month in lower call termination revenue a difference. This price difference is unlikely to make any difference to competition such that might outweigh the disadvantages of Ofcom's proposed approach.

- ***A glide path would result in prices 25% higher in 2017/18 and 13% higher in 2018/19 compared with Ofcom's proposals. Price differences are normally be considered significant when they exceed 5-10%[20]. A glide path would therefore result in a significant difference to the FTR price.***

A1.30 BT has reproduced Table 15.2 with the current price of 0.035ppm and shows the difference between Ofcom's proposals and a glide path using Ofcom's base case 2016 LRIC value, see table 8. (Notwithstanding that BT considers the LRIC values are too low.)

Table A1.5: Glide Path prices compared with Ofcom proposals

	2016/17	2017/18	2018/19	2019/20
Glide path based on actual price	0.035	0.030	0.025	0.020
Consultation proposal		0.024	0.022	0.020

[20] For example, in a regulatory SSNIP test, a price difference of 5% to 10% is considered significant

Difference		0.006	0.003	-
% difference		+25%	+13.6%	

Ofcom set out a framework for assessing whether to adopt a glide path or one-off price cut at the start of a charge control in the 2016 BCMR. Ofcom offers no reasoning for why this framework has not been used.

A1.31 Ofcom set out "a general preference for glide paths"[21] and set out two types of circumstance in which the balance of efficiency considerations could imply a one-off staring charge adjustment may be appropriate:

- Where the risks to economic efficiency or competition from distorted pricing signals are particularly significant, and therefore outweigh the benefits of a glide path approach; and

- Where prices are significantly above or below cost for reasons other than efficiency or volume growth.

A1.32 One of the key reasons behind the reduction in LRIC is the very significant reduction in costs BT achieved these costs savings through systems rationalisation and the introduction of the AZTEC system. Dynamic efficiency is better served by allowing BT to share in the benefits of the lower costs rather than immediately pass these through to customers in the form of lower prices.[22] Efficiency gains are usually treated as reasons for adopting a glide path rather than a one-off price reduction. The incentive properties of a CPI-X charge control are most effective when the benefits of efficiency gains made in one charge control are shared between customer and supplier over the course of the subsequent charge control through the operation of a glide path.

A1.33 BT's rationalisation of its systems is one of the main reasons why prices are now higher than Ofcom's revised estimate of LRIC on account of the efficiency gains BT has made. Under Ofcom's own reasoning set out in the BCMR a one-off reduction in starting prices is not appropriate in these circumstances and a glide path should be preferred.

- ***Ofcom's 2016 LRIC model output is out of line with estimates in all other EU countries***

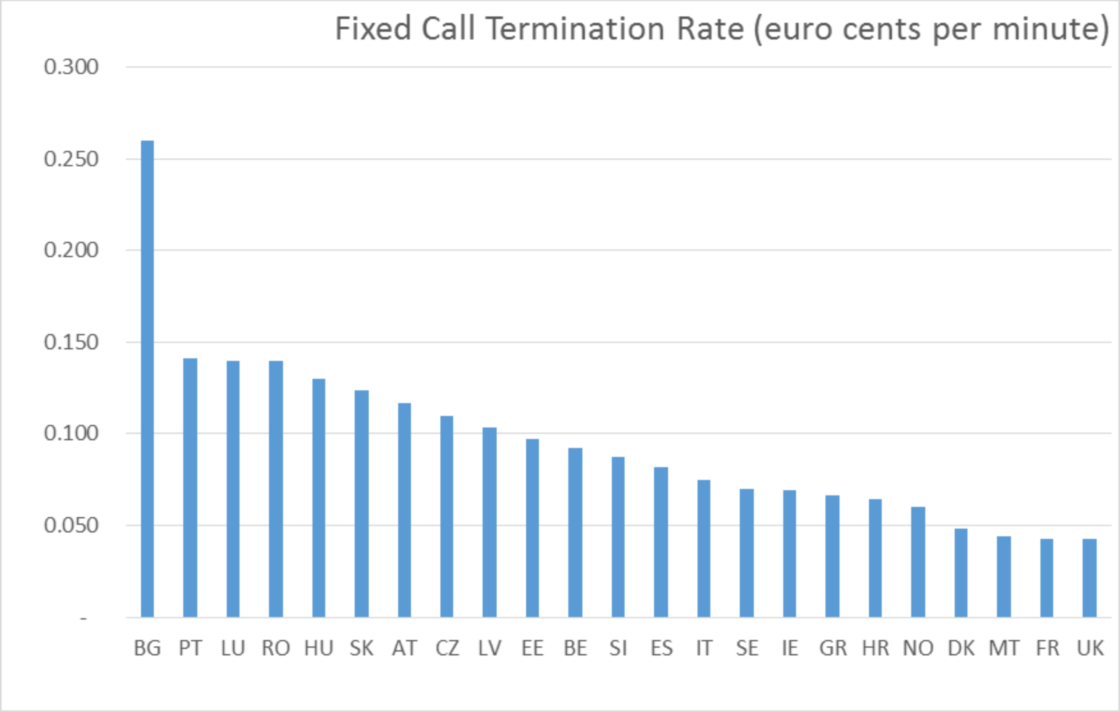
[21] 4.93 to 4.94 Business Connectivity Market Review statement, Ofcom, 28 April 2016

[22] This is explained more fully in Oxera's report "Encouraging efficiency in regulated sectors Lessons from 20 years of RPI-X, a report for BT", December 2011, in Section 2.3 https://www.ofcom.org.uk/__data/assets/pdf_file/0021/63642/encouraging_efficiency.pdf

A1.34 Comparison with EU FTRs show the UK has the lowest prices. At least 22 EU nations have FTRs based on pure LRIC. As shown in Figure 1 below, this indicates that Ofcom's 2016 LRIC model is likely to be unreliable as it produces a figure significantly lower than all comparable EU countries.

A1.35 In Figure A1.3 below, BT has used data published by Cullen International to compare BT's FTR with those in EU member states where the rates are based on LRIC. This shows that prior to Ofcom's proposed price reductions the UK FTR rate is already the lowest in the EU.

Figure A1.3 EU fixed termination rates at October 2016 where LRIC used for FTR



Source: Cullen International[23], BT Analysis

A1.36 Figure 3 shows the UK already has the lowest FTR of the EU[24] nations which have adopted LRIC and this is before the further price reductions proposed by Ofcom. Ofcom's 2016 LRIC model produces a value of 0.024ppm for 2017/18, equivalent to 0.028 Eurocents[25] pm. This is 35% below the lowest LRIC based price (France). The gap increases further by 2018/19 to a UK price around 45% lower.

[23] http://www.cullen-international.com/product/documents/CTTEEU20160164
[24] At today's average price of 0.035ppm this is equivalent to 0.041 Eurocents per minute, around 5% lower than the 0.043 Eurocents per minute payable in France, the next lowest LRIC based call termination price
[25] At an exchange rate of 1.17 Euros per £1 in February 2017

A1.37 Ofcom fails to explain why it is credible that the proposed new UK LRIC based FTR price should be so much lower than the LRIC based prices in *all* the other 22 EU nations that have adopted LRIC based prices.

Conclusion:

A1.38 BT recommends that Ofcom adopt one of the two alternative proposals for the charge control set out below:

i) Set a price ceiling equal to the current price of 0.035ppm.

ii) Adopt a glide path from the current price to BT's LRIC estimate of 0.028ppm, using the parameters set out above.

	Current Price	2017/18	2018/19	2019/20
BT Proposal	0.035	0.0325	0.0302	0.0280
X		-7.2%	-7.2%	-7.2%

A1.39 BT's glide path proposal is based on the application of a CPI – 7.2% price change in each year of the charge control, applying a glide path from the current price of 0.035ppm to BT's estimate of LRIC in 2019/20 of 0.028ppm.

A1.40 BT's proposal i) has the merit of simplicity and stability. It would simply set a fixed call termination rate at the current price. This is consistent with the lowest price set in the EU. The cost of annual price changes would also be avoided.

A1.41 If Ofcom considers it is necessary to update the LRIC estimate, proposal ii) has the merit of adopting a glide path and using parameter values in the LRIC model that are better supported by the evidence than those suggested by Ofcom in the Consultation.

Annex 2

BT's Comments on Ofcom's proposals for interconnect circuit charge control

BT has the following detailed comments on Ofcom's Consultation proposals (summarised in the executive summary to Question 18.1).

Interconnect Circuits connected to BT DLEs have a significant gap between FAC and revenue

A2.1 Table A2.1 updates the information in Table 18.2 of the Consultation and shows the aggregate financial performance of external interconnect circuits connected to BT's DLEs using data using data provided by BT to Ofcom[26].

<u>Table A2.1 Interconnect Circuits connected to BT DLE</u>

Financial Performance of interconnect circuits connected to BT DLEs (£m)	2014/15	2015/16
Revenue	✄	✄
CCA operating costs	✄	✄
Return	✄	✄
Mean Capital Employed	✄	✄
FAC	✄	✄
ROCE	✄	✄
Revenue - FAC	✄	✄
As % of revenue	✄	✄

A2.2 Table 9 shows that revenues are now more than 10% below the Fully Allocated Cost. A combination of both price increases and efficiency gains will be needed to close this gap. We examine the potential for efficiency gains below and

[26] Table 9 uses figures from BT's response to the 13th s135 Notice provided to Ofcom on 17 March 2017 based on 2015/16 RFS corrected for errors in circuit volumes.

consider how changes to services using the SDH platform are likely to impact on unit costs.

The efficiency target of 4.5% on TI services operating costs translates to cost reductions of between 2.5% and 3.0% per annum once input price inflation and the treatment of capital costs are taken into account

A2.3 The efficiency target of 4.5% per year for TI services relates to operating costs only (and was not applicable to depreciation or ROCE). The effect of input price inflation was included separately. This means that the overall effect of efficiency on the interconnect services will be smaller than the 4.5% operating cost efficiency target used for TI services.

A2.4 Table A2.2 below illustrates this and shows that, in the absence of any volume effects, costs might be expected to decline at between 2.5% and 3.0% per annum in real terms:

Table A2.2 Analysis of Interconnect Circuits cost and efficiency assumptions consistent with BCMR

Cost category	2016 Costs £m	Efficiency estimate	Input cost inflation	CPI [27]assumption	Real Terms cost change
Pay	✄	-4.50%	3.00%	2.00%	-3.60%
Property	✄	-4.50%	3.20%	2.00%	-3.42%
Energy	✄	-4.50%	3.20%	2.00%	-3.42%
Provision/Maintenance	✄	-4.50%	3.20%	2.00%	-3.42%
Other non-pay	✄	-4.50%	3.20%	2.00%	-3.42%
Depreciation	✄	0%	1%	2.00%	-1.02%
ROCE	✄	0%	1%	2.00%	-1.02%
Total	26.7	-3.35%	2.57%	2.00%	-2.85%

[27] The CPI assumption for 2017/19 was 1.9% and 2018/19 2.0% in the BCMR statement – see Table A32.12

A2.5 In the BCMR Ofcom adopted a pay cost inflation of 3.0%[28] and a weighted average non-pay cost inflation of 3.2%[29] for TI services. No efficiency was included for capital costs as little if any capital expenditure was anticipated.

A2.6 The input cost increase for depreciation and ROCE is driven by the asset mix and the input cost assumptions. Table A2.3 below examines the asset mix for the interconnect services basket and shows the derivation of the 1.0% asset price inflation assumption.

Table A2.3: Analysis of fixed assets within the Interconnect Services market

Fixed asset category	MCE £m	Input Price Change[30]
Land & Buildings	7	0
Access duct	10	3.15%
Switch and transmission	9	0
Other	5	0
Total	31	1.0%

The allocation of SDH costs to services is linked to the volumes of services using the network. Over time changes in allocations reflect the impact of differences in volume growth

A2.7 Interconnect Circuits use the legacy SDH platform, which is currently shared by TDM Voice Services, Private Circuits and 20CN Broadband (IPstream) services. The future cost of interconnect circuits will depend not only on the total cost of the SDH platform, including the impact of any cost reduction initiatives, but also on the impact of any change in the proportion allocated to each service.

A2.8 BT provided Ofcom with an analysis of the allocation of SDH costs to individual services in 2014/15 during the course of the BCMR consultation, as set out in Table A2.4 below.

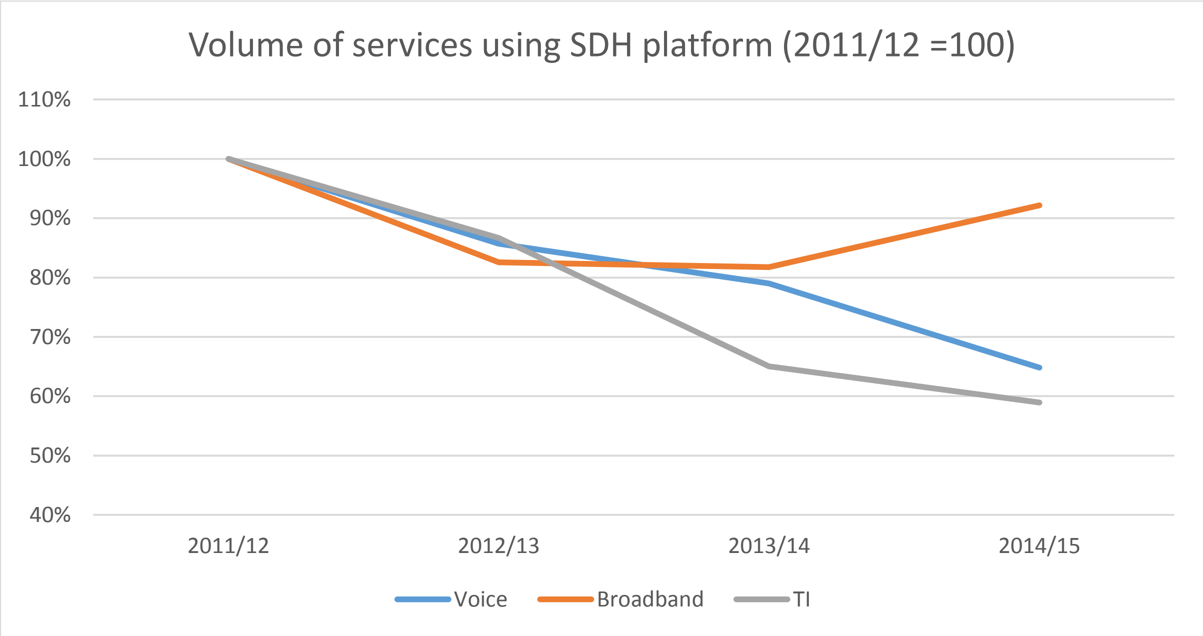
[28] See A37.170 of BCMR Statement
[29] See A32.196 ibid
[30] A32.212 BCMR Statement, Ofcom assume Duct and Copper prices will increase by RPI and all other asset prices will stay constant i.e. flat in nominal terms. Table A32.12 shows RPI assumed to be 3.0% in 2017/18 and 3.3% in 2018/19 giving and average of 3.15%

Table A2.4: Allocation of SDH cost to services

✂

A2.9 Table A2.4 shows the percentage allocation of SDH costs to the main services. This allocation in influenced by the relative volume growth of each of these services. Figure A2.3 below shows the relative volume growth of these services, showing how the fall in allocation to TI and increase in allocation to Broadband is consistent with the fact that TI has experienced the biggest volume decline whilst Broadband volumes have fallen the least. It is worth noting that ✂ (20-40%) of the platform costs are allocated to Broadband.

Figure A2.3: Volume growth



A2.10 As BT explained in the response to the BCMR, the potential for cost reductions by rationalisation of the SDH estate are limited. This is due to the nature of the network, with multiple services running across shared infrastructure. It is only cost-effective to rationalise the network when utilisation rates fall to very low levels due because of the cost of planning and migrating any circuits that might remain on an SDH network structure and reconfiguring the network.

Falling TDM service volumes are likely to cause unit costs to rise due to lower equipment utilisation. This will affect all TDM services including interconnect circuits.

A2.11 As the volume of TDM services falls (voice, PPCs and Broadband), BT needs to rationalise its network just to stand still in cost terms. This is because the costs of the TDM network must be recovered from lower volumes. Ofcom is incorrect to suggest that the cost of each interconnect circuit will fall due to BT having fewer network nodes. Unit costs are being conflated with the aggregate cost of all interconnection circuits. A rationalisation of network nodes may reduce the number of interconnect circuits needed and this reduction in volume will drive the lower cost and improved efficiency (from the interconnecting operator's perspective.) The unit cost of TDM transmission (and hence interconnect circuits) is primarily dependent on the utilisation of the SDH transmission links which is in turn driven by aggregate TDM volumes across the TDM Voice, TI and 20CN Broadband services.

The closure of the 20CN Broadband service when IPstream is withdrawn will cause SDH costs to be reallocated from Broadband to the Voice and TI services remaining on the SDH platform

A2.12 On 10 December 2016 BT announced plans that the IPStream service is to be withdrawn by circa the end of 2018. Once withdrawal is complete the SDH costs will only be shared between Voice and Data services and the allocation to voice services (including interconnect circuits) will inevitably increase as the economies of scope with Broadband services is lost. This factor is not considered in Ofcom's Consultation perhaps because BT's announcement was made after Ofcom had issued its Consultation.

A2.13 Table 9 shows that by 2014/15 over one-third of SDH costs were allocated to Broadband services. When 20CN Broadband services are withdrawn, the SDH network will no longer be used by Broadband, meaning the SDH cost previously allocated to Broadband will need to be reallocated to the Voice and TI services remaining on the SDH platform. In broad terms, the reallocation of one-third of the costs to be recovered across the remaining two-thirds of the platform would cause a cost increase of around 50% to Voice and TI services.[31]

A2.14 Whilst any SDH rationalisation made possible by the withdrawal of IPstream might mitigate this impact, the net effect will be an increase in costs allocated to Voice services due to the scale of the costs currently allocated to broadband. This means that it is reasonable to predict that interconnect circuit costs will increase once IPstream is withdrawn.

[31] This can be illustrated by way of a simple example: If services A + B + C share a platform with a £100 cost allocated in the ratio 1:1:1, the cost to each service is £33.33. If A is withdrawn the platform costs are now shared by B + C in ratio 1:1, the cost to B + C now rises to £50, an increase of £16.67 or 50%

Returns from Interconnect Services calculated on a Hypothetical Ongoing Network basis are significantly lower

A2.15 The Interconnect Circuits market relies uses BT’s PSTN switches and SDH network both of which are nearly fully depreciated. This means that there is an unusually low depreciation cost and capital employed associated with these assets. BT considers that a more meaningful consideration of returns would take these factors into account when setting prices, as Ofcom did during the 2009 Network Charge Control.

A2.16 BT has calculated adjustments to both depreciation and capital employed to reflect an approach that would reflect costs on a Hypothetical Ongoing Network basis. This involves replacing the depreciation cost with a figure equal to the Gross Replacement Cost / Asset Life, where the asset life is equal to the weighted average age of the class of asset. BT has used asset lives of between 20 and 25 years for Local and Main Switches and 13 years for SDH and NGS switches. We have also restated the NRC included in the capital employed to a figure equal to GRC multiplied by 50%. Table A2.5 below shows the impact on ROCE for the Technical Areas (Interconnect Circuits) market

Table A2.5 Interconnect Circuits returns on a HON basis

2015/16 RFS p28 (£m)	15/16 RFS	Volume adjustment	After Volume adjustment	HON Adj	15/16 on a HON basis
Revenue	24.8	✂	✂		✂
Operating Costs	-19.8		✂		✂
Depreciation Costs	-4.0		✂	✂	✂
Return	1.0	✂	✂	✂	✂
MCE	26.6		✂	✂	✂
ROCE	3.8%		31.2%		3.3%

Conclusion

A2.17 The rate of return from interconnect circuits connected at the DLE is significantly below the cost of capital (and would be very much lower when calculated on a HON basis.) Economies of scope will be lost as higher allocations of the SDH cost to TDM voice services (including interconnect circuits) as the 20CN broadband service (IPStream) is withdrawn around the end of 2018. We also expect the loss of economies of scale as volumes decline. It seems unlikely any efficiency gains will be sufficient to offset the impacts of the loss of economies of scale and scope. Therefore Ofcom should set the charge control for interconnect circuits towards the top end of the Consultation range, namely a charge control of CPI + 5%.

Annex 3

BT's proposed approach to the Regulatory Financial Reporting

We set out below, additional information on BT's proposed approach to regulatory financial reporting, which aligns with Ofcom's aim of consistent pricing and reporting remedies.

Publication of Market Returns

A3.1 As a general principle, we support the publication of market returns, including revenue, costs and capital employed in the Performance Summary by Market, and details of the Attribution of Wholesale Current Costs and the Attribution of Wholesale Current Cost Mean Capital Employed to markets.

A3.2 In supporting this principle we concur with one of Ofcom's arguments for publishing market level information[32]:

> *'trends in market level financial performance are informative in the context of considering the impact and effectiveness of the remedies'*

A3.3 However, this principle is not relevant where the nature of the pricing remedy is such that the costs (including the cost of capital employed) are not related to the prices set. In these cases, the market return provides no useful information to the reader on our compliance with (or the appropriateness of) the SMP obligations and publication is therefore not appropriate.

A3.4 The SMP remedy creates a connection between prices and costs, indicating that publication of market level information may be justified, in particular for:

- A CPI-X charge control where Ofcom has forecast costs from our costs or
- A cost orientation remedy where the costs are to be based on a forward-looking long run incremental approach and allowing an appropriate mark up for the recovery of common costs and an appropriate return on capital employed.

A3.5 However, there is no significant benefit to stakeholders in the publication of market level information in the following cases:

- there is no pricing remedy; or
- the charge control is based on Ofcom's 'bottom-up' cost modelling which is not

[32] 2016 WNMR Consultation, para.19.40

based on our incurred costs; or

- a safeguard cap has been set without reference to our incurred costs.

A3.6 Where the pricing remedy is not based on our incurred costs, the market level information, including the return, is not relevant in demonstrating to stakeholders our compliance with (or the effectiveness of) the pricing remedy. We therefore do not accept Ofcom's reasons[33] for publication of this information in these circumstances:

- Ofcom argues that 'market level cost information also provides transparency regarding how BT has allocated costs between regulated markets (and also between regulated and unregulated markets)'. However, we publish (amongst other documents) the Accounting Methodology Document which describes how we have attributed costs. And market level information is only relevant (and of benefit to stakeholders) where pricing remedies are based on our incurred costs.
- Similarly, Ofcom's argument that publication of market level information 'mitigates against the risk of double recovery of costs or that costs might be unreasonably loaded onto particular services or markets' also requires that all charge controls are based on our incurred costs. Ofcom departed from basing charge controls on our incurred costs to set WCT prices at LRIC with common costs recovered through WCO, leading to a very low return in WCT (-53.7%) and a very high return in WCO (51.9%). The risk of double recovery is mitigated through the reconciliation statement, which demonstrates that costs are attributed only once.
- In the absence of a remedy which links prices to our incurred costs, market level information is not relevant to stakeholders and, instead of helping to 'demonstrate the overall reliability and robustness of the RFS' will tend to undermine confidence. Mobile call termination provides an example of a market in which the pricing remedy is not based on the incurred costs of the provider and there is no requirement to publish market level information.

Publication of revenues, volumes and costs

A3.7 As a general principle, we support the publication of a market summary including revenues, volumes, average prices and unit costs where this is relevant to the pricing remedy which Ofcom has imposed, provides useful information to stakeholders and is proportionate.

A3.8 In particular, we consider that the publication of a Market Summary schedule is relevant to stakeholders where this is needed to demonstrate compliance with SMP

[33] 2016 WNMR Consultation, para 19.40

pricing remedies, for example:

- CPI-X charge control, based on our incurred costs, where publication of revenues, volumes and average prices is needed to demonstrate compliance. Although publication of unit costs is not needed to demonstrate compliance, it may be published to provide stakeholders with assurance on the effectiveness of the pricing remedy. This is in line with the existing obligations for WFAEL.
- Cost orientation, where the specific publication obligations to demonstrate compliance will depend on the form of the cost orientation remedy and take account of the need to maintain confidentiality.
- Safeguard cap, where revenue, volumes and average prices (but not costs) need to be published to demonstrate compliance.

A3.9 Our preference, however, is for these reporting obligations to be met through the publication of a non-confidential compliance statement where possible rather than a Market Summary.

A3.10 However, we do not consider that the publication of any of this information (revenue, volumes, average prices or costs), is of benefit to stakeholders, where the pricing remedy is not linked to our incurred costs, in particular where:

- No pricing remedy is imposed; or
- Only fair and reasonable charges obligation is imposed, where we agree with Ofcom that the reporting of FAC is not appropriate[34]..

A3.11 Where Ofcom has not imposed a ‘no undue discrimination’ obligation, we would not support the publication of the analysis of volumes, revenues and costs split into internal and external.

<u>Publication of Costs by component</u>

A3.12 We recognise that, where Ofcom imposes an obligation to publish the market calculation of costs based on component cost and usage factors, it will be of benefit to some users of the RFS for this to be at unit costs in £, rather than total costs in £m. However, we note that stakeholders can calculate unit costs themselves from the information in the published Excel workbooks.

A3.13 We support the publication of the calculation of costs based on component costs and usage factors where the remedy is applied to our component costs and would therefore be of value to stakeholders. However, this does not apply to any of the

[34] 2016 WNMR Consultation para 19.64

remedies Ofcom are proposing, so we believe that Ofcom should make a compelling case for publication of component costs and in any event publication should be restricted to the following cases:

- CPI-X charge control where Ofcom has forecast costs based on our incurred costs. This is in line with the existing obligations for WFAEL; and
- Cost orientation, where the form of cost orientation makes component costs relevant.

A3.14 However, we do not consider there is significant benefit to stakeholders and therefore do not support the publication of the calculation of FAC based on component costs and usage factors in the following cases:

- There is no pricing remedy;
- the charge control is based on Ofcom's 'bottom-up' cost modelling not on our incurred costs;
- fair and reasonable charges only obligation; or
- there is a safeguard cap and the price has been set without reference to our incurred costs.

Other considerations

A3.15 Where more than one SMP pricing remedy is imposed, we support publication of information required to demonstrate compliance with the more demanding remedy, considering each type of information in turn.

A3.16 We agree with Ofcom that the level of detail published should be limited to what is required to demonstrate compliance with the SMP pricing remedy imposed. Specifically, this means publication at the level at which prices are regulated.

A3.17 In order to avoid publishing excessive quantities of information, we propose that Ofcom should take account of materiality and only require publication of an individual service or a market above an appropriate threshold.

A3.18 We also propose that, when Ofcom seeks to make changes to the reporting requirements, the timing of the implementation of these changes should take account of the practical considerations in making changes to our reporting systems, processes, resourcing and governance.

A3.19 For technical areas, such as Interconnect Circuits, we propose that we continue to publish market returns (as part of the Performance Summary), revenue and volumes (as part of the 'market' summary) and FAC by component and service

A3.20 Finally, the framework should be consistently applied, but, if Ofcom determines that there should be exceptions, then any differences between the costs considered as part of the charge control and our actual costs should be reflected in the Adjusted Financial Performance Schedule.

Annex 4

BT response on Condition 5C – wholesale call termination charge control Legal Instrument

Condition 5C.1 (WCT)

A4.1 The maximum charge for the basket should be set to not exceed the current weighted average charge of 0.035 pence per minute and not 0.029 pence per minute.[35]

Condition 5C.2 (WCT)

A4.2 The calculation of the current weighted average price set out in condition 5C.1 was based on revenue weights derived from the 12 month period ending 31 March 2016. Ofcom has proposed that revenue data from the two month period from 1 October 2016 to 30 November 2016 be used to calculate the weighted average charge. This is inconsistent with how the maximum charge in Condition 5C.1 was calculated

A4.3 BT suggests that the Ri term is redefined to be equal to the Total Revenue accrued over the period from 1 October 2015 to 30 September 2016 in respect of service i.

A4.4 This will ensure the calculations are internally consistent. This also avoids the obligation on BT to collect call revenue data over a two-month period for the sole purpose of the transitional charging arrangements.

Condition 5C.4 (WCT)

Requirement for a June CPI inflation figure to enable BT to give contractually agreed notice of interconnect price changes (Condition 5C.4 2. a. ii.)

A4.5 Ofcom has changed the date on which the inflation index is to be used in the charge control from June to August, in part due to the reduction in notice period to 1 day. However, under BT's standard interconnect agreement requiring we are required to give customers 56 days' notice of any price changes. The June CPI is the most recent available information that can be used to notify price changes to take place from 1 October with the contractual notice period. BT proposes that Ofcom replace the reference to the *"CPI means … twelve months ending on 31 August immediately before the beginning of the relevant period …"* with *"CPI means … twelve months ending on 30 June immediately before the beginning of the relevant period …"*.

Need for prices to be rounded to 4 decimal places (Condition 5C.4 2. b.)

[35] This is acknowledged by Ofcom in the clarification to the consultation document dated 12 January 2017

A4.6 A move to three decimal places was consulted on in 2013 consultation. No justification has been given for reversion to 3 decimal places, especially since the X and CPI values are to be calculated to 1 place of decimals (i.e. to nearest 0.1%). Ofcom accepted BT's arguments to retain four places of decimals when setting prices (see 11.81 to 11.84 of 2013 Network Charge Control Statement)

A4.7 Rounding to 3 decimal places would mean each price step of 0.001ppm is worth around 4% (using a base price of 0.025ppm). When prices must be adjusted to the nearest 0.1%, these price steps are too large and a more granular pricing approach would be preferable.

A4.8 BT suggests that Ofcom reconsider the rounding and revert to the 4 decimal places of rounding that has always been used in Network Charge Controls since 1997. This would mean that each price step would be worth around 0.4%, allowing more precise pricing of fixed termination rates

Condition 5C.4 lacks a formula to explain how the charge control works

A4.9 It is difficult to understand how Condition 5C.4 should be implemented without a formula to set out the intention behind the words. BT understands that the intention is for the percentage price change in prices should be made up of the sum of CPI and the "controlling percentage". However, this is not what is written down, as the charge ceiling in the second and subsequent periods is to be calculated by multiplying the previous ceiling by the sum of CPI and the "controlling percentage".

A4.10 This gives a very different answer to that intended. For example if the sum of CPI and the controlling percentage is negative, (for example if CPI were 2.0%, the sum of CPI and the proposed controlling percentage for the second relevant period of -8.5% were used, the resultant value would be -6.5%, leading to a negative price ceiling.

A4.11 BT suggests that this cannot be right and that the intention is surely for the charge ceiling to be multiplied by the factor of (1 + CPI + Controlling Percentage). In the above example, the charge ceiling for the second period would then be 93.5% of the charge ceiling in the first relevant period.

A4.12 BT proposes that Ofcom corrects this apparent error and includes a formula in Condition 5C.4 so the requirements are clearly understood.

Schedule 1: Interconnect Circuits

A4.12 Ofcom set out in the consultation the proposal that BT has SMP only in the provision of Interconnect Circuits at the DLE.

A4.13 BT considers that as Ofcom has only found BT to have SMP at the DLE layer, the interpretation of the Legal Instrument should make this clear by defining Interconnect Circuits in Part 2 Interpretation m) as " the following specific services provided *at the DLE* by the Dominant Provider"

Condition 5D

A4.14 Ofcom omitted the annex to Condition 5D and included this as an update to the consultation dated 24 February 2017.

A4.15 BT considers that the all references to remedies on interconnect circuits should be made to services provided at the DLE layer. Whilst this is noted in a footnote to the Annex, BT considers that it would be better to clarify this within the glossary in Schedule 1.